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STANISLAUS COUNTY GENERAL PLAN AND AIRPORT LAND USE COMPATIBILITY PLAN UPDATE DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT

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Contents

Tables

Figures

Figures follow the chapter or resource section in which they are referenced.

Acronyms and Abbreviations

µg/m3	micrograms per cubic meter
2014 RTP/SCS	Final 2014 Regional Transportation Plan/Sustainable Communities Strategies
AB	Assembly Bill
AB 1807	Tanner Air Toxics Act, Toxic Air Contaminant Identification and Control Act
AB 2588	Air Toxics Hot Spots Information and Assessment Act of 1987
ACE	Agricultural Conservation Easement
ACE	Altamont-Commuter Express
AIA	Airport Influence Area
Alquist-Priolo Act	Alquist-Priolo Earthquake Fault Zoning Act
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
APA	American Planning Association
APCO	Air Pollution Control Officer
ARAs	Aggregate Resource Areas
ARB	California Air Resources Board
ARC	Airport Reference Code
ASTs	aboveground storage tanks
ATCMs	Airborne Toxic Control Measures
BAM	Best Available Maps
BART	Bay Area Rapid Transit system
basin plans	water quality control basin plans
BAT	best available technology
BAU	business-as-usual
BGEPA	Bald and Golden Eagle Protection Act
BMPs	best management practices
BNSF	Burlington Northern Santa Fe
BPS	best performance standards
BTU	British thermal units
Business Plan Act	Hazardous Materials Release Response Plans and Inventory Act
C2H3Cl	vinyl chloride
CAA	federal Clean Air Act
CAAA	1990 Clean Air Act amendments
CAAQS	California ambient air quality standards
CAFE	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
CalARP	California Accidental Release Prevention Program
Cal-EPA	California Environmental Protection Agency
CALGreen	California Building Standards Commission adopted the mandatory Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CBC	California Building Code
CBSC	California Building Standards Code

CCAA	California Clean Air Act
CCAs	Community Choice Aggregations
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEHC	California Essential Habitat Connectivity
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CESA	California Endangered Species Act
CFCP	California Farmland Conservancy Program
CFR	Code of Federal Regulations
CH_4	methane
CMA	Congestion Management Agency
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COG	Council of Government
Construction General Permit	*General NPDES Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ)*
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CSAs	County Service Areas
CSD	Community Services District
CTC	California Transportation Commission
CUPA	Certified Unified Program Agency
CVFPA	Central Valley Flood Protection Act
CVFPB	Central Valley Flood Protection Board
CVFPP	Central Valley Flood Protection Plan
CVRWQCB	California Regional Water Quality Control Board, Central Valley Region
CWA	Clean Water Act
dB	decibel
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
Delta	Sacramento–San Joaquin River Delta
DOF	Department of Finance
DPM	diesel particulate matter
DWR	California Department of Water Resources
Eagle Guidance	Eagle Conservation Plan Guidance
ECAs	Essential Connectivity Areas
EIR	environmental impact report
EO	Executive Order
EP Act	Energy Policy Act of 2005

EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESPs	energy service providers
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRMs	flood insurance rate maps
FMMP	Farmland Mapping and Monitoring Program
FR	Federal Register
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
g	acceleration speed of gravity
GA	general aviation
GAMAQI	Guide for Assessing and Mitigating Air Quality Impacts
GAP	Gap Analysis Program
GHG	greenhouse gas
GIS	Geographic Information Systems
GMP	Groundwater Management Plan
GWP	global warming potential
GWR	Gross Weight Rating
H2S	hydrogen sulfide
HAPs	Hazardous Air Pollutants
HCD	Department of Housing and Community Development
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HFCs	hydrofluorocarbons
HRA	Health Risk Assessment
HSR	high speed rail
HUC	Hydrologic Unit Code
HUD	U.S. Department of Housing and Urban Development
I-5	Interstate 5
IBC	International Building Code
INM	Integrated Noise Model
IOUs	investor-owned utilities
IPCC	Intergovernmental Panel on Climate Change
IS/MND	initial study/mitigated negative declaration
L_{10}, L_{20}	percentile-exceeded sound levels
LAFCO	Local Agency Formation Commission
LCFS	Low Carbon Fuel Standard
L_{dn}	day-night sound level
L_{eq}	equivalent sound level
LID	Low Impact Development
L_{min} and L_{max}	minimum and maximum sound levels
LOS	Level of service

LSAA	Lake and Streambed Alteration Agreement
M&ET	Modesto and Empire Traction
MAX	Modesto Area Express
MBTA	Migratory Bird Treaty Act
MID	Modesto Irrigation District
mph	mile-per-hour
MPOs	metropolitan planning organizations
MRZ	Mineral Resource Zone
MS4	municipal separate storm sewer system
MS4 Permit	*General Permit for Municipal Separate Storm Sewer Systems* (MS4)
MSR	Municipal Services Review
MWELO	Updated Model Water Efficient Landscape Ordinance
N_2O	nitrogen dioxide
NAAQS	national ambient air quality standards
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Act
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NMTP	Non-Motorized Transportation Plan
NO	nitrous oxide
NO_2	nitrogen dioxide
NOA	Naturally Occurring Asbestos
NOP	Notice of Preparation
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
ODS	ozone-depleting substances
OES	California Office of Emergency Services
OID	Oakdale Irrigation District
Pb	lead
PFCs	perfluorocarbons
PFF	Public Facilities Fee
PG&E	Pacific Gas and Electric Company
PM	particulate matter
PM10	PM 10 microns in diameter or less
PM2.5	PM 2.5 microns in diameter or less
Porter-Cologne Act	Porter-Cologne Water Quality Control Act of 1969
ppb	parts per billion
ppm	parts per million
ppt	parts per trillion
PPV	peak particle velocity
PRC	Public Resources Code

project	proposed Stanislaus County General Plan update and Airport Land Use Compatibility Plan update
RCRA	Resource Conservation and Recovery Act of 1976
Reporting Rule	Greenhouse Gas Reporting Rule
RHA	River and Harbors Appropriation Act of 1899
RHNA	Regional Housing Needs Allocation
RHNP	Regional Housing Needs Plan
RMP	Risk Management Plan
ROGs	reactive organic gases
RPS	Renewables Portfolio Standard
RTIF	Regional Transportation Impact Fee
RTP	Regional Transportation Plan
RTP/SCS	2014 Regional Transportation Plan/Sustainable Communities Strategy
RWMP	Integrated Regional Water Management Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SB 50	Senate Bill 50
SCFPD	Stanislaus Consolidated Fire Protection District
SCS	sustainable communities strategy
SCSD	Stanislaus County Sheriff's Department
SF_6	sulfur hexafluoride
SFM	State Fire Marshal
SGMA	Sustainable Groundwater Management Act
SIP	state implementation plan
SJV	San Joaquin Valley
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLC	State Lands Commission
SMARA	Surface Mining and Reclamation Act of 1975
SO_2	sulfur dioxide
SO_4	sulfates
SR	State Route
SR-99	State Route 99
SRAs	State Responsible Areas
SRRF	Stanislaus Resource Recovery Facility
SSC	species of special concern
STAA	Service Transportation Assistance Act of 1982
StanCOG	Stanislaus Council of Governments
StanCOG EIR	Final Programmatic Environmental Impact Report, 2014 Regional Transportation Plan/Sustainable Communities Strategy, Stanislaus County
StaRT	Stanislaus Regional Transit
STIP	State Transportation Improvement Program
SVP	Society of Vertebrate Paleontology
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TACs	Toxic air contaminants
TAZ	traffic analysis zone
TCM	Three-County Model travel demand model

TCMs	traffic control measures
TDS	total dissolved solids
TID	Turlock Irrigation District
TMDL	total maximum daily load
TNM	Traffic Noise Model
TSDFs	treatment, storage, and disposal facilities
U.S. DOE	U.S. Department of Energy
UCMP	University of California Museum of Paleontology
UPRR	Union Pacific Railroad
US	Urban Services
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USTs	underground storage tanks
VMT	vehicle miles traveled
VOCs	volatile organic compounds
WDRs	waste discharge requirements
WHR	Wildlife-Habitat Relationships

ES.1 Purpose

This environmental impact report (EIR) has been prepared to evaluate and disclose the significant environmental impacts associated with implementation of the proposed Stanislaus County General Plan Update and Airport Land Use Compatibility Plan (project). This is an update of the County's existing plans for the unincorporated areas of the County. Impacts are evaluated on the basis of the plans' 2035 planning horizon. Copies of the proposed general plan update and new Airport Land Use Compatibility Plan are available at the County Planning and Community Development Department office at the address listed below. Copies are also available online at the County's website: http://www.stancounty.com/planning/pl/GPupdate.shtm.

This EIR has been prepared in accordance with California Environmental Quality Act (CEQA), California Resources Code Section 21000 et seq., and the State CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3). Accordingly, it discusses the existing physical and regulatory setting, describes the plans, and examines the plans' potential to result in significant effects on the physical environment. In addition to disclosing significant environmental impacts, the EIR also proposes mitigation measures, where feasible, to minimize or otherwise avoid significant environmental impacts and reviews two alternatives to the plans.

The purpose of this EIR is to inform Stanislaus County decision-makers, representatives of other affected/responsible agencies, the public, and other interested parties of the potential environmental effects that may be associated with the project. As authorized under State CEQA Guidelines Section 15146, the project's impacts are analyzed on a general scale, in keeping with the broad level of detail found in the plans themselves. Accordingly, the reader should not expect to find parcel-specific analyses here.

ES.2 Project Summary

The proposed project consists of an update of the existing Stanislaus County General Plan and the separate Airport Land Use Compatibility Plan (ALUCP). Stanislaus County is located at the northern end of the San Joaquin Valley and is bounded by Santa Clara County to the west, San Joaquin County to the north, Calaveras and Tuolumne counties to the east, and Merced County to the south (see Figure 2-1).

California Planning Law (Government Code Section 65300 et seq.) requires the County to adopt "comprehensive, long-term general plan for the physical development of the county." The general plan serves as a "blueprint" for growth; that is, it establishes the general pattern of land use and adopts goals and policies to guide the County in future land use decision-making. The proposed general plan update conforms to California Planning Law and is being considered for the purpose of ensuring that the general plan meets all current requirements of state law. The update consists solely of amendments to the goals, policies, and implementation measures of the general plan. It does not include any changes to the general plan's land use map.

The ALUCP conforms to Airport Land Use Commission Law (Public Utilities Code 21670 et seq.) and provides for the orderly growth of each public airport and the area surrounding the airport to safeguard the general welfare of the inhabitants near the airport and the public in general. The ALUCP reflects the anticipated growth of each airport during at least the next 20 years. The ALUCP includes height restrictions on buildings, specifies use of land within its planning areas, and determine building standards, including soundproofing adjacent to airports, within the airport influence area. The ALUCP is consistent with the general plan.

The proposed project is described in Section 2, *Project Description*, of this Draft EIR. Table ES-1 provides a brief summary of the key components of the proposed project. For more detail, see Chapter 2.

Table ES-1. Key Components of the General Plan and ALUCP

Issue Area	General Plan
Elements Affected	Land Use, Circulation, Conservation/Open Space, Noise, Safety
Land Use	Adds and amends goals and policies to conform the general plan to current state, regional, and local requirements. No changes are proposed to the land use diagram. Changes address the elimination of the Redevelopment Agency, new policies encouraging economic development, strengthened policies related to connecting new development to public water and sewer, strengthened policies related to growth management and preference for new development to occur in cities, and new policies related to "complete streets."
Agricultural	Updates this element to address the Food Safety Modernization Act (FSMA); add an implementation measure encouraging the development of alternative energy sources on lands located outside "Most Productive Agricultural Areas;" add an implementation measure encouraging the development and use of appropriately treated water (reclaimed wastewater and stormwater) for both agricultural and urban irrigation; and add a policy and implementation measures on the subject of protecting local groundwater for agricultural, rural domestic, and urban use in Stanislaus County.
Circulation	Updates the nomenclature for roads within the county to match federal and state standards. Other changes include amending the policy of maintaining Level of Service (LOS) C on county roads at LOS D or better for motorized vehicles on all roadways segments and LOS of C or better for motorized vehicles at all roadway intersections, updating the County road standards, updating the study areas for future major roads, revising the standards for project-level traffic impact analysis, clarifying that new development will pay its fair share of road impacts attributable to that development, requiring multi-modal facilities, and updating references to documents and agencies.
Conservation/ Open Space	Changes include new policies to avoid conflicts between airport operations and new wildlife habitat; require mitigation for impacts on wetlands as may be required by the California Department of Fish and Wildlife; encourage better management of water resources, including groundwater, through county actions and cooperation with other agencies; strengthen policies requiring dedication of parks and recreation facilities with new development; review development proposals for conformance with all applicable Hazard Mitigation Plans and the Safety Element; and updated references to documents and agencies.
Noise	Changes include a policy commitment to enforce the Stanislaus County Noise Control Ordinance to reduce the number of incidents of excessive noise; new policies related to review of projects for airport noise conflicts, and updated references to documents and agencies.

Issue Area	General Plan
Safety	Changes include strengthened policies regarding review of projects for fire hazard; new references to the ALUCP and coordination of project review with the Airport Land Use Commission; strengthened flood protection policies; and updated references to documents, such as the Multi-Jurisdictional Hazard Mitigation Plan, and public agencies.
ALUCP (not part of the general plan)	Updates the ALUCP to meet the standards for this type of plan established in the California Department of Transportation's current *Airport Land Use Planning Handbook.* That includes revisions to the Airport Influence Areas and elimination of ALUCPs for airports that no longer qualify for inclusion.

ES.2.1 General Plan Update Objectives

The proposed general plan has the following objectives.

- To comprehensively review and amend the general plan to incorporate current requirements of State law related to planning issues.
- To update existing and incorporate new goals, objectives, policies, and implementation measures to reflect local changes in land use policy.
- To update technical data found within the general plan and support documents.
- To update the ALUCP to ensure consistency with the general plan; incorporate the requirements of the California Department of Transportation's (Caltrans') *Airport Land Use Planning Handbook;* and reflect new information relating to noise contours, safety zones, airspace protection zones, overflight areas, and current city general plan provisions.
- To prepare the environmental documentation necessary to support adoption of the general plan update and ALUCP update.
- To make these revisions while limiting changes to the land use diagram to a minimum.

ES.2.2 Airport Land Use Compatibility Plan Objectives

The proposed ALUCP has the following objectives:

- To update the ALUCP to ensure consistency with the general plan; incorporate the requirements of the California Department of Transportation's (Caltrans') *Airport Land Use Planning Handbook;* and reflect new information relating to noise contours, safety zones, airspace protection zones, overflight areas, and current city general plan provisions
- To prepare the environmental documentation necessary to support adoption of the general plan update and ALUCP
- Provide for the orderly growth of each public airport and the area surrounding the airport to safeguard the general welfare of the inhabitants near the airport and the public in general.
- Establish height restrictions on buildings, specifies use of land within its planning areas, and determine building standards, including soundproofing adjacent to airports, within the airport influence area to limit impacts on residents near the airports.
- Control new development near airports in order to minimize conflicts between the airport and that development.

ES.3 Summary of Environmental Impacts and Mitigation Measures

Implementation of the plans would result in a number of significant impacts on the environment. At the same time, the general plan and ALUCP contain many policies that are intended to minimize or mitigate the potential impacts of their implementation. The analysis in this Program EIR considered the policies contained in the 2007 General Plan when determining whether the plans would result in a significant environmental impact. Where the policies are insufficient to avoid an impact, additional mitigation is identified in the Program EIR. Table ES-2 briefly summarizes the impacts and mitigation measures that have been identified in the Program EIR.

Table ES-2. Summary of Impacts and Mitigation Measures

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
3.1 Aesthetics			
Impact AES-1: Substantially degrade the existing visual character or quality of the county and its surroundings, including scenic vista	Less than significant	–	–
Impact AES-2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway	Less than significant	–	–
Impact AES-3: Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area	Significant	No mitigation available	Significant and unavoidable
3.2 Agricultural Resources			
Impact AGR-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use	Less than significant	–	–
Impact AGR-2: Conflict with existing zoning for agricultural use or a Williamson Act contract	Less than significant	–	–
Impact AGR-3: Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g])	Less than significant	–	–
Impact AGR-4: Result in the loss of forestland or conversion of forestland to non-forest use	Less than significant	–	–
Impact AGR-5: Involve other changes in the existing environment that, because of their location or nature, could result in the conversion of farmland to non-agricultural use or the conversion of forestland to non-forest use	Less than significant	–	–

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
3.3 Air Quality			
Impact AQ-1: Generate construction-related emissions in excess of SJVAPCD thresholds	Significant	No mitigation available	Significant and unavoidable
Impact AQ-2: Generate on-road mobile source criteria pollutant emissions in excess of SJVAPCD thresholds	Less than significant	–	–
Impact AQ-3: Expose sensitive receptors to substantial concentrations of carbon monoxide	Less than significant	–	–
Impact AQ-4: Expose sensitive receptors to substantial pollutant concentrations	Less than significant	–	–
Impact AQ-5: Expose sensitive receptors to substantial odors	Less than significant	–	–
3.4 Biological Resources			
Impact BIO-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service	Less than significant	–	–
Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service	Less than significant	–	–
Impact BIO-3: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) or waters of the State through direct removal, filling, hydrological interruption, or other means	Less than significant	–	–
Impact BIO-4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites	Significant	No mitigation available	Significant and unavoidable

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources	No Impact	–	–
Impact BIO-6: Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan	No impact	–	–
Impact BIO-6: Introduce or spread invasive species	Less than significant	–	–
3.5 Cultural Resources			
Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5	Significant	No mitigation available	Significant and unavoidable
Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5	Significant	No mitigation available	Significant and unavoidable
Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries	Less than significant	–	–
3.6 Geology, Soils, and Paleontological Resources			
Impact GEO-1: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving fault rupture	Less than significant	–	–
Impact GEO-2: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides	Less than significant		–
Impact GEO-3: Result in substantial soil erosion or the loss of topsoil	Less than significant	–	–
Impact GEO-4: Location on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide	Less than significant	–	–
Impact GEO-5: Location on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property	Less than significant	–	–

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
Impact GEO-6: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater	Less than significant	–	–
Impact GEO-7: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	Less than significant	–	–
3.7 Greenhouse Gas Emissions and Energy [*Pending*]			
3.8 Hazards and Hazardous Materials			
Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials	Less than significant	–	–
Impact HAZ-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment	Less than significant	–	–
Impact HAZ-3: Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	Less than significant	–	–
Impact HAZ-4: Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment	Less than significant	–	–
Impact HAZ-5: Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area	Less than significant	–	–
Impact HAZ-6: Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area	Less than significant	–	–
Impact HAZ-7: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	Less than significant	–	–

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
Impact HAZ-8: Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands	Less than significant	–	–
3.9 Hydrology and Water Quality			
Impact HYD-1: Violate any water quality standards or waste discharge requirements	Less than significant	–	–
Impact HYD-2: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)	Significant	No mitigation available	Significant and unavoidable
Impact HYD-3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite	Less than significant	–	–
Impact HYD-4: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite	Less than significant	–	–
Impact HYD-5: Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff	Less than significant	–	–
Impact HYD-6: Otherwise substantially degrade water quality	Less than significant	–	–
Impact HYD-7: Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map	Less than significant	–	–
Impact HYD-8: Place within a 100-year flood hazard area structures that would impede or redirect flood flows	Less than significant	–	–

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
Impact HYD-9: Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam	Less than significant	–	–
Impact HYD-10: Contribute to inundation by seiche, tsunami, or mudflow	Less than significant	–	–
3.10 Land Use and Planning			
Impact LAN-1: Physically divide an established community	Less than significant	–	–
Impact LAN-2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect	Less than significant	–	–
Impact LAN-3: Conflict with any applicable habitat conservation plan or natural community conservation plan	No impact	–	–
3.11 Mineral Resources			
Impact MIN-1: Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state	Beneficial impact	–	–
Impact MIN-2: Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan	Beneficial impact	–	–
3.12 Noise			
Impact NOI-1: Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies	Significant	No mitigation available	Significant and unavoidable
Impact NOI-2: Expose persons to or generate excessive groundborne vibration or groundborne noise levels	Less than significant	–	–
Impact NOI-3: Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project	Less than significant	–	–

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
Impact NOI-4: Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project	Less than significant	–	–
Impact NOI-5: Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels	Less than significant	–	–
Impact NOI-6: Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels	Less than significant	–	–
3.13 Population and Housing			
Impact POP-1: Induce substantial population growth, either directly, by proposing new homes and businesses, or indirectly, through the extension of roads and other infrastructure	Less than significant	–	–
Impact POP-2: Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere	Less than significant	–	–
Impact POP-3: Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere	Less than significant	–	–
3.14 Public Services			
Impact SER-1: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives: Fire protection	Less than significant	–	–
Impact SER-2: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives: Police protection	Less than significant	–	–

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
Impact SER-3: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives: Schools	Less than significant	–	–
Impact SER-4: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives: Parks	No impact	–	–
Impact SER-5: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives: Other public facilities	Less than significant	–	–
3.15 Recreation			
Impact REC-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated	Significant	No mitigation available	Significant and unavoidable
Impact REC-2: Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment	Less than significant	–	–
3.16 Transportation and Traffic			
Impact TRA-1: Result in increased VMT on a per capita basis	Less than significant	–	–
Impact TRA-2: Result in traffic operations below LOS C for Stanislaus County roadways, which is the minimum acceptable threshold according to the General Plan	Less than significant (individual and cumulative)	–	–

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
Impact TRA-3: Result in traffic operations below the minimum acceptable thresholds on roadways outside Stanislaus County's jurisdiction (i.e., Caltrans facilities)	Significant	No mitigation available	Significant and unavoidable
Impact TRA-4: Create demand for public transit unable to be met by planned services and facilities or disrupt existing, or interfere with planned, transit services or facilities	Less than significant	–	–
Impact TRA-5: Disrupt existing, or interfere with planned, bicycle or pedestrian facilities	Less than significant	–	–
Impact TRA-6: Result in transportation network changes that would prevent the efficient movement of goods within the county	Less than significant (individual) Significant (cumulative)	– No mitigation available	– Significant and unavoidable
Impact TRA-7: Result in a change in air traffic patterns, including an increase in traffic levels or a change in location that results in substantial safety risks	Less than significant	–	–
Impact TRA-8: Create additional vehicle, bicycle, or pedestrian travel on roadways or other facilities that do not meet current county design standards	Significant	No mitigation available	Significant and unavoidable
Impact TRA-9: Substantially conflict with applicable plans, policies, and regulations of other agencies and jurisdictions where such conflict would result in an adverse physical change in the environment	Less than significant	–	–

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
3.17 Utilities and Service Systems			
Impact UTL-1: Exceed wastewater treatment requirements of the Central Valley Regional Water Quality Control Board	Less than significant	–	–
Impact UTL-2: Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	Significant	No mitigation available	Significant and unavoidable
Impact UTL-3: Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	Less than significant	–	–
Impact UTL-4: Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	Less than significant	–	–
Impact UTL -5: Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments	Significant	No feasible mitigation available	Significant and unavoidable
Impact UTL-6: Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs	Less than significant	–	–
Impact UTL-7: Comply with federal, state, and local statutes and regulations related to solid waste	Less than significant	–	–

ES.4 Significant and Unavoidable Impacts

The Program EIR has identified the following areas where, after the implementation of feasible mitigation measures, the proposed project may nonetheless result in impacts that cannot be fully mitigated to a level of insignificance.

ES.4.1 Aesthetics, Light, and Glare

Development contemplated by the general plan would result in new development on undeveloped lands. This new development would irreversibly change the localized visual character of these areas and introduce new sources of light and glare, which may adversely impact the quality of daytime and night time views.

ES.4.2 Air Quality

Development and land use activities would result in emissions that would contribute to the region's air quality problem. The San Joaquin Valley Air Basin is in non-compliance for the emissions of ozone precursors and dust.

ES.4.3 Cultural Resources

Future development under the general plan, as amended by the project, will introduce new structures, roads, and other features that will adversely affect existing cultural resources.

ES.4.4 Hydrology and Water

Within the time frame of the general plan's 2035 planning horizon, development under the general plan will have a significant effect on groundwater overdraft. Although the general plan update includes measures intended to reduce or minimize this impact, those measures are reliant upon implementation of a groundwater sustainability plan that may not be fully implemented for decades.

ES.4.5 Noise

Noise impacts would be significant along numerous road segments where future noise levels would equal or exceed 60 L_{dn} and expose existing noise sensitive land uses to these higher levels. Mitigation of this impact would vary, depending on the level of noise, distance of the sensitive receptor from the road, and construction of the affected building. Based on the specific circumstances, methods of mitigation could include, but are not limited to, installation of a solid wall along the road frontage, retrofitting of existing buildings with double-pane windows, and installation of insulation in walls facing the road. The County does not have a program for mitigating noise impacts affecting existing sensitive receptors. This impact would be significant and unavoidable because there is no feasible program to mitigate the impact.

ES.4.6 Recreation

Future development under the general plan, as amended by the project, will increase demands on parks and may lead to the physical deterioration of those facilities. Further, the construction of regional parks often times results in significant effects from lighting and traffic.

ES.4.7 Transportation

Future growth anticipated by the general plan will result in greater traffic volumes on local and regional roadways (i.e., highways). The cumulative traffic generated by both cities and the County will cause some County and state roadways to operate at LOS E or F. Future development projects will be required to pay a traffic impact fee; however, it would not fully reduce the project's contribution to this significant impact to a less than considerable level. In addition, this will result in a considerably considerable contribution to a significant cumulative impact on goods movement.

Vehicle, bicycle, and/or pedestrian travel are anticipated to increase on roadways that do not currently meet county design standards with build-out of the General Plan, as amended by the General Plan update. Circulation Element Policies 1 and 2 and their appurtenant Implementation Measures, as amended by the General Plan update, will require applicants for development projects to identify and mitigate impacts on the transportation system, including upgrading the existing county road system as new development occurs and roadway network improvements are needed to accommodate increased travel demand. However, implementation of upgrades to the county roadway system may be limited by lack of funding sources.

ES.4.8 Utilities and Service Systems

Future development under the general plan, as amended by the project, will require the installation of new water and wastewater treatment facilities. Those facilities often result in significant effects on the environment. Existing water and wastewater treatment facilities in some rural communities are unable to serve anticipated future development. Funding to expand those facilities may not be available.

ES.5 Summary of Alternatives

CEQA requires the lead agency to consider a reasonable range of feasible alternatives to the proposed project that: (1) meet most or all of the project's objectives; (2) substantially reduce one or more of its significant effects; and (3) are potentially feasible. The County has examined two alternatives to the proposed project, including the No-Project alternative.

Below are very brief summaries of the alternatives that are examined in Chapter 4 of this EIR. See Chapter 4 for a more complete description of each of the alternatives and a qualitative comparison of their potential impacts. As authorized under Section 15126.6 of the State CEQA Guidelines, the alternatives are examined at a lesser level of detail than the proposed project. The alternatives are qualitatively compared to each other in Table ES-3.

Table ES-3. Summary of General Plan Alternatives Impacts

Impact Topic	Alternative 1—No Project		Alternative 2—Reduced Developable Area	
Aesthetics	SU	(S)	SU	(L)
Agricultural Resources	LTS	(S)	LTS	(L)
Air Quality	SU	(S)	SU	(L)
Biological Resources	SU	(S)	SU	(L)
Cultural Resources	SU	(S)	SU	(S)
Geology, Soils, and Paleontology	LTS	(S)	LTS	(S/L)
Greenhouse Gas Emissions and Energy	SU	(G)	SU	(L)
	LTS	(S)	LTS	(S)
Hazards and Hazardous Materials	SU	(S)	SU	(S)
			LTS	(S)
Hydrology and Water Quality	SU	(S)	SU	(L)
Land Use and Planning	LTS	(S)	LTS	(S)
Mineral Resources	LTS	(S)	LTS	(S)
Noise	SU	(S)	SU	(L)
Population and Housing	SU	(S)	SU	(G)
Public Services	SU	(S)	SU	(L)
Recreation	LTS	(S)	LTS	(S)
Transportation and Traffic	SU	(G)	SU	(L)
Utilities and Service Systems	SU	(S)	SU	(L)

(G) = impact greater than the project.
(L) = impact less than the project.
(S) -= impact the same as the project.

ES.5.1 Alternative 1—No Project Alternative

Under Alternative 1—No Project Alternative, the current general plan would remain in effect and future development would occur in accordance with the land use map and policies of this plan. The County's future development would continue to be guided by the existing adopted plans and their policies. As with the project, there would be no site-specific changes in existing land use designations or zoning. Because the level and pattern of development would be substantially the same under both the project and the No Project Alternative, the key differences between the two are the proposed new goals, policies, and implementation measures being proposed by the project.

The No Project Alternative would not reduce any of the impacts attributed to the project.

ES.5.2 Alternative 2—Reduced Developable Area

This alternative would reduce the area of the county that is designated for residential or urban development. This would reduce the general plan's impacts on agricultural conversion, biological resources, and traffic. Those undeveloped or underdeveloped areas of the county with residential, commercial, and other urban planning designations include the communities of Del Rio, Denair, Diablo Grande, Keyes, Salida, and Westley. Measure E (enacted by voter initiative in 2008) requires

that any redesignation or rezoning of land in the unincorporated area from agricultural or open space use to a residential use must be approved by a majority vote of the county voters at a general or special local election. The planning strategies of the Stanislaus County General Plan must reflect the requirements of Measure E. The unincorporated communities of Crows Landing, Knights Ferry, and La Grange have little or no capacity for additional growth.

Under this initiative, the future development potential for the communities of Del Rio, Denair, Keyes, and Westley would be reduced. Both Diablo Grande and Salida are subject to approved entitlements that limit the County from "down zoning" them to reduce urban densities. Furthermore, the Salida Community Plan was adopted by voter initiative. As a result, it cannot be changed except by another popular vote at a county-wide election. The County cannot reduce development density within Salida through the general plan amendment process.

There are substantial undeveloped areas in Del Rio, Denair, Keyes, and Westley. Alternative 2 would include all of the proposed amendments to the General Plan and ALUCP, but would add new policies to each of these community plans to restrict new residential development projects on all vacant, agriculturally zoned lands to the residential use allowed in the particular agricultural zone. This would effectively preclude large scale residential subdivisions and limit development to single-family residences on lots meeting the minimum parcel size.

ES.6 Areas of Known Controversy and Issues to be Resolved

Pursuant to Section 15123 of the State CEQA Guidelines, the summary identifies areas of controversy known to the Lead Agency, including issues raised by agencies and the public. In addition, the summary section also identifies issues to be resolved. Each of these issues is discussed below.

A Notice of Preparation (NOP) for the Program EIR was distributed to the State Clearinghouse, responsible agencies, and other interested parties for a 30-day public review period from April 29, 2014 through May 29, 2014. In addition, public scoping workshops were held in Modesto, Patterson, and Oakdale.

A limited number of agencies, organizations, and individuals provided comments on the NOP. These comments suggested areas of study and identified environmental impacts.

ES.6.1 Areas of Known Controversy

No controversial issues were raised during the Notice of Preparation and scoping process of this project. However, the following are areas that have consistently been of concern to the public and decisionmakers.

ES.6.1.1 Agricultural Resources – Loss of Farmland

Development and land use activities contemplated by the general plan would potentially result in the loss of Important Farmland and Williamson Act land (much of it overlapping). The general plan encourages development to occur first in the cities and community plan areas. However, development would also be allowed on existing lots outside of these areas.

ES.6.1.2 Traffic Congestion

Future growth anticipated by the general plan, as well as city growth during the planning horizon, would result in additional vehicle trips on local and regional roadways. These additional vehicle trips may result in some roadways operating at levels that exceed the County's preferred standard of traffic flow, causing increased traffic congestion in the county.

ES.6.1.3 Water Supply

Stanislaus County has substantial existing water constraints. The major groundwater basins in the county are in a state of overdraft. Although initiatives are either underway (County groundwater "mining" ordinance adoption) or in the early planning stages (legislatively-mandated regional groundwater management plan) that would reduce this overdraft, the initiatives may not be sufficient to avoid continued overdraft and do not offer short-term relief. Given these constraints, future development and land use activities would further exacerbate these water-related problems without careful planning.

ES.6.2 Disagreement among Experts

The Program EIR contains substantial evidence to support the conclusions presented herein. However, there is the possibility that there will be disagreement among various parties regarding these conclusions. Both the State CEQA Guidelines and case law provide the standards for treating disagreement among experts. Where evidence and opinions conflict on an issue concerning the environment, and the lead agency knows of these controversies in advance, the Program EIR must acknowledge the controversies, summarize the conflicting opinions of the experts, and include sufficient information to allow the public and decision-makers to make an informed judgment about the environmental consequences of the proposed project.

Evidence presented during the public and agency review of the Draft Program EIR will be incorporated into the Final Program EIR for this project. In their proceedings, the decision-makers will consider comments received concerning the adequacy of the Draft Program EIR and address any objections raised in those comments. Decision-makers reviewing the Final Program EIR will have the ability to consider this material during the public hearing process.

ES.7 Public Review of the Draft Program EIR

The Draft Program EIR will be available for public review for the statutory 45-day public review period, beginning [date] and ending on [date]. During that time, agency representatives and members of public can submit written comments on the Draft Program EIR to the address provided below.

Ms. Kristin Doud, Associate Planner
Stanislaus County Planning and Community Development Department
1010 10th Street, Suite 3400
Modesto, CA 95354

After the end of the public review period and as part of preparing the Final Program EIR, the County will prepare written responses to all environmental issues that are raised by commenters. The Final Program EIR will consist of the Draft Program EIR, comments received, written responses to

comments, and list of commenters. It may also contain additional information necessary to respond to the comments. All public agencies that submit comments will be sent a copy of the County's response to their comment at least 10 days prior to the public hearing at which the Final Program EIR will be considered for approval by Board of Supervisors.

The Board of Supervisors will certify the Final Program EIR prior to taking separate actions on the proposed general plan and ALUCP. At that time, they will adopt findings regarding the disposition of each significant effect identified in the Final Program EIR, as well as a statement of overriding considerations describing the specific benefits that outweigh the projects significant and unavoidable impacts.

ES.8 Future Use of this Program EIR

After certification by the County Board of Supervisors, the Program EIR may be used by the County and other agencies as a "first tier" document for later actions, as authorized by Section 15183 (projects consistent with a community plan or zoning) or Section 15162 (subsequent EIR) of the State CEQA Guidelines (Title 14, California Code of Regulations, Section 15000, et seq.), as applicable. Under these provisions, later CEQA reviews would focus on the site-specific or project-specific impacts of that action. Reviews of later actions under this provision of CEQA would be required to consider any project-specific impacts that were not addressed in this Program EIR.

These later projects are not known at this time. However, they may include County actions such as the following.

- Rezoning undertaken to make zoning consistent with the general plan.
- Adoption of the Capital Infrastructure Financing Plans and similar infrastructure-related plans set out under the general plan, with the understanding that site-specific impacts will require additional CEQA analysis.

Tiering would not apply if the later action was not analyzed in the Program EIR.

Chapter 1
Introduction

1.1 California Environmental Quality Act

This environmental impact report (EIR) has been prepared according to California Environmental Quality Act (CEQA) California Resources Code Section 21000 et seq. and the Guidelines for the California Environmental Quality Act (California Code of Regulations [CCR], Title 14, Chapter 3). It evaluates the potential environmental impacts associated with the implementation of the proposed Stanislaus County General Plan update and Airport Land Use Compatibility Plan (ALUCP) update (together, "project"). Copies of the proposed draft general plan and Airport Land Use Compatibility Plan updates are located on the accompanying CD at the end of this EIR. The general plan update will apply to the county's unincorporated areas, minus federal and state lands.

1.1.1 Purpose of the Environmental Impact Report

The purpose of this EIR is to inform County decision-makers, representatives of other affected/responsible agencies, the public, and other interested parties of the potential environmental effects that may be associated with the project, identify mitigation measures to reduce those effects, and analyze a range of alternatives to the project that would reduce one or more of its significant effects.

According to Section 15002 of the State CEQA Guidelines, the basic purposes of CEQA are as follows.

- Inform government decision-makers and the public about the potential significant environmental effects of proposed activities.
- Identify ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governing agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The process of preparing this EIR involved the following discrete steps.

- **Notice of Preparation** (NOP). Prior to preparing the Draft EIR, the County released an NOP to solicit the comments of public agencies and interested organizations and individuals regarding the scope and content of the EIR. The NOP was available for comment for at least 30 days. The NOP was distributed for this EIR on April 29, 2014, which included the 90-day review period for Tribal Contacts. The NOP is included in Appendix A of this EIR. An additional 90-day review period for the Board of Forestry was provided on August 18, 2015.
- **Community Meetings/Scoping Meeting**. Several community meetings were held to provide an overview and solicit comments regarding the proposed changes to the General Plan and ALUCP. Community meetings were held for the public on May 14, 2014 at Patterson City Hall in Patterson, and on May 22 at Gene Bianchi Community Center in Oakdale. A scoping meeting

offers additional opportunities for input prior to preparation of a draft EIR. Scoping meetings were held for public agencies and members of the public at Modesto Harvest Hall on May 19, 2014.

- **Preparation of the Draft EIR and Release for Public Review and Comment**. The Draft EIR will be available for 45 days for public agencies and interested organizations and individuals to review and prepare comments.
- **Preparation of the Final EIR.** The Final EIR will contain the Draft EIR, the comments received (and a list of commenters), written responses to the comments related to environmental issues, and any revisions that are made to the Draft EIR in response to the comments. The County Board of Supervisors will certify the Final EIR prior to taking action on the project.
- **Adoption of Findings and a Statement of Overriding Considerations**. The Board of Supervisors will adopt a set of "findings" that describe how each significant effect is being addressed. Because the general plan update will result in significant and unavoidable impacts, the County will also adopt a statement of overriding considerations that explains the specific benefits of adopting the project.

An EIR Is an Informational Document

Each of the following sections of the EIR addresses potential significant adverse environmental impacts associated with development pursuant to the project. Impacts are disclosed separately for development to the 2035 planning horizon. The potential impacts of the project are analyzed in comparison to existing conditions, except as noted.

When determining whether the project would result in a significant environmental impact, the EIR also considers the extent to which proposed plan policies would act to reduce its effects. Where the plans' policies would not be sufficient to reduce impacts to a less-than-significant level and there is feasible mitigation that would do so, the EIR identifies that mitigation. For purposes of this EIR, "mitigation" means specific policies that can be adopted that would avoid the impact or reduce it to a less-than-significant level.

The EIR Neither Approves nor Denies the Plans

The Stanislaus County Planning Commission and Board of Supervisors will use to EIR to inform themselves of the impacts of the proposed project before taking action on the project. They will also consider other information and testimony submitted during deliberations on the project. After weighing this information, they will then make their decisions.

Environmental impacts cannot always be mitigated to a level that is considered less than significant. In accordance with Section 15093(b) of the State CEQA Guidelines, if an agency approves a project that has significant impacts that cannot be mitigated (i.e., significant and unavoidable impacts), the agency cannot approve the project without specifying in writing the project benefits that justify its approval. Because a county general plan identifies land uses for an entire county, most general plan EIRs identify significant and unavoidable impacts. This EIR is no exception. As mentioned above, prior to approving the project in final form, the County will adopt a statement of overriding considerations that describes the specific benefits that outweigh the significant and unavoidable impacts of the project.

1.1.2 Program EIR

The most common type of EIR, the "project EIR," analyzes the impacts of an individual activity or specific project. Like all EIRs, it must include the contents required by CEQA and the corresponding State CEQA Guidelines. Project EIRs are generally prepared for specific site-development projects, such as subdivisions or commercial centers.

Where the project consists of a series of actions or activities, a "Program EIR" can be prepared (State CEQA Guidelines Section 15168). Once it is adopted, a Program EIR will be used to streamline the later environmental analysis of these activities. Typically, because not all of the components of the program are known in detail, this means a Program EIR will not be detailed enough to analyze all aspects of the later activities. If the later proposal would have effects that were not analyzed in the Program EIR or is an activity not included in the Program EIR, either a new EIR or a new Negative Declaration would be prepared in order to analyze that project.

On the other hand, if the agency finds that no new or more severe effects could occur that had not been analyzed in the Program EIR, the agency can approve the activity as being within the scope of the activities described in and analyzed by the Program EIR and no new environmental document would be required. If a specific project is within the scope of the Program EIR, but would result in a new or more severe impact, then a subsequent or supplemental EIR or Mitigated Negative Declaration would be prepared. It would focus its analysis on the new or more severe effects.

The "program" being analyzed in this Program EIR is the updates to the Stanislaus County General Plan and the ALUCP.

1.1.3 Level of Detail

This EIR considers the potential environmental effects of implementing the plan updates. The State CEQA Guidelines provide that "[t]he degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR" (Section 15146). The general plan and ALUCP are broad statements of policies. They do not propose any specific development project. Accordingly, this EIR "need not be as detailed as an EIR on … specific construction projects" (State CEQA Guidelines Section 15146). Further actions or procedures necessary to implement the updated general plan and ALUCP will include the processing of zoning plans, specific plans, tentative tract maps, site design plans, building permits, and/or grading permits. Because those site-specific and project-specific actions are separate from updating the general plan and ALUCP, they are not analyzed in this EIR.

To keep the analysis of impacts in this Program EIR in perspective, the county contains an area of approximately 1,521 square miles. It includes well-established, unincorporated communities of varying sizes and development intensity (the county also contains nine incorporated cities that are outside of its jurisdiction). The county has an extensive array of agricultural lands, lands devoted to mineral extraction, and recreational areas. There are foothills, valley areas, and expansive natural open space areas. The analysis in an EIR for a county this size is not intended to be site-specific, but is a broad analysis. For instance, the traffic analysis determines on a gross level whether development under the general plan will result in traffic congestion and where that would generally occur. It cannot, however, determine the specific street improvements that individual future projects might need in order to avoid their site-specific impacts on the traffic system.

1.2 Intended Use of the Environmental Impact Report

This EIR is prepared for the purpose of analyzing, at a broad scale, the environmental impacts of the proposed plan updates. Accordingly, this EIR does not take a parcel-specific view or provide a parcel-specific analysis of potential impacts.

The following discretionary actions are anticipated to be taken by Stanislaus County based on this EIR.

- Adoption of the Stanislaus County General Plan updates
- Adoption of the Stanislaus County ALUCP updates

1.2.1 General Plan Adoption

Final adoption of the plan updates is the responsibility of the County Board of Supervisors. The proposed project will first be considered by the County Planning Commission, which will offer its recommendations to the Board for final action. Public hearings will be part of both the Planning Commission and Board deliberations.

Prior to considering the general plan, the County has contacted Native American tribes to solicit their opinions, as provided by Senate Bill (SB) 18 (Chapter 905, Statutes of 2004). The County has also consulted with state and local agencies through the CEQA process. A list of the extensive contacts made during the consultation period is available upon request to the Stanislaus County Planning Department.

1.2.2 Future Use of this EIR

After certification by the County Board of Supervisors, this EIR may be used by the County and other agencies as a "first tier" document for later projects, as authorized by Section 15183 (projects consistent with a community plan or zoning) and Section 15168 (program EIR) of the State CEQA Guidelines (14 CCR 15000 et seq.). As the first tier document, the EIR would be the foundation for later CEQA reviews. Reviews of later proposals under this provision of CEQA would be required to consider any project-specific impacts that were not addressed in this EIR.

These later projects are not known at this time. However, they may include County actions such these.

- Rezoning undertaken to make zoning consistent with the updated general plan.
- Adoption of the Capital Infrastructure Financing Plans and similar infrastructure-related plans, with the understanding that site-specific impacts will require additional CEQA analysis.

Other agencies may also utilize this EIR for their decisions. The extent to which the EIR is relied upon will depend upon whether the actions are consistent with the general plan, whether there are new project-specific impacts requiring additional CEQA review, and whether the other agency chooses to use the EIR. There are no such proposed actions by other agencies currently known.

1.3 Environmental Impact Report Focus

The EIR addresses a comprehensive set of environmental topics. Because the project does not include any proposed site-specific changes in land use designations, the focus is on the prospective environmental impacts of the proposed changes in general plan and ALUCP policies.

1.4 Document Format

This Program EIR is organized into the following sections.

- **Executive Summary** consists of an overview of the contents and findings contained in this document. It also contains a brief description of the proposed project, the alternatives, areas of known controversy, and summary tables listing all project impacts and comparing alternatives.
- **Chapter 1** is the introduction and describes this EIR's purpose and legal requirements, as well as its intended use. It contains an outline of the document and a list of the environmental issues that are discussed in this EIR.
- **Chapter 2** is the project description and describes the plans and their objectives. A full description of the proposed general plan and ALUCP updates is included in Appendix B of this EIR.
- **Chapter 3** contains the environmental analysis of the project, by environmental topic. The existing setting, thresholds of significance, impacts, and mitigation measures for each environmental topic listed below is presented according to the following framework.
    - 3.1 – Aesthetics
    - 3.2 – Agricultural Resources
    - 3.3 – Air Quality
    - 3.4 – Biological Resources
    - 3.5 – Cultural Resources
    - 3.6 – Geology, Soils, and Paleontological Resources
    - 3.7 – Greenhouse Gas Emissions and Energy
    - 3.8 – Hazards and Hazardous Materials
    - 3.9 – Hydrology and Water Quality
    - 3.10 – Land Use and Planning
    - 3.11 – Mineral Resources
    - 3.12 – Noise
    - 3.13 – Population and Housing
    - 3.14 – Public Services
    - 3.15 – Recreation

- 3.16 – Transportation and Traffic
- 3.17 – Utilities and Service Systems

- **Chapter 4** presents the alternatives to development of the plans. As allowed by CEQA, most of the impacts of these alternatives are evaluated at a more general level than the analyses contained in Chapter 3.
- **Chapter 5** contains discussions of additional topics required by CEQA, including unavoidable effects of the plans, significant irreversible environmental changes, growth-inducing impacts, cumulative impacts, and consistency with regional plans.
- **Chapter 6** lists the organizations and persons consulted in preparation of the EIR.
- **Chapter 7** identifies the people who prepared the EIR.
- The Appendices contain copies of the NOP, the texts of the proposed general plan and ALUCP updates, and technical information.

1.5 Approach to the Impact Analysis

The State encourages jurisdictions to revise their general plans periodically. Typically, general plans are comprehensively updated every 10 years and the typical planning horizon for general plans is 20 years into the future. Here, the update includes a planning horizon of 2035.

The analysis relies on reasonable growth projections prepared by the Stanislaus Council of Governments (StanCOG) for the 2014 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). These projections extend to the year 2040.

The impacts of the general plan as amended by the project and the ALUCP update are measured by comparison to existing conditions. For purposes of this EIR, existing conditions are 2010, in keeping with the StanCOG growth projections.

This EIR undertakes a good faith effort at evaluating the future impacts of the project, without straying into speculation. The horizon for this analysis is 2035.

Chapter 2
Project Description

2.1 Background

As a requirement of California Government Code Section 65300, every city and county throughout California must develop and adopt "a comprehensive, long-term general plan to guide its development" (Government Code Section 65300). A general plan must include seven mandatory elements: Land Use, Circulation, Housing, Open Space, Conservation, Safety, and Noise. Although they are listed separately in California law, the general plan elements comprise an "integrated, internally consistent and compatible" set of policy objectives. Cities and counties commonly combine the seven elements into their own unique general plans. Each jurisdiction may also include additional elements.

The general plan has been called a "constitution for development" because it establishes the county or city goals, objectives, and policies that will guide growth, resource conservation, resource use, and public safety decisions. A general plan's land use map lays out the future pattern of land uses within the jurisdiction, including housing, commercial, office, industrial, agricultural, resource recovery, open space, and agriculture. A general plan's overall goals, objectives, and policies, and those policies related to the various types of land uses are implemented through the zoning and subdivision ordinances, and the adoption of specific plans.

The California State Aeronautics Act (California Public Utilities Code Sections 21670–21679.5) requires, with limited exceptions, the creation of an Airport Land Use Commission (ALUC) in each county that has a public-use or military airport. The ALUC is required to prepare an Airport Land Use Compatibility Plan (ALUCP) to address each public-use and military airport. According to the act, the purpose of an ALUCP is "to protect public health and safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses." An ALUCP must reflect the anticipated growth of an airport for at least 20 years based on a long-range master plan or airport layout plan. Each ALUCP includes policies to prevent conflicts between planned airport development and proposed land uses within the "Airport Influence Area" identified in the compatibility plan.

After an ALUCP has been adopted, its policies must be implemented by the affected local agencies. Government Code Section 65302.3 establishes that each county and city affected by an ALUCP must make its general plan and any applicable specific plans consistent with the ALUC's adopted compatibility plan. Alternatively, a local agency may, after a public hearing, overrule the ALUC's findings by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes of California Public Utilities Code Section 21670 et seq.

Local agencies are also responsible for referring their plans and certain other proposed land use actions to the ALUC for review. The ALUC must determine whether the proposed plans or land use actions are consistent with the ALUCP. The proposed adoption or amendment of general plans, specific plans, zoning ordinances, and building regulations always must be referred to the ALUC. However, other actions, such as those associated with individual development proposals, are subject to ALUC review only until the time that the general plan or specific plan of a local agency has been

made consistent with the ALUCP or the agency has overruled the ALUC. Similarly, any proposed modification to an airport master plan or airport layout plan must be referred to the ALUC to determine if the proposal is consistent with the adopted ALUCP.

2.2 Project

The project analyzed in this Program EIR consists of two components: an update to the Stanislaus County General Plan and updating the county-wide ALUCP to include revised plans for the Modesto City/County Airport and the Oakdale Municipal Airport. These are separate actions, although the plans are being prepared at the same time. The components of the project are summarized below.

2.2.1 Stanislaus County General Plan Update

Stanislaus County's general plan is comprised of the mandatory elements and one optional element, the Agricultural Element. The County has combined the required Open Space and Conservation Elements due to their interrelated content. The last broad-based update to the County general plan was adopted in 1994.

Stanislaus County's general plan applies to the unincorporated areas of the county. It does not apply to the incorporated cities, which have their own general plans, nor to state, tribal, or federal lands.

Stanislaus County is located in the San Joaquin Valley, in the heart of California's Central Valley (Figure 2-1). The county is bordered by the Coastal Mountain Range to the west and the Sierra Nevada Mountains to the east. It spans nearly 1,500 square miles and has approximately 514,000 residents (2010 Census) in its nine cities and unincorporated communities. Two of California's major north–south transportation routes, Interstate 5 (I-5) and State Route 99 (SR-99), cross the county. The Tuolumne River, Dry Creek, and the Stanislaus River run through the county from east to west and the San Joaquin River runs through the county from north to south.

Purpose of the General Plan Update

Stanislaus County proposes to update several elements of the general plan. Maps throughout the general plan have been updated; however, no changes in land use designations are proposed. The update of the general plan incorporates changes that have occurred in terms of legislation, regulatory codes, and local standards. Support documentation has been incorporated into each element. The update also includes some minor revisions to general plan language and some policy improvements. The general plan's 20-year planning horizon will be extended to 2035 by this update. The update integrates the population projections adopted by StanCOG's 2014 Regional Transportation Plan/Sustainable Communities Strategy into the general plan.

The 2014 General Plan Update includes revisions that recognize the following state legislation enacted since the last update to the general plan.

- 2003 Assembly Bill (AB) 170 – Air Quality and Land Use
- 2003 AB 32 – Greenhouse Gas Reduction
- 2007 SB 375 – Sustainable Communities Strategy
- 2007 AB 162/SB/AB 5 – 200 Year Flood Plain Protection

- 2011 AB 359 – Groundwater Recharge Mapping
- 2011 SB 244 – Disadvantaged Communities
- 2011 AB 26 – Dissolution of Redevelopment Agencies
- 2012 SB 1241 – Safety Element and Fire Hazard Impacts
- 2014 AB 1739 – Groundwater Management
- 2015 AB 52 – Protections for Tribal Cultural and Archaeological Resources

The general plan has also been updated to incorporate changes to agency names, structures, and responsibilities; changes to local codes, standards, and management plans; minor language and formatting revisions; and ALUCP consistency. This includes updating the lists of departments responsible for implementing the general plan found in many of implementation measures.

General Plan Update Objectives

The 2014 General Plan Update seeks to achieve the following essential objectives.

- To comprehensively review and amend the general plan to incorporate current requirements of State law related to planning issues.
- To update existing and incorporate new goals, objectives, policies, and implementation measures to reflect local changes in land use policy.
- To update technical data found within the general plan and support documents.
- To update the ALUCP to ensure consistency with the general plan; incorporate the requirements of the California Department of Transportation's (Caltrans') *Airport Land Use Planning Handbook;* and reflect new information relating to noise contours, safety zones, airspace protection zones, overflight areas, and current city general plan provisions.
- To prepare the environmental documentation necessary to support adoption of the general plan update and ALUCP update.
- To make these revisions while limiting changes to the land use diagram to a minimum.

Airport Land Use Compatibility Plan Objectives

The proposed ALUCP has the following objectives:

- To update the ALUCP to ensure consistency with the general plan; incorporate the requirements of the California Department of Transportation's (Caltrans') *Airport Land Use Planning Handbook;* and reflect new information relating to noise contours, safety zones, airspace protection zones, overflight areas, and current city general plan provisions
- To prepare the environmental documentation necessary to support adoption of the general plan update and ALUCP
- Provide for the orderly growth of each public airport and the area surrounding the airport to safeguard the general welfare of the inhabitants near the airport and the public in general.
- Establish height restrictions on buildings, specifies use of land within its planning areas, and determine building standards, including soundproofing adjacent to airports, within the airport influence area to limit impacts on residents near the airports.

- Control new development near airports in order to minimize conflicts between the airport and that development.

Summary of the Proposed General Plan Changes

Below is a summary of the changes that have been incorporated into the 2014 General Plan Update. The 2014 General Plan Update consists of revisions to the following elements and the ALUCP.

- Land Use
- Circulation
- Conservation/Open Space
- Noise
- Agricultural
- Safety

The current Housing Element (adopted in 1992) was last updated in 2012 and is currently in the process of being updated through a separate process. This element is not proposed for change as part of the general plan update and will be updated separately at some later date.

Land Use Element

A number of changes in the Land Use Element centering on unincorporated communities have been proposed.

- Updating the language within the Land Use Element to reflect the elimination of redevelopment agencies. The general plan will still utilize the word "redevelopment." However, it will be used in the context of renovations or updates occurring within existing development, not to Redevelopment Agency activity. (Goal One, Policy Six, Implementation Measures 1 and 2)
- Eliminating the reference to the Urban Services (US) zoning district in the implementation measure on rezonings within the sphere of influence of a community services district, sanitary district, or domestic water district. This implementation measure would instead provide that land within the sphere of influence of a community services district, sanitary district, or domestic water district shall be rezoned for development only if capacity for connecting to available public services exists and any resulting projects are conditioned to require connection to available services. (Goal One, Policy Six, Implementation Measure 3)
- Adding policy language requiring that, when feasible, new development be designed and built to allow for the upgrading or expansion of services necessary to upgrade existing unincorporated urban communities; however, new development will not be expected to be financially responsible for providing upgrades. (Goal One, Policy Six, Implementation Measure 4)
- Adding language to Goal One, Policy Six, Implementation Measure 5, to encourage unincorporated communities to establish "self-help" programs (such as benefit assessment districts).
- Including in Goal One, Policy Six an assessment of the infrastructure needs of "disadvantaged communities." (new Implementation Measure 6)

- Clarifying that all requests for development that require discretionary approval and include lands adjacent to or within riparian habitat shall include measures for protecting that habitat to the extent that such protection does not pose threats to proposed site uses, such as airports. (Goal One, Policy Seven, Implementation Measure 1)
- Adding measures to support economic development and job creation within the county. (Goal Three, Policy Seventeen, Implementation Measures 1–3)
- Encouraging reuse of the Crows Landing Air Facility as a regional jobs center. (Goal Three, Policy Seventeen, Implementation Measure 9)
- Adding Goal Two, Policy Sixteen and Implementation Measures 1 and 2 to reduce impacts associated with artificial lighting.
- Adding a new policy supporting efforts to direct economic development and job creation centers towards incorporated areas, the County shall also consider approval of centers in unincorporated areas of unique character and proximity to transportation infrastructure. (Goal Three, Policy Twenty-Two, Implementation Measure 1, and Goal Six, Policy Thirty-One).
- Adding an implementation measure such that development within a public water district and/or waste water district shall connect to the public water system and/or the waste water treatment facility; except where capacity is limited or connection to existing infrastructure is limiting and an alternative is approved by the County's Department of Environmental Resources. For development outside a water and/or waste water district, it shall meet the standards 1–12 of the Stanislaus County Primary and Secondary Sewage Treatment Initiative (Measure X) and domestic water. (Goal Four, Policy Twenty-Four, Implementation Measure 2)
- Amending Goal Four, Policy Twenty-Four, Implementation Measure 6 to provide that rezoning of property for development prior to: (1) annexation to a special district or (2) inclusion of such property into a newly formed special district that will provide urban services (i.e., sanitary sewer district, domestic water district, or community service district), which shall be approved only if the development is adequately conditioned to restrict development from occurring until annexation to or formation of the required district is complete.
- Adding an implementation measure to allow the County to amend its ordinances to implement any specific designation created by agreement with a City within a sphere of influence (Goal Five, Policy Twenty-Six, Implementation Measure 6).
- Enhancing policies about complementing the general plans of cities within the county. Coordination with cities is encouraged in order to identify opportunities to develop uniform development standards in city spheres of influence and along all major County-defined gateways to cities. An implementation measure has been added that will require development projects that require discretionary approval and are located outside the sphere of influence of cities, but within 1 mile of a city's adopted sphere of influence boundary and within a city's adopted general plan area, to be referred to that city for consideration. However, the County reserves the right of final discretionary action and authority. (Goal Five, Policy Twenty-Seven, Implementation Measures 1–3)
- Adding a policy expressing the County's support for a county-wide growth management strategy that is equitable to the needs of the county and all nine cities, taking in consideration land consumption and absorption rates. (Goal Six, Policy Twenty-Eight, Implementation Measures 1–2)

- Adding a new goal and related policies regarding healthy living environments for county residents. Recent environmental legislative changes led to the creation of a new goal to promote and protect healthy living environments and to encourage development that results in the following (Goal Six, Policies Twenty-Nine through Thirty-One).
    - Decreases air and water pollution.
    - Reduces the consumption of natural resources and energy.
    - Increases the reliability of local water supplies.
    - Facilitates alternative modes of transportation.
    - Promotes active living.
    - Improves local health care options through the siting of new facilities in locations with the infrastructure (including, but not limited to, transportation and utility) to support both facility and client needs. (Goal Six, Policies Twenty-Seven through Twenty-Nine)
- Revising the portion of the "Background" section of the element regarding Spheres of Influence.
- Amending the "Commercial" general plan designation to allow residential development in limited situations or when connected to both public sewer and water service.
- Amending the general policy statement regarding "Community Plans" to specify that any requests for rezoning within a Community Plan area must be consistent with the proposed use category of the Community Plan and shall be processed as a general plan amendment.
- Adding clarifying language to the Salida Community Plan section to differentiate the "Existing Plan" from the "Amendment Area," to specify the date of adoption of the Amended Area, to clarify the process for making amendments to the Salida Initiative and to the term limit of the Initiative.
- Revising information in the Public Services and Facilities section to clarify the current status of educational facilities, special education, and enrollment in the County.
- Making minor revisions to the Liquid and Solid Waste Disposal Facilities section regarding location and status of the 11 permitted solid waste facilities in the County.

Circulation Element

The Circulation Element would be amended to include new "Road Classifications" consistent with the U.S. Department of Transportation, Federal Highway Administration's (FHWA) naming standards and to incorporate changes to the right-of-way standards to allow Public Works more discretion in whether or not right-of-way needs to be obtained. The new road classifications include Interstate Freeway, Freeway and Expressway, Principal Arterials (Rural and Urban), Minor Arterial (Rural and Urban), Major Collector (Rural, Urban & Industrial), Minor Collector (Rural, Urban, & Industrial), Rural Local, and Urban Local. These would take the place of the current road classifications such as Freeway, Expressways, Major Road, and Collector.

The amendment includes a new Table 2-1, establishing road standards by classification, as follows.

Proposed New General Plan Table 2-1. Minimum Right-of-Way Requirements and Roadway Segment Level of Service Criteria

Street Classification	Total Lanes	Level of Service Thresholds (vehicles/per day/per lane)				
		A	B	C	D	E
Urban						
50 Ft Local (Urban)	2	350	950	1,700	2,950	5,000
60 Ft Minor Collector	2	350	950	1,700	2,950	5,000
80 Ft Major Collector	2	700	1,900	3,400	5,900	10,000
80 Ft Major Collector	4	2,520	4,230	5,940	7,110	9,000
110 Ft Minor Arterial	4	3,000	5,000	7,000	8,400	10,000
135 Ft Principal Arterial	4	3,750	6,250	8,750	10,500	12,500
135 Ft Principal Arterial	6	4,500	7,500	10,500	12,600	15,000
Industrial						
70 Ft Minor Collector	2	350	950	1,700	2,950	5,000
110 Ft Major Collector	2	700	1,900	3,400	5,900	10,000
Rural						
60 Ft Local	2	350	950	1,700	2,950	5,000
60 Ft Minor Collector	2	350	950	1,700	2,950	5,000
80 Ft Major Collector	2	350	950	1,700	2,950	5,000
80 Ft Major Collector	4	1,400	2,350	3,300	3,950	5,000
110 Ft Minor Arterial	4	3,000	5,000	7,000	8,400	10,000
135 Ft Principal Arterial	4	3,750	6,250	8,750	10,500	12,500
135 Ft Principal Arterial	6	4,500	7,500	10,500	12,600	15,000

Level of service (LOS) is a standard measure of traffic congestion along a roadway or at an intersection for vehicles. It ranges from A to F, with LOS A representing free flow and LOS F representing extreme congestion.

The proposal would amend the County's LOS standard from LOS C to LOS D for all county roadway segments and establish LOS C as the standard for motorized vehicles at all roadway intersections. LOS C represents conditions where traffic can move relatively freely on segments and through intersections. LOS D represents conditions where delay is more noticeable and average travel speeds are more unstable.

Policies have also been added to encourage development with multiple points of ingress and egress to aid in traffic flow and pedestrian accessibility, to encourage alternatives to onsite parking standards, and to encourage development that provides a safe, comprehensive, and coordinated transportation system that includes a broad range of transportation modes.

The project would update the minimum right-of-way and roadway segment LOS requirements for land dedication. In addition, the segment of Dunton Road from Milton Road to Highway 4 has been removed from the list of rural local or rural minor collector roads requiring at least 80 feet of right-of way. Proposed new Table 2-3 would describe the preferred characteristics of county roads, by classification. Existing Table 2-3 showing Adopted Plan Lines has been renumbered Table 2-4 and many of the Adopted Plan Lines have been deleted from the Circulation Element.

Proposed new Table 2-3 and revised new Table 2-4 are shown below.

Proposed New General Plan Table 2-3. Functional Classifications – Desired Roadway Characteristics

Functional Classification	Corridor Width (feet)[a]	Lanes[b]	LOS Threshold[c]	Intersecting Roadways[d]	Private Property Access[e]	Mobility/ Operating Speed[f]
Urban						
Freeway/ Expressway	Varies	4–8	D	Interchange at 1 mile spacing	None	High
Principal Arterial	110–135	4–6	D	1 per 1/2 mile	Very Limited	High
Minor Arterial	110–135	4–6	D	1 per 1/2 mile	Limited	Medium-High
Major Collector	80–110	2–4	D	1 per 1/4 mile	Limited	Medium
Minor Collector	60–70	2	D	1 per 1/8 mile	Limited	Low-Medium
Local/Private	50	2	D	No Limit	Controlled	Low
Rural						
Freeway/ Expressway	Varies	4–8	D	Interchange at 2 mile spacing	None	High
Principal Arterial	110–135	4–6	C	1 per 1/2 mile	Very Limited	High
Minor Arterial	110–135	2–4	C	1 per 1/2 mile	Limited	Medium-High
Major Collector	80–110	2–4	C	1 per 1/4 mile	Limited	Medium-High
Minor Collector	60–70	2	C	1 per 1/4 mile	Limited	Medium-High
Local/Private	50–60	2	C	1 per 1/4 mile	Controlled	Low-High

[a] The right-of-way widths shown represent typical right-of-way widths needed to accommodate the number of travel lanes necessary to support anticipated traffic volumes, shoulders, roadside ditches (rural roadways), curb, gutter, sidewalk, and bicycle lanes (where appropriate). Additional right-of-way width may be necessary at approaches to intersections to accommodate turn pockets. See Table 2-3 for Minor Collector and Local Roads that will require additional right-of-way.

[b] The number of lanes shown represents the typical number of lanes likely to be necessary for the various types of roadways. In unusual cases, additional lanes may be necessary to accommodate higher traffic volumes.

[c] The LOS thresholds indicated in this table represents the maximum acceptable weekday AM or PM Peak Hour LOS. Whenever a traffic analysis is prepared as part of a project approval, improvements need to be identified to ensure the resulting operating LOS does not exceed these threshold values.

[d] The values in this column represent the typical maximum number of intersections along the various types of roadways. In some cases, the number of intersections may be greater; however, a traffic analysis will be required indicating that the safety and function of the roadway will not be significantly compromised.

[e] Private property access to roadways maintained by Stanislaus County is granted through the issuance of an encroachment permit by the Department of Public Works. No access to private property will be permitted on Freeways or Expressways. Access to local roads will generally be approved; however, guidelines for driveways on local roadways in urban areas have been established in the Stanislaus County Public Works Standards and Specifications. Generally, driveways on other roadway types will be permitted; however the number of driveways will be limited to preserve the safety and function of the roadway. In some cases joint driveways serving more than one parcel may be required.

[f] The descriptions in this column represent the perceived level of mobility (usually represented by operating speed) a motorist may anticipate to experience on the various roadway types during non-peak hours.

Proposed New General Plan Table 2-4. Adopted Plan Lines

Name	From	To
26 Mile Road	Dodds Road	Sonora Road
Carpenter Road	Crows Landing Road	Whitmore Avenue
Coffee Road	Sylvan Road	Patterson Road
Crows Landing	Whitmore Avenue	West Main Street
Fink Road	Interstate 5	State Route 33
Howard Road	Interstate 5	State Route 33
Mc Henry Avenue	Briggsmore Avenue	Stanislaus River
Orange Blossom Road	Rodden Road	Knights Ferry
Stuhr Road	Interstate 5	State Route 33

Several Special Study Areas are being removed from the general plan, as listed below.

- Las Palmas Bypass
- SE Turlock Interchange
- Washington Road Extension
- Dakota Avenue/Service Road (Tuolumne River Crossing)
- Briggsmore Avenue Extension
- SR-99/Kiernan Avenue
- SR-99/Hammett Road

The Special Study Areas to be included in the new Circulation Element are as follows.

- South County Corridor (new study area)
- North County Transportation Corridor
- SR 132 Realignment and Widening
- Claus/Garner/Faith Home Expressway

The amendment would remove the description of Scenic Highways from the Circulation Element. That conforms the General plan to California Planning Law, which no longer mandates a scenic highways element.

Other modifications to the descriptions of various forms of transportation in the Circulation Element are as follows.

- Updating census information.
- Revising the Public Transit section to better describe StaRT.
- Adding discussions of the California High-Speed Rail project and the Altamont Commuter Express service to the Bay Area.
- Adding a brief description of the benefits of Intermodal Facilities for freight and passengers.

- Updating the aviation section discussion of the former Crows Landing Air Facility and Air Field.
- Expanding the discussion of transportation impact studies to require that all modes of transportation be considered in these studies, including operational and safety impacts of vehicle traffic, bicycle/pedestrian traffic, and transit systems. Impacts would be required to be mitigated with appropriate improvements to minimize the impacts of the proposed development. This discussion explains that the County will continue to use LOS to evaluate the impacts of new development on the transportation system, although LOS will no longer be used to determine environmental significance, in accordance with 2013 amendments to CEQA (SB 743, Chapter 386, Stats of 2013).

The language of Goal One has been revised to provide for and maintain a transportation system for the movement of people and goods that also meets land use and safety needs of all modes of transportation. Updates under Policy One of this goal include adding references to safety, updating references to specific dates, revising the departments responsible for policy implementation, and including non-motorized roadway elements when discussing roadway improvements. In addition, the measure that requires preparation of traffic impact studies has been broadened to include all projects, not just large ones.

Goal One, Policy One implementation measures would include language clarifying that new development will be required to pay for its operations and safety impacts on county roads, including improvements for non-motorized modes of travel.

Goal One, Policy Two states that circulation systems shall be designed and maintained to promote safety by combining multiple modes of transportation into a single, cohesive system. Four new implementation measures being proposed under this policy would limit the number of egress points onto public roads by including shared driveways and access easements at adjacent parcels; promote open street patterns with multiple points of ingress and egress to facilitate emergency response, minimize traffic congestion, and facilitate use by diverse modes of transportation; promote the transformation of major transportation corridors into boulevards that are attractive, comfortable, and safe for pedestrians; and require a new strategic plan to be prepared that includes the identification of areas and/or projects to which new multi-modal transportation guidelines would apply. The new guidelines (which are not part of the general plan update) would identify strategies for creating communities that increase the convenience, safety, and comfort of people using bicycle, pedestrian, and public transit facilities.

Policy Four Implementation Measures 2 (preparation of annual cumulative traffic impact analysis for general plan amendments) and 3 (development of traffic impact study procedures) would be removed from the general plan. Implementation Measure 1 would be expanded to confirm the County's reliance on the Congestion Management Program, including non-motorized alternatives (bicycle and pedestrian) and smart growth alternative land use strategies as alternatives to manage congestion. A new Implementation Measure 2 would be added stating that transportation facilities will provide for current and future transportation needs to protect public health, safety and welfare.

Policy Six would be revised to strive to reduce overall vehicle miles traveled instead of vehicle trips. Aviation has been added to the list of facilities to support the use of alternative modes of transportation in new development. Implementation Measure 4 (preparation of trip reduction/travel demand ordinance) would be dropped from the general plan. The implementation measure requiring the County to convert its vehicle fleet to clean fuels would be revised to continue

using Compressed Natural Gas or another alternative energy source in its fleet vehicles and County-owned buses.

Under Policy Seven, Implementation Measures 5 (creating a bicycle master plan) and 9 (creating pedestrian-oriented design guidelines) would be deleted from the general plan. The bicycle master plan has been replaced by the County's adopted *Non-Motorized Transportation Plan*, and Implementation Measure 1 would be amended to reflect that fact.

There are several changes and new implementation measures proposed under Policy Eight, which promote public transit. These changes would include the following.

- Revising Implementation Measure 1 to encompass all transit systems, as opposed to just the inter-city transit system, and requiring coordination with other County transit operators.
- Revising Implementation Measure 2 to work with StanCOG to seek funding to market and promote rideshare programs and, where possible, encourage all County employees to use public transit to commute to work.
- Expanding Implementation Measure 4 from requiring bus turnouts and shelters and park-and-ride lots, to promoting coordination and continuity of all transportation modes and facilities, including park-and-ride facilities at major activity centers.
- Deleting existing Implementation Measure 5 relating to transit-oriented development design guidelines.
- Adding a new Implementation Measure 5 that would ensure new development projects will include bus turnouts and site improvements associated with bus stop accessibility for persons with disabilities, including curb cuts for wheelchair access.
- Adding a new Implementation Measure 6 that would call for coordination between public transportation with land use planning, transportation planning, and air quality policies such that transit investments are complementary to land use planning and air quality policies.
- Adding a new Implementation Measure 8 encouraging infill development of vacant parcels and redevelopment projects that will align with and improve the overall effectiveness of the public transit system
- Adding a new Implementation Measure 9 to increase transit use through higher-frequency service of at least 15-minute headways in downtown areas and along major transportation corridors. Transit and land use would be interconnected to support increased ridership.

Under Policy Nine, Implementation Measure 7, regarding coordination with other agencies to designate SR-99 as part of the Federal Interstate System, would be deleted. This measure is obsolete because the designation of SR-99 as part of the system would require improvements that are too costly, and regional efforts to pursue this status have been abandoned.

A new goal and related policies concerning parking improvements would be added. The new policies would seek to reduce the amount of land dedicated to parking and make alternative modes of transportation more accessible. New implementation measures would call for updating the parking ordinance to allow more flexibility in usage of on-street parking and the use of shared parking facilities, and encourage the identification of priority parking areas for vanpools, carpools, and energy efficient and low-pollution vehicles, including consideration of recharge stations for electric vehicles in all Commercial and Business Park designated development projects with 100 or more employees.

Conservation/Open Space Element

The Conservation/Open Space Element is being updated to ensure consistency between the general plan and the capital improvement plan, hazard mitigation plans, and the ALUCP (specifically to reduce potential conflicts between habitat areas and Airport Influence Areas [AIAs]). Several changes regarding AIAs are proposed.

- A new implementation measure that requires ALUC review of the location, compatibility, and design of proposed parks, open space uses, and outdoor recreation areas within adopted AIAs (Goal One, Policy Two, Implementation Measure 3).
- A new implementation measure that discourages the establishment of conservation areas or nature preserves within adopted AIAs (Goal One, Policy Two, Implementation Measure 4).
- A new implementation measure ensuring that all projects within an adopted AIA that have the potential to create habitat, habitat conservation, or species protection shall be reviewed by the ALUC (Goal One, Policy Three, Implementation Measure 4).
- A new implementation measure that requires proposals that establish new or expanded recreational areas be reviewed for consistency with the Safety Element when located within an AIA. (Goal Four, Policy Fifteen, Implementation Measure 5)

New implementation measures have also been added to encourage the establishment of scenic corridors, riparian habitat and vernal pools mitigation, and landfill waste material diversion.

- A new implementation measure to consider adoption of scenic corridors to protect and preserve natural scenic vistas located throughout the county. (Goal One, Policy Two, Implementation Measure 5)
- A new implementation measure to include habitat protection mitigation measures where ground-disturbing activities will potentially impact undisturbed riparian habitat and/or vernal pools or other sensitive areas. (Goal One, Policy Three, Implementation Measure 6)

Revisions are proposed to Goal Two, Policy Eight to redirect its emphasis from water monitoring to water management. Additional revisions reflect state groundwater planning requirements under Assembly Bill 1739 (Chapter 347, Statutes of 2014). The proposed changes include the following.

- Revising policy language to reflect that state and federal funding options will be pursued to improve water quality management resources.
- Revising policy language to clarify that public water systems under the Department of Environmental Resources should be monitored.
- A new implementation measure to coordinate with water purveyors, private landowners, and other water resource agencies to collect data, develop a groundwater usage tracking system, and monitor groundwater level in order to help guide future policy development (Goal Two, Policy Eight, Implementation Measure 3).
- A new implementation measure to promote efforts to increase reliability of groundwater supplies through a variety of tools such as reuse opportunities and public education, as well as expanded opportunities for conjunctive use of groundwater (Goal Two, Policy Eight, Implementation Measure 4).
- A new implementation measure to create a new water resources management plan (Goal Two, Policy Eight, Implementation Measure 5).

- A new implementation measure to prepare and adopt a groundwater sustainability plan pursuant to AB 1739, in cooperation with other pertinent agencies such as cities and water districts (Goal Two, Policy Eight, Implementation Measure 6).
- A new implementation measure to develop planning and policy needs to improve groundwater recharge opportunities and groundwater conditions in the county (Goal Two, Policy Eight, Implementation Measure 7).
- A new implementation measure to adopt General Plan amendments to protect groundwater recharge areas and manage land use changes that would have an impact on groundwater use and quality, as information becomes available (Goal Two, Policy Eight, Implementation Measure 8).

Several changes have been made under Goal Three, Policy Ten, which provides for long-term conservation and use of agricultural lands. These changes include minor text changes to clarify that the County will continue to participate in the Williamson Act and Farmland Mapping and Monitoring Program. Implementation Measure 4, encouraging clustering of dwelling units on small parcels in designated agricultural land, will be removed from the general plan. Other changes include revisions to the departments identified as being responsible for implementing policy.

Changes have been made to Goal Four, which is focused on open-space recreational needs in the county. Changes include removing or updating text that references past dates. Other changes to the implementation measures under Policy Twelve are as follows.

- Revising Implementation Measure 1 to include payment of public facility fees and other acceptable methods of mitigation by subdividers and developers.
- Revising Implementation Measure 2 to reflect that the Parks Master Plan has been established and will continue to be implemented and updated as necessary.
- Removing Implementation Measures 3 (June 30, 1996, deadline for adopting park standards) and 6 (improving accessibility of Henry Coe State Park for Stanislaus County residents), which are no longer topical, and renumbering the subsequent measures.
- Updating the text of Implementation Measure 4 to include the protection of river corridors.
- Revising Implementation Measure 5 to reflect a more general commitment to the dedication and improvement of parks and open space.

Changes to implementation measures under Goal Four, Policy Thirteen include small text revisions to Implementation Measure 2 and the addition of new Implementation Measure 3 to develop resort services in recreation areas.

Implementation Measure 2 under Policy Fourteen has been revised to include consistency with StanCOG's Non-Motorized Transportation Plan.

Changes under Policy Fifteen include revising text to reflect that building permits on parcels fronting all rivers and streams should verify that the building site is outside of U.S. Army Corps of Engineers easements.

Goal Five focuses on reserving open space lands subject to natural disaster in order to minimize loss of life and property. Changes under this goal include the following.

- A new Implementation Measure 6 stating that development proposals shall be reviewed for conformance with all applicable Hazard Mitigation Plans and consistency with the Safety Element.

Minor editorial revisions have been made to Goal Six, which focuses on improving air quality.

Goal Seven emphasizes minimizing solid waste disposal, and contains various revisions.

- Revision to Policy Twenty-Two, Implementation Measure 2 to reflect that the Countywide Integrated Waste Management Plan has been established and will be maintained as necessary.
- Revision to Policy Twenty-Two, Implementation Measure 5 to include e-waste and universal waste in the list of "special wastes" to be diverted from landfills or transformation facilities.
- A new Implementation Measure 6 to ensure that permitting and operation of recycling facilities that receive waste materials diverted from landfills will be evaluated for compatibility with surrounding land uses.

Goal Eight, Policy Twenty-Four, and Implementation Measure 5 under Policy Twenty-Four have been revised to include paleontological resources.

Goal Nine focuses on managing mineral resources extraction without damaging the environment. Changes include updating references to the 1993 (Special Report 173) Mineral Land Classification of Stanislaus County, and the following,

- Removing text from Implementation Measure 2 about approving individual projects despite significant environmental effects.
- Changing Implementation Measure 3 to state that areas identified in Special Reports prepared by the California Geological Survey shall be covered under the Mineral Resource land use designation in the Land Use Element of the general plan.

Goal Ten emphasizes protection of fish and wildlife species. Changes include the following.

- Removing Policy Twenty-Nine and its implementation measure relating to maintaining adequate water flow in the county's rivers to allow for salmon migration.
- Revising Policy Twenty-Nine, Implementation Measure 2 to reference the California State Department of Fish and Wildlife's California Natural Diversity Data Base and the California Native Plant Society's plant lists as the primary sources of information on special-status species.

Goal Eleven focuses on the conservation of resources through alternative means. Changes under this goal include adding alternative energy sources to the list of zoning ordinance provisions.

Noise Element

The Noise Element's code references are updated. Implementation Measure 2 under Policy Three, which included an outdated reference to creating a community noise control ordinance, has been removed. A new Implementation Measure 2 has been added to ensure that the Stanislaus County noise control ordinance is enforced. New Implementation Measures 3 and 4 have been added to Policy Four to ensure consistency between the Noise Element, the Noise Ordinance, and the updated ALUCP. The noise contour map will be updated based on the information provided by this EIR.

Safety Element

The Safety Element is updated to incorporate references to the County's Multi-Jurisdictional Hazard Mitigation Plan and to respond to SB 5 (2007) flood protection legislation by mapping 200-year floodplains located within urbanized areas (this includes flood hazards along the Tuolumne River, Stanislaus River, and Dry Creek). Throughout the element, references to outdated plans and policies, including Chapter 16.40 of the County Code, have been revised. Implementation measures regarding safety hazard overlay zones and air strip easements have also been added.

Implementation Measures throughout the Safety Element have been revised to include additional agencies as Responsible Departments.

Goal One, Policy Two, which prohibits development in areas that are within the designated floodway, has been expanded to include development in any areas known to be susceptible to being inundated by water from any source. A new Implementation Measure 3 has been added committing the County to amend the zoning ordinance as necessary to comply with SB 5.

Goal One, Policy Four focuses on landslide hazards. Implementation Measure 3 under this policy adds private roads (in addition to public roads) to the types of roads that should be designed to minimize landslide risks.

Goal Two focuses on minimizing loss of life and property due to hazardous conditions. Implementation Measure 1 under Policy Six is revised to include language to promote elements of the built environment that allow for surveillance of publically accessible areas. Implementation Measure 3 under Policy Six is revised to make reference to the need to provide fire safe defensible space around structures.

Policy Seven under Goal Two focuses on providing adequate fire and sheriff protection. Changes under Policy Seven include revising the departments responsible for implementation and changing outdated references to the Fire Safety Department to the Fire Warden's Office and the Local Fire Agency. In addition, Implementation Measure 5 now includes agricultural development as a type of new development that shall have water to meet fire flow standards established in the current adopted fire code and industry standards.

Goal Two, Policy Eight pertains to the safety of roads. Implementation Measure 1 under this policy is revised to clarify that all modes of travel (including pedestrian and bicycle) should have safety features provided under new development.

Goal Two, Policy Nine focuses on the formation of improvement districts to mitigate safety hazards. This policy is revised to offer the option of creating overlay zones to mitigate safety hazards. Additional changes to this section include a new Implementation Measure 3, to adopt overlay zones for the purpose of alerting property owners to restrictions relating to safety hazards.

Goal Two, Policy Ten limits the siting of air strips. New Implementation Measure 2 has been added so that development proposals for the establishment of air strips shall include easements to restrict development on neighboring properties.

Goal Two, Policy Eleven focuses on restricting maximum heights of large communication antennas within agricultural areas. This policy now includes wind power facilities. Implementation Measure 1 is revised to cross-reference the zoning ordinance standards for communications facilities.

Implementation Measure 2 is expanded to require referral of wind power facilities as well as communications facilities to local crop dusting operations.

Agriculture Element

Goal One of the Agriculture Element is to strengthen the agriculture sector of the County's economy. Objective Number 1.6, Protect Food Safety, has been revised to address food borne pathogen outbreaks. Goal Two of the Agriculture Element is to protect the County's agricultural land for agricultural use. Policy 2.5, which directs growth away from the County's most productive agricultural areas, has new Implementation Measure 3, which encourages development of alternative energy sources on lands located outside "Most Productive Agricultural Areas." Goal Three of the Agriculture Element is to protect natural resources that sustain the agricultural industry.

The Agriculture Element has several new additions related to water use and conservation. New Implementation Measure 5 under Policy 3.4 encourages using appropriately treated water (both reclaimed wastewater and stormwater) for agricultural and urban irrigation. There is a new Policy 3.6, which states the County will protect local groundwater for agricultural, rural domestic, and urban use in the County. New Implementation Measure 1 under Policy 3.6 ensures the County implements the existing groundwater ordinance.

2.2.2 Airport Land Use Compatibility Plan

The Stanislaus County Airport Land Use Commission (ALUC) is responsible for the preparation of Airport Land Use Compatibility Plans (ALUCPs) for public-use airports in Stanislaus County. The ALUC proposes to adopt a new County-wide ALUCP to replace the current Airport Land Use Commission Plan that was originally adopted on August 3, 1978, and amended on May 20, 2004. That plan provided height restrictions and building standards for areas adjacent to the five public and privately owned airports that were in the county at that time:

- Modesto City-County Airport
- Oakdale Municipal Airport
- Patterson Airport
- Turlock Airpark
- Crows Landing Airport (formerly Crows Landing Naval Auxiliary Landing Field)

The proposed ALUCP update (Stanislaus County 2014) provides information and promulgates policies for three airports: Modesto City-County Airport, Oakdale Municipal Airport, and Crows Landing Airport. Since adoption of the 2004 ALUCP, Patterson Airport has closed and the Turlock Airpark is in the process of being sold for non-aeronautical use, thereby making them ineligible for inclusion in the ALUCP update (Stanislaus County 2014). Additionally, in October 2011, the Caltrans Division of Aeronautics updated its guidance, the *California Airport Land Use Planning Handbook*, regarding the preparation of ALUCPs. The proposed 2015 ALUCP for Stanislaus County was prepared in accordance with these changes.

The proposed ALUCP reflects the anticipated growth of the Modesto City-County Airport and the Oakdale Municipal Airport for the next 20 years as required by Public Utilities Code Section 21675(a). The ALUCP was developed in coordination with a project working group that included

land use planners from the affected jurisdictions and representatives from the Modesto City-County Airport and the Oakdale Municipal Airport. The ALUCP for Crows Landing will be updated at such time as plans for the Crows Landing Business Park are completed and there is a better idea of what the future use of the airport will involve. The revisions coordinate the ALUCP with proposed general plan policies and take into account changes in land uses (apart from the general plan update) that have occurred since adoption of the current ALUCP. The updated ALUCP considers the following factors in accordance with guidance set forth by Caltrans' Division of Aeronautics in its *California Airport Land Use Compatibility Planning Handbook* (2011).

- Noise contours Safety Zones
- Airspace protection zones (Federal Aviation Regulation Part 77)
- Overflight areas (annoyance, disclosure)

The policies set forth in the revised ALUCP will be applied to all airports, but the area in which the policies will be applied is specific to each AIA. The most significant revisions are summarized below by airport.

Modesto City/County Airport

The AIA associated with the Modesto City/County airport remains similar to the area identified for the 2004 ALUCP. However, the following policy area maps were changed based on the most recent Airport Layout Plan.

- The noise contours upon which policies are based cover a smaller area than the previous ALUCP to reflect the use of newer, quieter aircraft.
- The size and configuration of safety zones have changed to reflect changes in airport operations and new guidance provided in the *California Airport Land Use Compatibility Planning Handbook*.
- Overflight policies are included for the first time.

Oakdale Municipal Airport

The City of Oakdale completed a new Airport Layout Plan in 2013. The AIA associated with the airport remains similar to the area identified in the County's 2004 ALUCP. However, the following policy area maps changed based upon the date presented in the 2013 plan.

- Noise contours were defined for the first time.
- New safety zones were developed to reflect new guidance provided by the *California Airport Land Use Compatibility Planning Handbook*.
- Overflight policies are included for the first time.

Other Airports in Stanislaus County

New policies were not developed for the Patterson Airport or Turlock Airpark. The Patterson Airport is no longer in operation, and Turlock Airpark is pending closure and sale for non-aeronautical use. Policies for the former Crows Landing military airfield will be revised upon adoption of a new Airport Layout Plan for that airport, and the policies set forth in the County's 2004 ALUCP for the Crows Landing airfield will remain in effect until that time.

[Background information is found in the publication entitled *Stanislaus County General Plan - Support Documentation*. For easy reference, each element of this plan is in a separate chapter whose number matches the corresponding chapter of background information in the support document. For instance, the Circulation Element is Chapter 2 of this document, with all of the reference material being located in Chapter 2A of the support document.]

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Figure 2-1
Project Location

Chapter 3
Impact Analysis

Overview

The primary purpose of this EIR is to analyze the potential significant impacts of the proposed amendments to the general plan and the ALUCP. The State CEQA Guidelines define a significant environmental impact as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project." (Section 15382) Not all of the changes that may result from the proposed amendments are significant.

The following impact analysis sections address the short- and long-term adverse impacts on the physical (natural and built) environment. "Existing conditions" are the baseline against which the potential impacts of the proposal are evaluated for significance. This means that the reasonably foreseeable impacts of the project are compared to the existing environment, not to the provisions of the current general plan and ALUCP. The "project" for purposes of the following analyses consists of the amendments to the general plan and ALUCP. The analysis assumes that the general plan will be partially built out by the planning horizon year of 2035.

Environmental Issues Addressed in the EIR

- 3.1 Aesthetics
- 3.2 Agricultural Resources
- 3.3 Air Quality
- 3.4 Biological Resources
- 3.5 Cultural Resources
- 3.6 Geology, Soils, and Paleontological Resources
- 3.7 Greenhouse Gas Emissions and Energy
- 3.8 Hazards and Hazardous Materials
- 3.9 Hydrology and Water Quality
- 3.10 Land Use and Planning
- 3.11 Mineral Resources
- 3.12 Noise
- 3.13 Population and Housing
- 3.14 Public Services
- 3.15 Recreation
- 3.16 Transportation and Traffic
- 3.17 Utilities and Service Systems

The sections listed above describe the environmental issues that will be addressed in this EIR. Each of these sections will include the following.

- A description of the regulatory setting (i.e., the federal, state, and local environmental regulations that apply to that resource).
- A description of the environmental setting for the particular resource.
- An identification of the significance thresholds or criteria that will be used to determine whether the project will have a significant effect on that resource.
- A description of the significant environmental impacts of the proposed project. This includes consideration of the extent to which existing and proposed general plan policies and implementation measures would reduce or avoid impacts.
- Specific mitigation measures that will reduce or avoid the identified significant effects, when feasible mitigation exists. These measures will be the responsibility of the County or other agencies to require.

3.1 Aesthetics

3.1.1 Introduction

This section discusses the impacts of the plan updates with respect to aesthetics. It lists the thresholds of significance that form the basis of the environmental analysis, describes the aesthetics study area and major sources used in the analysis, provides environmental setting information that is relevant to visual impacts, and assesses whether the plan updates would result in significant impacts with respect to aesthetics.

Study Area

The aesthetics impact study area for the project is defined as Stanislaus County.

3.1.2 Environmental Setting

This section describes the state and local regulations and policies that are applicable to the plan updates, and the existing conditions pertaining to aesthetics in the study area. The existing conditions constitute the baseline for this environmental analysis. There are no designated scenic trails or rivers in the visual study area. In addition, there are currently no federal and regional regulations pertaining to aesthetic resources.

Regulatory Setting

This section describes the state and local regulations related to aesthetics that would apply to the plan updates.

State

California Scenic Highway Program

Interstate 5 (I-5), within Stanislaus County from the San Joaquin to Merced County lines, has been officially designated by legislation as a state scenic highway (California Department of Transportation 2014a). The California Department of Transportation (Caltrans) defines a scenic corridor as the "land that is visible from, adjacent to, and outside the highway right-of-way, and is comprised primarily of scenic and natural features. Topography, vegetation, viewing distance, and/or jurisdictional lines determine the corridor boundaries." Designated scenic corridors are subject to protection, including the regulation of land use, site planning, advertising, earthmoving, landscaping, and design and appearance of structures and equipment. Examples of visual intrusions that would degrade scenic corridors as stipulated by Caltrans, which are applicable to the proposed project, include dense and continuous development, power lines or communication facilities that dominate views, non-harmonious commercial retail development, highly reflective surfaces, development along ridge lines, extensive cut and fill, scarred hillsides and landscape, exposed and unvegetated earth, and dominance of exotic vegetation. Unsightly land uses would include actions that result in these conditions. (California Department of Transportation 2014b:1, 23–25). Section 261 of the California Streets and Highway Code establishes the following.

The standards for official scenic highways shall also require that local governmental agencies have taken such action as may be necessary to protect the scenic appearance of the scenic corridor, the band of land generally adjacent to the highway right-of-way, including, but not limited to (1) regulation of land use and intensity (density) of development; (2) detailed land and site planning; (3) control of outdoor advertising; (4) careful attention to and control of earthmoving and landscaping; and (5) the design and appearance of structures and equipment.

Local

Stanislaus County General Plan

Land Use Element

The Land Use Element contains policies that require development plan review in order to minimize land use conflict. This requirement indirectly protects aesthetic resources by ensuring visual compatibility between land uses (e.g., Goals Two and Five). There are also policies that require county-wide voter approval prior to allowing open space and agricultural land uses to be rezoned to residential uses (Goal Six). This limits the potential for changes that would have aesthetic impacts. Many land use policies pertain indirectly to aesthetic resources, such as protecting riparian habitat and preserving and encouraging enhancement of existing communities. However, the following directly pertains to aesthetic resources within the county.

GOAL ONE. Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.

POLICY TWO. Land designated Agriculture shall be restricted to uses that are compatible with agricultural practices, including natural resources management, open space, outdoor recreation and enjoyment of scenic beauty.

IMPLEMENTATION MEASURE

1. Agricultural areas should generally be zoned for 40- to 160-acre minimum parcel sizes. Exceptions include land in a ranchette area so identified because of significant existing parcelization of property, poor soils, location, and other factors which limit the agricultural productivity of the area.

Denair Community Plan Area

Like the general County policies, the Denair Community Plan Area portion of the Land Use Element contains many goals and policies pertaining indirectly to aesthetic resources, such as reinforcing Denair's rural town character, developing gateway treatments to mark town entries, and promoting transitional land uses between developed and agricultural areas. However, the following policies directly pertain to aesthetic resources in Denair.

GOAL ONE. Reinforce Denair's small rural town character.

POLICY THREE. Reduce the area currently designated for commercial uses in the community as a means of concentrating retail activity in a focused area.

IMPLEMENTATION MEASURES

1. Develop gateway treatments to mark the entries to the downtown at Santa Fe Avenue and Main Street and at Gratton Road and Main Street.
2. Create a pleasant pedestrian street environment through attractive streetscape design and features including street trees, lighting, sidewalks and planters.

3. Develop design guidelines for new and existing building renovation in the downtown, in keeping with a small town, pedestrian oriented street character.

GOAL TWO. Provide a well-defined community edge between Denair and adjacent agricultural land, as well as between Denair and the City of Turlock.

POLICY ONE. Create a greenbelt/buffer around the perimeter of the Community that provides clear sense of identity for the Community of Denair.

Keyes Community Plan Area

Like the countywide policies, the Keyes Community Plan Area portion of the Land Use Element contains many goals and policies that indirectly protect aesthetic resources, such as promoting transitional land uses between developed and agricultural areas. The following policies directly pertain to aesthetic resources in Keyes.

GOAL ONE. Achieve a harmonious relationship between the urban environment and surrounding agricultural setting.

POLICY FOUR. Cooperate with the City of Ceres to the north and the City of Turlock to the south in establishing definitive community separator policies/implementation measures.

IMPLEMENTATION MEASURE

2. Commercial, Highway Commercial, and Planned Industrial development shall be buffered from adjacent agricultural land uses outside the Community Plan Area by landscaping elements.

GOAL TWO. Improve the visual appearance of the Keyes community.

POLICY ONE. Encourage the development of identifiable community boundaries to establish a sense of community identity.

POLICY TWO. Encourage the development of "Gateway" treatments at major entryways to the community.

POLICY THREE. Encourage the upgrading, beautification and revitalization of existing commercial areas along 7th Street.

POLICY FOUR. Develop and Implement Design Guidelines for new development and for revitalization of existing development within Keyes.

POLICY FIVE. Promote alternative design solutions to reduce the negative visual impact of walled developments within Keyes.

IMPLEMENTATION MEASURES

1. The County should adopt Design Guidelines for the Keyes Community. The guidelines should address residential subdivision design and connectivity, non-residential development, and design/establishment of a gateway/entry features for Keyes.
2. "Gateway" treatments should be established at the State Route 99/Keyes Road Interchange, and at Rohde Road and the crossing of the Turlock Irrigation District's Upper Lateral No 2 ½.
3. Develop positive, high quality landscaped edges along State Route 99 and major roads leading into the community
4. The County shall approve development proposals which include walls only if walls are necessary in order to mitigate the negative impacts of noise, visual separation from traffic, or to provide a barrier between incompatible land uses. Where walls are necessary, the County shall require separation from the roadway by a curb-adjacent sidewalk and a six-foot landscaped planter strip. A combination of walls, berming and vegetation is considered more desirable than walls used alone.

GOAL THREE. Encourage attractive and orderly development which preserves a small town atmosphere.

POLICY TWO. Create an enhanced streetscape environment through the use of landscape and pedestrian access along arterial and collector streets.

POLICY SEVEN. Multi-family residential land uses shall be developed with a balance of open space, landscaping, and shall be accessible to commercial and recreational areas and public transportation facilities.

IMPLEMENTATION MEASURES

1. Commercial development shall be consistent in scale and character with surrounding neighborhood.

5. Walled and isolated residential enclaves shall be discouraged.

7. Parks and schools shall be located and designed as neighborhood focal points.

GOAL FOUR. Promote highway-oriented commercial development in the State Route 99 corridor.

POLICY ONE. The County shall encourage the location of businesses and services (e.g., restaurants, service stations, lodging) in the State Route 99 corridor to serve the traveling public and local residents.

IMPLEMENTATION MEASURE

1. Designate land adjacent to the State Route 99/Keyes Road Interchange with good highway visibility and access as Highway Commercial. Permitted uses shall be those determined by the County to be supportive of the overall goals and policies of the Keyes Community Plan.

Del Rio Community Plan

Like the general County policies, the Del Rio Community Plan contains many goals and policies that indirectly protect aesthetic resources, such as preserving significant natural resources and promoting development to occur in an orderly manner, preserve prime agricultural areas, and avoid of adverse impacts to agricultural areas and air and water quality. The plan also contains direction on preserving natural open space areas and allowing for landscaped parkways. However, the following policies directly pertain to aesthetic resources in Del Rio.

GOAL FIVE. Future development shall be served by adequate public infrastructure.

POLICY A. All future development in Del Rio shall require underground utilities and facilities for community-wide secondary sewage treatment and water supply systems.

Land Use Plan, Standard 2. Planned developments adjacent to agricultural land shall be required to incorporate buffers, such as roads, green belts, or natural open spaces, between residential and ag use so as to minimize potential use incompatibilities.

Circulation Element

The Circulation Element contains description of scenic highways. As described under State regulations, above, I-5 is a designated state scenic highway within Stanislaus County. However, the description within the Circulation Element does not contain policies that protect or direct development along I-5 within the County.

The element does contain information regarding visual enhancement efforts of SR-99.

…while the primary function of the County's transportation network is to move people and goods from one place to another, each time someone travels on Stanislaus County's roads, they see a view of the community, whether it is from the window of a car, truck, bus or train, or from the seat of a

bicycle. Whether for business or pleasure, these images gathered while traveling through the community affect perceptions and feelings about the community. A collaborative effort led by the Great Valley Center is raising awareness about ways communities can enhance the visual quality of major transportation corridors, in particular the Highway 99 corridor, and key gateways into communities located along major transportation corridors. To facilitate implementation of this effort, Caltrans adopted a master plan that provides examples of the types of improvements that can be made on Highway 99 that will not only improve the appearance of the corridor but meet State Highway design standards. The Stanislaus Council of Governments initiated a master planning effort for the Highway 99 corridor involving the cities of Turlock, Ceres, and Modesto, and the County of Stanislaus. These planning efforts provide suggestions and strategies on how transportation improvement projects, as well as development projects located on or within the view shed of the Highway 99 corridor, can be designed to improve the attractiveness of the corridor and help promote economic development, encourage tourism, highlight our natural resources, and generally improve the quality of the life in the county.

The following pertains to aesthetic resources within the County:

GOAL ONE. Provide a system of roads and roads throughout the County that meets land use needs.

POLICY ONE. Development will be permitted only when facilities for circulation exist, or will exist as part of the development, to adequately handle increased traffic.

IMPLEMENTATION MEASURE

10. The County will consider the recommendations of the State Route 99 Task Force to enhance the visual attractiveness of the State Route 99 and major gateways into the County in developing its standards for new development.

POLICY FIVE. Transportation requirements of commercial and industrial development shall be considered in all planning, design, construction, and improvements.

IMPLEMENTATION MEASURE

6. On-street truck parking shall be discouraged where such parking restricts adequate sight distances, detracts from the visual aesthetics of the area, or poses a potential hazard to motorists, bicyclists, or pedestrians.

Conservation/Open Space Element

The Conservation/Open Space Element contains many goals and policies that indirectly protect aesthetic resources, such as preserving natural resources in parks and open spaces, ensuring zoning regulations pertaining to development ensure compatibility with natural areas, restricting development in sensitive habitat areas, protecting and enhancing oak woodlands, preserving water quality, improving air quality, conserving agricultural lands, and preserving historical sites. In addition, there are policies and measures that promote increased visual access and aesthetic enjoyment through the creation of parks and trail systems. However, while the following goal directly pertains to aesthetic resources, the policies and measures indirectly apply, as previously described.

GOAL ONE. Encourage the protection and preservation of natural and scenic areas throughout the County.

Safety Element

The Safety Element does not contain goals or polices that directly relate to aesthetic resources. However, many of the policies pertain indirectly to the preservation of aesthetic resources, such as minimizing the impacts of a natural and human-made disasters that have the ability to result in large-scale visual changes through catastrophic wildfires, flooding, seismic activity, and landslides.

Agricultural Element

The Agricultural Element does not contain goals or polices that directly relate to aesthetic resources. However, it does contain policies that indirectly protect aesthetic resources by promoting the use of physical, visual buffers between developed and agricultural land uses to minimize conflicts and measures to restrict adverse environmental impacts through the conversion of agricultural lands to other land uses.

Airport Land Use Compatibility Plan

The County's current ALUCP was adopted in 1978 and last amended in 2004 by the ALUC to address each public-use and military airport. An ALUCP must reflect the anticipated growth an airport for at least 20 years based on a long-range master plan or airport layout plan. Each ALUCP includes policies to prevent conflicts between planned airport development and proposed land uses within the AIA identified in the compatibility plan (Stanislaus County 2004). The current ALUCP contains the following policies pertaining to aesthetic resources:

Conditions Areas 1 and 2

General Statement

Statement 2. Non-reflective materials to be used in buildings and signs where reflection would cause a flying hazard.

Statement 5. All bulk storage of volatile or flammable liquid should be underground.

Statement 6. Lights for any purpose shall be constructed and used in such a manner as not to create a hazard for pilots or air traffic control.

Commercial Uses

Hotels, motels, shopping centers, office buildings, retail stores, restaurants and other service uses:

3. Should locate flashing and animated signs or lights in such a manner as to not create a hazard for approaching pilots.

Industrial Uses

Research laboratories, non-air related manufacturing, petroleum and chemical products bulk storage:

1. All bulk storage of volatile or flammable liquids or substances to be underground.
2. Non-reflective materials to be used in buildings and signs where reflection would cause a flying hazard.
4. Avoid orienting lights or paved area in such a manner as to appear to be an aircraft landing area.

Utilities

Reservoirs, Water Treatment and Sewage Disposal Plants:

1. Should have reason for location and be constructed in such a way as to not create nuisance.

Electrical Plants:

1. Except for small emergency power plants located adjacent to buildings, electrical plants should be undergrounded if of sufficient height and placement as to be a possible hazard to aircraft.

Power Lines:

1. Should be undergrounded if of sufficient height and placement as to be a possible hazard to aircraft.

Conditions Area 3

General Statement

Statement 4. All bulk storage of volatile or flammable liquid should be underground.

Statement 6. Lights for any purpose shall be constructed and used in such a manner as not to create a hazard for pilots or air traffic control.

Agricultural Uses

Greenhouses, poultry farms, dairy farms:

1. Non-reflective materials to be used in buildings and signs where reflection would cause a flying hazard.

Commercial Uses

Office buildings, public buildings, restaurants and food take-outs, retail stores and other service uses:

1. Should have reason for location (i.e., serve other uses in the area of the traveling public) and be constructed in such a way as to not create a hazard or nuisance.
2. Should locate flashing and animated signs or lights in such a manner as to not create a hazard for approaching pilots.

Industrial Uses

Research laboratories, aircraft factories, non-air manufacturing, petroleum and chemical products bulk storage:

1. All bulk storage of volatile or flammable liquid should be underground.
2. Avoid orienting lights or paved area in such a manner as to appear to be an aircraft landing area.

Utilities

Petroleum and chemical products bulk storage, electrical plants and power lines:

1. All bulk storage of volatile or flammable liquids or substances should be underground.
2. Power lines should be undergrounded if of sufficient height and placement as to be a possible hazard to aircraft.

Conditions Area 4

General Statement

Statement 2. Non-reflective materials to be used in buildings and signs where reflection would cause a flying hazard.

Statement 5. All bulk storage of volatile or flammable liquid be underground.

Statement 6. Lights for any purpose shall be constructed and used in such a manner as not to create a hazard for pilots or air traffic control.

Policies Plan

It shall be the policy of the Stanislaus County Airport Land Use Commission to:

6. Advise against the establishment of any use within the planning area which will:
    - Make it difficult for pilots to distinguish between airport lights and others;
    - Result in glare in the eyes of pilots using the airport;
    - Impair visibility in the vicinity of the airport or otherwise in any way create a hazard or endanger the landing, take-off, or maneuvering of aircraft intending to use the airport; or,
    - Permit structures or trees to a height in excess of established height limitations.
9. Encourage jurisdiction to make sure that when a land use changes, it would change from an incompatible use to a compatible one.

Stanislaus County Code

Airport Regulations

17.20.010 Interference with navigation. Notwithstanding any other provisions of this title, no use may be made of land or water within the airport zone in such a manner as to create electrical interference with navigational signals or with radio communication between the airport lights and others, to result in glare in the eyes of pilots using the airport, to impair visibility in the vicinity of the airport or otherwise in any way to create a hazard or endanger the landing, takeoff, or maneuvering of aircraft intending to use the airport. (Prior code §9-5).

Zoning Ordinance

Stanislaus County's Zoning Ordinance regulates land use. Many land uses require landscaping that is water efficient (Chapter 21.102, *Landscape and Irrigation Standards*). In addition, the ordinance contains the following policies pertaining to aesthetic resources (Stanislaus County 2014):

General Agriculture District (A-2)

21.20.010 Purpose. It is the intent of these district regulations to support and enhance agriculture as the predominant land use in the unincorporated areas of the county. These district regulations are also intended to protect open space lands pursuant to Government Code Section 65910. The procedures contained in this chapter are specifically established to ensure that all land uses are compatible with agriculture and open space, including natural resources management, outdoor recreation and enjoyment of scenic beauty. (Ord. CS 531 §1, 1993; Ord. CS 106 §2, 1984).

Historical Site District (HS)

21.44.010 Purposes. It is the intent of these district regulations to support and enhance the character of historical areas within the county. These district regulations also recognize historical structures as a finite resource which is a product of another time and worthy of special consideration. When new additions, alterations, or rehabilitation projects are proposed to existing structures and are approved by the historical site subcommittee of the county planning commission or planning staff, these district regulations shall enable the building official to grant exemptions from building code requirements when in his or her opinion such maintenance of the historical character of such buildings or structures and the granting of the exemptions will not create or allow any condition which is immediately hazardous to life or property. The existing unique character of these areas is considered a scenic and economic asset and has significant value to the general welfare. The review provided for by this chapter is intended to ensure that any development in the subject areas will not be unsightly, undesirable, or obnoxious to the extent that such development will impair the

quality of the area. The following regulations shall apply in HS districts and shall be subject to the provisions of Chapter 21.08. (Ord. CS 106 §8, 1984).

Surface Mining and Reclamation

21.88.010 Purpose and intent

A. The county recognizes that the extraction of minerals is essential to the continued economic well-being of the county and to the needs of society and that the reclamation of mined lands is necessary to prevent or minimize adverse effects on the environment and to protect the public health and safety. The county also recognizes that surface mining takes place in diverse areas where the geologic, topographic, climatic, biological, and social conditions are significantly different and that reclamation operations and the specifications therefore may vary accordingly.

B. The purpose and intent of this chapter is to ensure the continued availability of important mineral resources, while regulating surface mining operations as required by California's Surface Mining and Reclamation Act of 1975 (Public Resources Code Sections 2710 et seq.), as amended, hereinafter referred to as "SMARA," Public Resources Code (PRC) Section 2207 (relating to annual reporting requirements), and state Mining and Geology Board regulations (hereinafter referred to as "state regulations") for surface mining and reclamation practice (California Code of Regulations [CCR], Title 14, division 2, Chapter 8, Subchapter 1, Sections 3500 et seq.), to ensure that:

    1. Adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses;

    2. The production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment.

C. Residual hazards to the public health and safety are eliminated. (Ord. CS 663, §20, 1998).

Communication Facilities

21.91.050 Aesthetic considerations. Decisions on use permits or staff approval permits may take into consideration the aesthetic impact of the proposed microwave dish antennas and/or communications facilities and may include conditions of approval for the purpose of reducing the visual impact of the antenna and/or facility as seen from adjacent properties or for the purpose of reducing the potential of safety or health hazards. Such conditions may include, but are not limited to, partitions, screening, landscaping, mountings, fencing, height of antenna, and site location within parcel. (Ord. CS 600 §1, 1995).

Existing Conditions

Stanislaus County is located in the Central Valley of California (Figure 2-1). The landform in, and surrounding, the project area is characterized by the flat valley floor that is largely in agricultural and dairy production. The agricultural fields allow for expansive, long-range views to the middleground and background. The Diablo Range can be seen in the background, to the west, rising above the flat valley floor and is visible to varying degrees due to atmospheric conditions such as haze or the presence or absence of vegetation and infrastructure that can obscure views.

For purposes of the visual analysis, the project region, as discussed in this section, is considered the area within a 30-mile radius of county boundaries. This encompasses the views from the county's borders outward and along the major transportation corridors of I-5 and SR-99. Therefore, the cities of Lodi, Stockton, Manteca, Modesto, and Turlock are also within the region and will be considered at a very general level in this analysis. Most regional development occurs along transportation corridors, such as I-5 to the west and SR-99 to the east. The Sacramento–San Joaquin River Delta (Delta), west of the project site, is an integral part of the region's visual character. Connected to the

Delta are many rivers, creeks, sloughs, and bays that strongly influence local land use patterns. East of the Delta, open agricultural land is dotted with rural development that becomes increasingly urbanized near the city limits of Stockton and other smaller cities and towns in the region.

Agricultural land in the region, planted predominantly with orchard and row crops, stretches for miles. A patchwork of fields separates cities within the region from one another. These fields offer expansive views that extend over the valley floor to the east and Diablo Range to the west when haze is at a minimum. These landscape views are strongly characteristic of the Central Valley and have contributed to the regional identity.

Development radiating out from the urban cores is reducing the amount of agricultural land in parts of the County and closing the gap between larger and smaller outlying cities. This is beginning to change the visual character from rural to suburban, particularly in the central portion of the County near Modesto. The smaller cities, such as Patterson, are typified by a growing core of residential, commercial, and some industrial land uses with agricultural fields surrounding the city outskirts.

A mix of agricultural, developed, and natural landscapes characterizes the project region. The landscape pattern is influenced by development spreading from existing city cores and the major roadways in the region. Water features in the greater region include the Stanislaus, Tuolumne, and San Joaquin rivers and their tributaries, numerous San Joaquin River Delta sloughs, Delta-Mendota Canal, California Aqueduct, and smaller local irrigation ditches.

Affected viewers in the county include residential, recreational, industrial, institutional, and commercial viewers and viewers on local freeways, highways, and smaller arterials. Viewer sensitivity would range from low to high depending on location in the landscape relative to projects and presence or absence of various viewer groups.

3.1.3 Impact Analysis

This section discusses the approach and methodology used to assess the impacts of the plan updates; the individual impacts relative to the thresholds of significance; mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for significant impacts; and the overall significance of the impact with mitigation incorporated.

Major Sources Used in Analysis

The major sources used in this analysis are listed below:

- Caltrans' *Officially Designated State Scenic Highways* (http://www.dot.ca.gov/hq/LandArch/scenic/schwy.htm).
- Stanislaus County General Plan

Approach and Methodology

The qualitative analysis of aesthetic resources impacts associated with the proposed project was based on the following.

- Familiarity with the County's visual landscape and land uses.
- Aerial imagery and mapping provided by Google Maps and Google Earth.

- Review of the project in regard to compliance with state and local ordinances and regulations and professional standards pertaining to visual quality.

Professional Standards

Professional standards result from professional and direct expertise gained by staff working on visual analyses and consulting with other experienced staff on visual effects, including knowledge gained from public input on a broad range of projects. The effects listed represent collective knowledge that is professionally agreed upon and represents common, general public concerns. According to professional standards, a project may be considered to have significant impacts if it would result in the following.

- Conflict with local guidelines or goals related to visual quality.
- Alter the existing natural viewsheds, including changes in natural terrain.
- Alter the existing visual quality of the region or eliminate visual resources.
- Increase light and glare in the project vicinity.
- Generate backscatter light into the nighttime sky.
- Reduce sunlight or introduce shadows in community areas.
- Obstruct or permanently reduce visually important features.
- Create long-term (that is, persisting for 2 years or more) adverse visual changes or contrasts to the existing landscape as viewed from areas with high visual sensitivity.

Thresholds of Significance

Based on State CEQA Guidelines Appendix G and adapted to analysis of the plan updates rather than an individual development project, the project would have a significant impact with respect to aesthetics if it would result in any of the following.

- Substantially degrade the existing visual character or quality of the county and its surroundings, including scenic vistas.
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway.
- Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

Impacts and Mitigation Measures

Impact AES-1: Substantially degrade the existing visual character or quality of the county and its surroundings, including scenic vista (less than significant)

Many of the proposed 2014 General Plan updates would not directly affect aesthetic resources but could result in indirect visual impacts because of the specified changes or would only result in minor, site-specific alterations that would not be noticeable, landscape-level changes within the county. Overall development that would result from implementation of the general plan, as amended by the project, would change the existing visual character of the county, but not to a significant extent.

Land Use Element

Many of the proposed 2014 General Plan Land Use Element updates would not directly affect aesthetic resources but could result in indirect visual impacts because of the specified changes or would only result in minor, site-specific alterations that would not be noticeable, landscape-level changes within the county. Other updates would more directly impact aesthetic resources. These changes are analyzed below.

GOAL ONE. Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.

POLICY SIX. Preserve and encourage upgrading of existing unincorporated urban communities.

IMPLEMENTATION MEASURE

4. When feasible, new development shall be designed and built to allow for the upgrading or expansion of services necessary to upgrade existing unincorporated urban communities; however, new development will not be expected to be financially responsible for providing upgrades.

New development being designed and built to help facilitate the upgrading or expansion of services necessary to upgrade existing unincorporated urban communities could result in indirect visual impacts by increasing the amount of visible utilities and infrastructure in the county. Because these communities are either small, such as Westley, requiring only small facilities, or already urbanized, such as Denair and Keyes, placing new facilities in an urban context, the visual impact would be less than significant.

GOAL THREE. Foster stable economic growth through appropriate land use policies.

POLICY EIGHTEEN. Promote diversification and growth of the local economy.

IMPLEMENTATION MEASURE

9. Encourage reuse of the Crows Landing Air Facility as a regional jobs center.

Encouraging the reuse of the Crows Landing Air Facility as a regional jobs center could result in direct visual impacts from redevelopment of this empty site, altering the appearance of the affected area. The extent of this impact cannot be known with certainty because the height, mass, lighting, and other visual features of future development are not known at this time. I-5 is a state scenic highway; however, the Crows Landing facility is over a mile away, will be limited in height, and is separated from I-5 by topography, intervening farm fields, and existing infrastructure, including the California Aqueduct, the Delta Mendota canal, and the Fink Road interchange. Changes to the facility will be perceived from viewers on I-5 as distant background changes. This will result in a less-than-significant impact. The future EIR that will be prepared for redevelopment of the facility will provide a more specific analysis of this impact.

GOAL THREE. Foster stable economic growth through appropriate land use policies.

POLICY TWENTY-TWO. Support and facilitate efforts to develop and promote economic development and job creation centers throughout the County.

New policies supporting efforts to direct economic development and job creation centers towards incorporated areas and also within unincorporated areas of unique character could result in direct visual impacts by encouraging sites to be redeveloped, altering the appearance of affected areas. However, these policies will reinforce existing urban

landforms and avoid the placement of such uses in non-urbanized areas where they would have a significant visual effect. As a result, their effect would be less than significant.

GOAL FIVE. Complement the general plans of cities within the County.

POLICY TWENTY-SEVEN. Development which requires discretionary approval and is outside the sphere of influence of cities but located within one mile of a city's adopted sphere of influence and within a city's adopted general plan area, shall be referred out to the city for consideration. However, the County reserves the right for final discretionary action.

IMPLEMENTATION MEASURES

1. All discretionary development proposals within one mile of a city's adopted sphere of influence boundary and within a city's adopted general plan area, shall be referred to that city.
2. The County shall consider applying city development standards to discretionary projects located within one mile of a city's adopted sphere of influence boundary and within the city's adopted general plan area to the extent such standards are appropriate for the type of development.
3. Encourage joint County and city cooperation in establishing land use and development standards along all major county defined gateways to cities.

Policies that direct County development projects located within 1 mile of cities' spheres of influence, adopted plan areas, and along all major County-defined gateways to cities that encourage County development to work with and complement development standards within those cities, through discretionary approval, would promote transitional development that is visually less disjointed and more cohesive between city and county borders. This effect would be less than significant.

GOAL SIX. Promote and protect healthy living environments.

POLICY TWENTY-NINE. Support the development of a built environment that is responsive to decreasing air and water pollution, reducing the consumption of natural resources and energy, increasing the reliability of local water supplies, and reduces vehicle miles traveled by facilitating alternative modes of transportation, and promoting active living (integration of physical activities, such as biking and walking, into everyday routines) opportunities.

POLICY THIRTY. New development shall be designed to facilitate the efficient extension of public transportation systems.

POLICY THIRTY-ONE. The County shall support efforts to improve local health care options through the siting of new facilities in locations with the infrastructure (including, but not limited to, transportation and utility) to support both facility and client needs

Promoting and protecting healthy living environments by encouraging development that decreases air and water pollution, reduces the consumption of natural resources and energy, increases the reliability of local water supplies, facilitates alternative modes of transportation, promotes active living, and improves local healthcare options through the siting of new facilities in locations with the infrastructure to support facility and client needs could result in both direct and indirect visual impacts. Promoting new developments to be designed in such a manner could result in a visual shift in the appearance of development and development patterns. Many of these changes would act to protect aesthetic resources and provide for new or continued access to aesthetic resources within the county that are valued by viewers, such as views to the clear sky and unpolluted waters and access to reservoirs that are used for both local water supplies and recreation. These changes would

also help to maintain visual access to scenic beauty associated with various habitat types within the county by reducing the consumption of natural resources that otherwise would have led to a greater degree of land and vegetation disturbance. This effect would be less than significant.

The 2014 General Plan Land Use Element updates would retain and modify existing, and create new, policies that overall would result in positive effects on aesthetic resources in the County. No changes to the general plan land use map are proposed. Land use changes resulting from implementation of the general plan could change the existing visual character of the county, which is largely rural, to one that is more developed in nature. For example, the community of Salida is currently planned for substantial urbanization. These changes would be seen in regular and vista views. As discussed above most of these changes are not attributable to the 2014 General Plan updates, but would result from implementation of the General Plan as a whole. Overall development that would result from implementation of the general plan, as amended by the project, would change the existing visual character of the county, but not to a significant extent.

Circulation Element

The proposed 2014 General Plan Circulation Element updates would result in aesthetic resource impacts ranging from minor, site-specific alterations that would not be noticeable to larger, county-wide visual changes associated with transportation facilities, such as the South County Corridor and wider intersections planned throughout the County. These changes are analyzed below.

- New FHWA-consistent classifications that incorporate changes to the right-of-way standards allowing Public Works more discretion in whether right-of-way needs to be obtained could lead to indirect visual impacts by facilitating widening of roadways and right-of-ways in the county.

  GOAL ONE. Provide and maintain a transportation system ~~of roads and roads~~ throughout the County for the movement of people and goods that also meets land use and safety needs for all modes of transportation.

  POLICY TWO. The Circulation system~~s~~ shall be designed and maintained to promote safety by combining multiple modes of transportation into a single, cohesive system.~~ and minimize traffic congestion.~~

  IMPLEMENTATION MEASURES

  11. On-site circulation among adjacent parcels shall include shared driveways and reciprocal access easements to limit the number of egress points onto a public road.
  12. Existing and new development shall be designed to provide open street patterns, with multiple points of ingress and egress, to facilitate emergency response, to minimize traffic congestion, and to facilitate use by diverse modes of transportation.
  13. Promote the transformation of major transportation corridors into boulevards that are attractive, comfortable, and safe for pedestrians by incorporating wide sidewalks to accommodate pedestrian traffic, amenities and landscaping; on-street parking between sidewalks and travel lanes; enhanced pedestrian street crossings; buildings located at the back of sidewalk; building entrances oriented to the street; transparent ground floor frontage; street trees and furnishings; and pedestrian-scale lighting and signage.
  14. A strategy plan should be prepared that includes the identification of areas and/or projects to which new multi-modal transportation guidelines shall apply. New guidelines shall identify strategies for creating communities that increase the convenience, safety and comfort of people using bicycle, pedestrian, and public transit facilities. Existing policies and

standards, such as landscaping, parking, and building setback requirements, may require variations on a case by case basis, specifically in Central Business Districts.

Amending the County's LOS standard from LOS C to LOS D for all county roadway segments and establishing LOS C as the standard for motorized vehicles at all roadway intersections would reduce the need for road widening in order to maintain LOS C. This would not result in visual impacts.

New policies that encourage development with multiple points of ingress and egress to aid in traffic flow and pedestrian accessibility, to encourage alternatives to onsite parking standards, and to encourage development that provides a safe, comprehensive, and coordinated transportation system that includes a broad range of transportation modes could also result in in impacts on aesthetic resources. Impacts could occur by increasing the visual prominence and presence of transportation facilities in the county by promoting additional utilities (e.g., signals and lighting) and infrastructure (e.g., bus turnouts, trails, bike lanes on roadways) associated with transportation systems. These types of improvements are generally of low visual intensity and would therefore not have a significant effect.

Circulation systems designed to promote safety by combining multiple modes of transportation into a single, cohesive system could result in impacts on aesthetic resources by increasing the visual prominence and presence of transportation facilities in the county by promoting additional utilities (e.g., signals and lighting) and infrastructure (e.g., bus turnouts, trails, bike lanes on roadways) associated with transportation systems. These measures also provide for including aesthetic features such as site furnishing, landscaping, and pedestrian-scale lighting and signage to improve aesthetics. They are generally of low visual intensity and would therefore not have a significant effect.

Study Areas

Table 2-5
SPECIAL STUDY AREAS

Study Area	Description	From	To	Source
1	South County Corridor	Interstate 5	San Joaquin River	
2	North County Transportation Corridor	State Route 99	State Route 120 East of Oakdale	Stanislaus County
3	SR132 Realignment and Widening	East of Empire	San Joaquin County	StanCOG
4	Claus/Garner/Faith Home Expressway	Modesto	Keyes	StanCOG

Including new Special Study Areas would indirectly result in impacts on aesthetic resources because these studies would be performed to determine how to best modify these areas to alleviate traffic and safety concern. The studies would then translate into physical modifications that would alter the appearance and, potentially, the visual character of these affected areas. This is not a substantial change in existing county policies regarding special study areas. As a result the change attributable to the General Plan update would not result in significant effects.

~~**Scenic Highways**~~

~~Section 65302(h) of the Government Code requires the general plan to include a Scenic Highways Element for the development, establishment, and protection of scenic highways pursuant to the provision of the Streets and Highways Code. Interstate 5 is the only officially designated State Scenic Highway in Stanislaus County. Standards for official designation of scenic highway rest on the analysis, planning, and protection of the scenic corridor through which the highway traverses. Although the emphasis of the scenic highway is on the designation of state highway routes as scenic routes, this does not preclude local agencies from developing and adopting local scenic designations on County routes. The Scenic Highway designation is an overlay and not a separate street classification. The scenic highway designation maintains areas which are in their natural or undeveloped condition. The State of California has designated various state highways as having natural scenic beauty worthy of preservation. This highway designation involves land use controls within the corridor to maintain the natural beauty of the area.~~

The general plan update would remove the current description of Scenic Highways from the Circulation Element. The current description does not contain policies that protect or direct development along scenic highways in the county and would not affect state policies related to scenic I-5. Therefore, its removal would not affect aesthetic resources in the County.

Changes to the Circulation Element would result in widened roadways and combined modes of transportation that would impact aesthetics by widened facilities and new bus turnout, park-and-ride lots, and similar features. These changes would also result in an increase in paved surfaces, transportation infrastructure (e.g., trails, bike lanes on roadways, bus shelters), signage, pavement markings, site furnishings (e.g., benches, trash receptacles, bollards, light posts), and signals and lighting associated with more modern transportation facilities. Changes to the element do not include policies or requirements that would increase the visual prominence and presence of larger scale transportation facilities in the county, and the new improvements resulting from implementation of the proposed changes are typically of low visual intensity. Some of these changes would also improve aesthetics. As a result, impacts on aesthetic resources would be less-than-significant.

Agricultural Element

The General Plan does not currently have a policy or implementation measure that would restrict the installation of alternative energy source recovery facilities. However, the following implementation measure would limit the area where such facilities could be located and thereby lower the potential for aesthetic impacts in relation to what would be allowed under current General Plan policies.

GOAL TWO. Conserve our agricultural lands for agricultural uses.

POLICY 2.5. To the greatest extent possible, development shall be directed away from the County's most productive agricultural areas.

IMPLEMENTATION MEASURE

The County shall encourage the development of alternative energy sources on lands located outside “Most Productive Agricultural Areas”.

Applying the proposed amendment to existing conditions would result in a lesser impact than the application of current general plan policies and implementation measures. The impact of this amendment is less-than-significant.

Conservation and Open Space Element

The proposed 2014 General Plan Conservation and Open Space Element updates would affect aesthetic resources as a result of landscape-level changes. These changes are analyzed below.

GOAL ONE. Encourage the protection and preservation of natural and scenic areas throughout the County.

POLICY TWO. Assure compatibility between natural areas and development.

IMPLEMENTATION MEASURES

3. Require Airport Land Use Commission (ALUC) review of the location, compatibility, and design of proposed parks, open space uses, and outdoor recreation areas within adopted Airport Influence Areas.
4. Discourage the establishment of conservation areas or nature preserves within adopted Airport Influence Areas

Changes that require the ALUC to review development within the AIAs to ensure that projects are compatible and have the potential to create habitat and habitat conservation would allow for development within AIAs while promoting aesthetic resources through design compatibility and protecting aesthetic resources.

GOAL ONE. Encourage the protection and preservation of natural and scenic areas throughout the County.

POLICY TWO. Assure compatibility between natural areas and development.

IMPLEMENTATION MEASURE

5. Consider adoption of scenic corridors to protect and preserve natural scenic vistas located throughout the County.

Adopting a scenic corridors program to protect and preserve natural scenic vistas throughout the county would protect aesthetic resources by working toward establishing protection measures for these valued views and resources.

GOAL ONE. Encourage the protection and preservation of natural and scenic areas throughout the County.

POLICY THREE. Areas of sensitive wildlife habitat and plant life (e.g., vernal pools, riparian habitats, flyways and other waterfowl habitats, etc.) including those habitats and plant species listed in the General Plan Support Document or by state or federal agencies shall be protected from development and/or disturbance.

IMPLEMENTATION MEASURE

6. Any ground disturbing activities on lands previously undisturbed that will potentially impact riparian habitat and/or vernal pools or other sensitive areas shall include mitigation measures for protecting that habitat, as required by the State Department of Fish and Wildlife.

Requiring the inclusion of mitigation measures that protect habitat within undisturbed riparian habitat and/or vernal pools or other sensitive areas would indirectly protect aesthetic resources by working towards establishing protection measures for resources that have aesthetic value.

GOAL FOUR. Provide for the open-space recreational needs of the residents of the County.

POLICY TWELVE. Provide a system of local and regional parks which will serve the residents of the County. (Comment: The County should acquire future park sites in areas where growth is planned when funding is available.)

IMPLEMENTATION MEASURE

4. The County shall encourage the interconnection of recreational areas, open spaces and parks that are oriented to pedestrian and bicycle travel along public highway rights-of-way, while protecting private property and river corridors, to the greatest extent possible.

Including the protection of river corridors within this policy would aid in protecting aesthetic resources associated with river corridors.

GOAL FOUR. Provide for the open-space recreational needs of the residents of the County.

POLICY TWELVE. Provide a system of local and regional parks which will serve the residents of the County. (Comment: The County should acquire future park sites in areas where growth is planned when funding is available.)

IMPLEMENTATION MEASURE

5. The County shall require dedication and improvement of parks and open space in accordance with the Stanislaus County Parks Master Plan, as amended from time to time. ~~at least three net acres of developed neighborhood parks to be provided for every 1,000 residents.~~

Asserting a greater commitment to the dedication and improvement of parks and open space would ensure these places retain their aesthetic resources and visual character and do not become degraded or blighted over time.

GOAL FOUR. Provide for the open-space recreational needs of the residents of the County.

POLICY THIRTEEN. Promote the use of water reservoirs for multiple recreational purposes, where appropriate.

IMPLEMENTATION MEASURES

2. The County shall, when funds become available, install and maintain boating ~~ramps~~ facilities, where appropriate.

3. The County shall encourage the development of on-site resort services and accessory sales designed to enhance recreational opportunities, where appropriate.

Maintaining boating facilities would ensure these places retain their aesthetic and visual character and do not become degraded or blighted over time.

Developing resort services in recreation areas could result in site-specific visual impacts that may be positive or negative depending on how existing aesthetic resources are affected and how site improvements enhance, compliment, or degrade the existing character of the site. For example, tree removal at one site to accommodate resort services may be a negative visual impact while landscape plantings and site furnishings could improve the visual conditions at another location.

GOAL FOUR. Provide for the open-space recreational needs of the residents of the County.

POLICY FIFTEEN. Coordinate the provision of recreation needs with other providers such as the Army Corps of Engineers, the State Resources Agency, school districts, local cities, river rafters, horse stable operators, and private organizations such as the Sierra Club, and Audubon Society.

IMPLEMENTATION MEASURE

5. Proposals to establish new or expanded recreational areas shall be reviewed for consistency with policies of the Safety Element when located within an adopted Airport Influence Area as a means to prevent the creation of potential wildlife strike hazards or other hazards to park users, aviators, and the traveling public.

Establishing new or expanded recreation areas would enhance the aesthetic resources of the County.

GOAL SEVEN. Support efforts to minimize the disposal of solid waste through source reduction, reuse, recycling, composting and transformation activities.

POLICY TWENTY-TWO. The County will support the solid waste management hierarchy established by the California Public Resources Code, Section 40051, and actively promote the goals and objectives specified in the Countywide Integrated Waste Management Plan.

IMPLEMENTATION MEASURE

6. Permitting and operation of recycling facilities that receive waste materials diverted from landfills or transformation facilities shall be evaluated for compatibility with surrounding land uses.

This measure could have visual impacts with additional truck trips. However, allowing recycling facilities to receive waste materials diverted from landfills would reduce impacts on aesthetic resources by helping reduce the need and rate at which landfills would expand vertically and horizontally to accommodate waste and would conserve the use of natural resources through recycling efforts.

GOAL NINE. Manage extractive mineral resources to ensure an adequate supply without degradation of the environment.

POLICY TWENTY-SIX. Surface mining in areas classified by the State Division of Mines and Geology as having significant deposits of extractive mineral resources shall be encouraged.

IMPLEMENTATION MEASURE

2. The County shall utilize the California Environmental Quality Act (CEQA) process to protect mineral resources as well as the environment. Most discretionary projects require review for compliance with CEQA. As a part of this review, environmental impacts and alternatives, must be identified and the manner for such significant effects to be avoided or mitigated must be indicated. ~~The Legislature declares that in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects.~~

Removing language that allowed the approval of individual projects despite significant environmental effects would result in beneficial impacts on aesthetic resources by limiting the potential for projects that could gravely affect such resources to be approved and implemented.

GOAL ELEVEN. Conserve resources through promotion of waste reduction, reuse, recycling, composting, ride-share programs and alternative energy sources such as mini-hydroelectric plants, gas and oil exploration, and transformation facilities such as waste-to-energy plants.

POLICY THIRTY. The County shall provide zoning mechanisms for locating material recovery facilities, recycling facilities, composting facilities, and new energy producers when the proposed location does not conflict with surrounding land uses.

IMPLEMENTATION MEASURE

1. The County shall include provisions in its zoning ordinance for siting material-recovery facilities, recycling facilities, composting facilities, mini-hydroelectric plants and alternative energy sources. ~~transformation facilities by June 30, 1997.~~

Including siting provisions in the zoning ordinance for alternative energy sources could have positive impacts as specific standards will apply to all such projects, rather than the case by case review that occurs currently, depending on how existing aesthetic resources are affected by the siting.

Conservation and open space standards would generally result in positive impacts on aesthetic resources by preserving and limiting impacts on existing resources such as habitat areas, potentially creating protected scenic corridors, and helping to retain existing park and boat facilities.

Safety Element

The proposed 2014 General Plan Safety Element updates would result in aesthetic resource impacts ranging from minor, site-specific alterations that would not be noticeable, to county-wide and site-specific visual changes that could affect sensitive, private viewers negatively. These changes are analyzed below.

GOAL ONE. Prevent loss of life and reduce property damage as a result of natural disasters.

POLICY FOUR. Development west of I-5 in areas susceptible to landslides (as identified in this element) shall be permitted only when a geological report is presented with (a) documented evidence that no such potential exists on the site, or (b) identifying the extent of the problem and the mitigation measures necessary to correct the identified problem.

IMPLEMENTATION MEASURE

3. The routes of new public and private roads in areas subject to landslides shall be designed to minimize landslide risks.

Including private roads among the types of roads that should be designed to minimize landslide risks would result in minor aesthetic impacts because the measure may require more vegetation removal and landform modification or the introduction of retaining walls to accommodate safer roadside slopes and slope stabilization. The potential for adverse impacts is minimal because most of the areas subject to future development are not sloped.

GOAL TWO. Minimize the effects of hazardous conditions that might cause loss of life and property.

POLICY SIX. All new development shall be designed to reduce safety and health hazards.

IMPLEMENTATION MEASURES

1. Review development proposals and require redesign when necessary to ensure that buildings are designed and sited to minimize crime and assure adequate access for emergency vehicles. The County shall promote the design of structures, streetscapes, pathways, project sites and other elements of the built environment that allow for surveillance of publically accessible areas.

3. Development standards shall be imposed to provide street lighting, storm drainage, adequate setbacks, fire walls and fire safe standards for defensible space.

Promoting design elements within the built environment that allow for surveillance of publically accessible areas and providing for fire safe defensible space around structures would result in minor aesthetic impacts because such measures may result in more open public spaces or

variations in structure design to meet design standards and may require more tree and shrub removal around structures to achieve safety standards. Defensible space is a requirement of state law, so the effect of these implementation measures would be minimal.

GOAL TWO. Minimize the effects of hazardous conditions that might cause loss of life and property.

POLICY EIGHT. Roads shall be maintained for the safety of travelers.

IMPLEMENTATION MEASURE

1. New urban development shall provide street lighting, storm drainage, setbacks, ~~fire walls,~~ and other safety features as the specific case may require for all modes of travel (automobile, pedestrian, bicycle, etc.).

All modes of travel, including pedestrian and bicycle, having safety features provided under new development could result in minor visual impacts by increasing the visual prominence and presence of safety structures and features associated with transportation systems in the county by promoting additional utilities (e.g., signals and lighting) and infrastructure (e.g., signage, fencing, and bridges) associated with transportation facilities. These would be typical of development projects.

GOAL TWO. Minimize the effects of hazardous conditions that might cause loss of life and property.

POLICY ELEVEN. Restrict large communication and wind power facilities ~~antennas~~ within the agricultural area with respect to maximum height, markings (lights) and location to provide maximum safety levels.

IMPLEMENTATION MEASURES

1. All communication facilities shall meet the siting standards established by Chapter 21.90 - Communication Facilities of the Zoning Ordinance. ~~An amendment to the A-2 (General Agriculture) zoning districts will be processed by June 30, 1995 to require that, before communication towers are approved, a finding must be made that measures have been taken to minimize the effect of the tower on crop dusting activities. (On September 19, 1995, the Board of Supervisors approved an amendment to the zoning ordinance establishing siting standards for communication towers in all zoning districts.)~~
2. Discretionary development proposals ~~Use permit applications~~ for communication ~~towers~~ and wind power facilities in the A-2 (General Agriculture) zone district shall be referred to the crop dusting companies which typically service the area of the proposed tower for notice and comment.

Restricting the maximum height, markings (lights), and location to provide maximum safety associated with large communication and wind power facilities within agricultural areas would impact aesthetic resources by allowing, yet limiting, the location, lighting, and height of such facilities, minimizing their impact.

Safety standards may result in either positive or negative impacts upon aesthetic resources depending upon the existing land use and proposed change. For example, visual changes to private rural drives to increase landslide safety may be seen as a negative change due to greater earthwork and vegetation removal, while promoting safety in public places may be seen as a positive visual change by creating environments where viewers feel safer. In some cases, earthwork and vegetation removal could create positive visual changes.

The 2014 General Plan Update would retain and modify existing, and create new, policies that reduce impacts affecting aesthetic resources in the county. Safety changes, as a whole, would not

substantially change the existing visual character of the county because they would be an element of development and small in scale; their effect would be less-than-significant.

Airport Land Use Compatibility Plan

The updated ALUCP considers the noise contours, safety zones, airspace protection zones (FAR Part 77), and overflight areas (annoyance, disclosure) for the Modesto and Oakdale airports in accordance with guidance set forth in the *California Airport Land Use Compatibility Planning Handbook* (California Department of Transportation 2011). The Crows Landing airport is currently being updated and will be incorporated into the ALUCP. Policies set forth in the revised ALUCP would be applied to all airports and their associated AIA. The most significant revisions that would affect aesthetic resources are associated with Airport Protection Policy 3.4.2 that includes height restrictions for objects in and out of a Critical Airspace Protection Zone to prevent conflict within Airspace Protection Surfaces and object marking and lighting to be installed as directed by the Federal Aviation Administration (FAA) aeronautical study or the California Division of Aeronautics. These changes would aesthetically benefit affected areas by reducing the amount of vertical infrastructure permitted in AIAs, yet could slightly increase lighting effects associated with FAA and California Division of Aeronautics safety lighting. In addition, Airport Protection Policy 3.4.3 would benefit aesthetic resources by restricting new sources of glare (e.g., mirrored or highly reflective surfaces); bright or distracting lights (e.g., search lights, stadium lights, and laser light displays); and sources of dust, steam, or smoke that may impair pilots' vision. Both of these policies would benefit aesthetic resources by limiting structure heights and sources of light and glare in AIAs.

> **3.4.2 Airspace Obstruction/Object Height Criteria.** The criteria for determining the acceptability of a Project with respect to height shall be based upon the standards set forth in Federal Aviation Regulations (FAR) Part 77, Subpart C, Safe, Efficient Use and Preservation of the Navigable Airspace and applicable airport design standards published by the FAA. Additionally, where an FAA aeronautical study of a proposed object is required as described in Policy 3.4.4, the results of that study shall be taken into account by the ALUC and the Local Agency.

Summary

Changes associated with the 2014 General Plan updates would result in less-than-significant impacts on aesthetic resources, as described above. Overall development that would result from implementation of the general plan, as amended by the project, would change the existing visual character of the county, but not to a significant extent.

Significance without Mitigation: Less than significant (no mitigation required)

Impact AES-2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway (less than significant)

Land Use Element

Many of the proposed 2014 General Plan Land Use Element updates would not directly affect aesthetic resources associated with I-5, but could result in indirect visual impacts because of the specified changes or in minor, site-specific changes that would be seen from vantages along I-5. These changes are analyzed under Impact AES-1. In addition, planned developments require design standards. Community Plans where development may occur already have design standards that would be implemented with many new developments.

The 2014 General Plan updates would retain and modify existing, and create new, policies that reduce impacts affecting aesthetic resources along I-5. Land use changes, particularly the future development of the Crows Landing Air Facility as a regional jobs center, could change the existing visual character along I-5 to one that is more developed in nature. However, these changes would be seen in distant background views available from the corridor and would not substantially adversely affect its visual character. The precise level of impact would be disclosed in future CEQA analyses of these projects. Because of the low intensity of the visual change, they are presumed here to be less than significant.

Agricultural Element

See the discussion of proposed Implementation Measure 3 under Policy 2.5 under Impact AES-1. The impact of this amendment is less-than-significant.

Circulation Element

The proposed 2014 General Plan Circulation Element updates, analyzed under Impact AES-1, could impact aesthetic associated with I-5 by widening roadways and combining modes of transportation. The amount of future development along the I-5 corridor that will be within the unincorporated county is rather limited under the General Plan. As a result, new bus turnouts, park-and-ride lots, and similar features are unlikely to be visible from I-5. Transportation changes related to development of the Crows Landing Air Facility as a regional jobs center could also increase the amount of paved surfaces, transportation infrastructure (e.g., bridges, retaining structures, and roadways), signage, pavement markings, site furnishings (e.g., benches, trash receptacles, bollards, light posts), and signals and lighting associated with more modern transportation facilities. However, given the distance from I-5, the changes are unlikely to result in a substantial change in views from I-5. Changes to the element would result in less-than-significant impacts on aesthetic resources.

Conservation and Open Space Element

The proposed 2014 General Plan Conservation and Open Space Element updates, analyzed under Impact AES-1, would generally affect aesthetic resource associated with I-5 in a positive manner by preserving and limiting impacts on existing resources such as habitat areas, potentially creating protected scenic corridors, and helping to retain existing park areas. Under the current provisions of the General Plan, future renewable energy projects such as photovoltaic arrays or wind energy turbines could affect scenic values if located where they could be seen from I-5. The precise level of impact would be disclosed in future CEQA analyses of these projects. The Project would not change the level of intensity that may result from such future projects. In general, design standards, topography, and distances are considered likely to ensure that impacts would be less than significant.

Safety Element

The proposed 2014 General Plan Safety Element updates, analyzed under Impact AES-1, would generally not impact aesthetic resources associated with I-5 because they would mainly affect private rural drives and public places that are not visually accessible from the freeway.

Airport Land Use Compatibility Plan

The Crows Landing Airport AIA overlaps with I-5. While most views of the airport are limited by rolling terrain that borders the freeway to the east, the terrain and lack of trees, shrubs, and development do allow for some direct views of the airfield. As analyzed under Impact AES-1, Airport Protection Policies 3.4.2 and 3.4.3 would benefit and aid in the protection of aesthetic resources in associated AIAs by limiting the amount of vertical infrastructure permitted in AIAs, while also limiting future sources of dust, steam, or smoke that may impair pilots' vision. These policies would benefit aesthetic resources by limiting structure heights and sources dust, steam, or smoke in the Crows Landing AIAs that includes, and thereby affects views from, portions of I-5. The ALUCP for Crows Landing Air Facility has not been updated; therefore, the extent to which its policies may limit the impact of future re-use of the airfield is unknown. Because it will not restrict all new aviation-related improvements and some of those may be visible from I-5, it is reasonable to assume that the redevelopment of the Crows Landing Air Facility as a regional jobs center could result in visual changes that could be seen from I-5. However, as discussed above in Impact AES-1, changes to the facility will be perceived from viewers on I-5 as distant background changes and result in less than significant impacts.

Summary

Changes in the environment associated with the 2014 General Plan updates would not result in significant impacts on aesthetic resources associated with I-5.

Significance without Mitigation: Less than significant (no mitigation required)

Impact AES-3: Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area (significant and unavoidable)

Land Use Element

Proposed 2014 General Plan Land Use Element updates, analyzed under Impact AES-1, would result in direct and indirect visual impacts associated with light and glare because future development consistent with the general plan as amended by the project has the potential to result in either positive or negative impacts on existing levels of light and glare depending upon the existing land use and proposed change. Existing rural and agricultural areas emit very low levels of light and glare, except in locations where agricultural industry is present. Some aspects of the General Plan update would result in new development in rural areas that would introduce new sources of light and glare into a relatively dark area. For example, establishment of a jobs center at the Crows Landing Air Facility would result in a substantial new source of light. As described above, most of these impacts are not directly attributable to the 2014 General Plan updates and would result from build-out of the General Plan as it currently exists.

The 2014 General Plan updates include the following policy and implementation measures that reduce significant impacts associated with light and glare.

GOAL TWO. Ensure compatibility between land uses.

POLICY SIXTEEN. Outdoor lighting shall be designed to be compatible with other uses.

IMPLEMENTATION MEASURES

1. Develop light and glare standards to ensure that artificial outdoor lighting is efficient and focused on achieving safety and security requirements for the associated land use.

2. Outdoor lighting shall be required to provide minimum impact to the surrounding environment and will, where feasible, utilize downcast, cut-off type fixtures that are shielded and direct the light only towards objects requiring illumination.

Future land use changes resulting from implementation of the General Plan, including the updates, would affect rural vista views, views from I-5, and all viewer groups. The specific level of this impact cannot be known at this time, absent site-specific development proposals. Although future development projects, such as the reuse of the Crows Landing Air Facility, will be subject to their own CEQA analyses and mitigation, there is a potential for large projects to have a significant effect. Policy Sixteen and associated implementation measures under Goal Two would reduce these impacts to a less than significant level.

Circulation Element

The proposed 2014 General Plan Circulation Element updates, analyzed under Impact AES-1, could also result in light and glare impacts by widening roadways and combining modes of transportation that would increase the number of sources of nighttime light such as street and intersection lighting, and traffic signals. As described above, most of these impacts are not directly attributable to the 2014 General Plan updates and would result from build-out of the General Plan as it currently exists. Policy Eight and associated implementation measures under Goal Two would reduce these impacts to a less than significant level.

Conservation and Open Space Element

The proposed 2014 General Plan Conservation and Open Space Element updates, analyzed under Impact AES-1, would generally affect light and glare impacts in a positive manner by preserving and limiting impacts on existing resources such as habitat areas and by helping to retain existing parks and their associated vegetation.

Safety Element

The proposed 2014 General Plan Safety Element updates, analyzed under Impact AES-1, could result in light and glare impacts by requiring more wide open and well-lit public places that would increase available surfaces to create glare and new sources of nighttime lighting. Policy Eight and associated implementation measures under Goal Two would reduce these impacts below the level of significance.

Airport Land Use Compatibility Plan

As analyzed under Impact AES-1, the most significant revisions that would affect impacts associated with light and glare are associated with Airport Protection Policy 3.4.2, which includes object marking and lighting to be installed as directed by the FAA aeronautical study or the California Division of Aeronautics, and Airport Protection Policy 3.4.3, which would affect aesthetic resources by restricting sources of glare (e.g., mirrored or highly reflective surfaces) and bright or distracting lights (e.g., search lights, stadium lights, and laser light displays) that may impair pilots' vision. While safety lighting could slightly increase lighting associated AIAs, it is not anticipated to result in substantial increases in lighting compared to existing conditions.

Summary

Changes associated with the 2014 General Plan updates would indirectly result in light and glare impacts. However, with inclusion of new Land Use Element Policy Sixteen, Implementation

Measures 1 and 2 under Goal Two, the impact would be reduced. However, the impact would remain significant and unavoidable.

Significance: Significant and unavoidable (no mitigation available)

3.1.4 References Cited

Printed References

California Department of Transportation. 2014a. *Officially Designated State Scenic Highways*. Available: http://www.dot.ca.gov/hq/LandArch/scenic/schwy.htm. Last updated: October 14, 2013. Accessed: December 22, 2014.

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———. 2014. *Title 21 ZONING*. Available: http://qcode.us/codes/stanislauscounty/view.php?topic=21&frames=off. Accessed: January 5, 2015.

3.2 Agricultural Resources

3.2.1 Introduction

This section discusses the impacts of the plan updates with respect to agricultural resources. It lists the thresholds of significance that form the basis of the environmental analysis, describes the study area and major sources used in the analysis, provides environmental setting information that is relevant to agricultural resources, and assesses whether the plan updates would result significant impacts with respect to these resources.

Study Area

The agricultural resources study area for the EIR is defined as unincorporated Stanislaus County.

3.2.2 Environmental Setting

This section describes the state and local regulations and policies that are applicable to the plan updates and the existing conditions pertaining to agricultural resources in the study area. The existing conditions constitute the baseline for this environmental analysis.

Regulatory Setting

This section describes the state and local regulations related to agricultural resources that would apply to the plan updates. There are no relevant federal regulations that apply to agricultural resources. Therefore, only state, regional, and local regulations are described below.

State

California Land Conservation Act of 1965 and Farmland Security Zone Act

The California Land Conservation Act of 1965 (Government Code Section 51200, et seq.), also known as the Williamson Act, protects farmland from conversion to other uses by offering owners of agricultural land a property tax incentive to maintain their land in agricultural use. Under the Williamson Act, the landowner contracts with the county (or city) in which their property is located, promising to maintain the land in agricultural or a compatible use for a minimum period of 10 years. In return, the property tax on the land is based on its productive value rather than its assessed value. A Williamson Act contract automatically self-renews each year so that it is always 10 years in duration. Enrollment in a Williamson Act contract is completely voluntary. Williamson Act participation can help to insulate agricultural land from increases in property taxes linked to improvements. The Farmland Security Zone Act (Government Code Section 51296, et seq.) works similarly. However, it applies to contracted land for a term of no less than 20 years.

The Williamson Act and Farmland Security Zone Act programs are administered locally. The county is a party to and enforces the contracts on lands within its unincorporated area. The California Department of Conservation has a limited oversight role that focuses primarily on the cancellation of contracts.

Separate from the Williamson Act, landowners may voluntarily enter into a form of deed restriction known as an Agricultural Conservation Easement (ACE) that effectively removes in perpetuity the land's potential for development. ACEs are held by either land trusts or local governments. Those entities are responsible for ensuring that the terms of the easement are upheld. The landowner can donate the easement to the easement holder, sell it to them at a mutually agreeable price, or a combination of the two.

In 2010, the county reported that it held 689,954 acres of land under Williamson Act contracts and 156 acres of land under an ACE, as shown in Table 3.2-1. The county does not have any land under the Farmland Security Zone Act program.

Table 3.2-1. Stanislaus County Williamson Act Acreage, 2010

Williamson Act		Agricultural Conservation Easement		
Prime	Nonprime	Prime	Nonprime	Total
293,495	396,459	156	0	690,110
Source: California Department of Conservation 2013a.				

Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) is a non-regulatory program of the California Department of Conservation that inventories the state's important farmlands and tracks the conversion of farmland to other land uses. The FMMP publishes reports of mapped farmland and conversions every 2 years. The FMMP categorizes farmland according to its soil quality, availability of irrigation water, current use, slope, and other criteria. The categories of farmland identified in the FMMP are listed below. The FMMP considers all of these categories, except Grazing Land, to be Important Farmland.

- **Prime Farmland**. Farmland with the best combination of physical and chemical features and able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- **Farmland of Statewide Importance**. Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- **Unique Farmland**. Farmland with lesser quality soils but still useful for the production of the state's leading agricultural crops. This land is usually irrigated but may include the nonirrigated orchards or vineyards found in some climatic zones of California. Land must have been cropped at some time during the 4 years prior to the mapping date.
- **Farmland of Local Importance**. Land of importance to the local agricultural economy, as determined by each county's board of supervisors and a local advisory committee.
- **Grazing Land**. Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups that are interested in grazing activities.

The FMMP also identifies non-agricultural lands.

- **Urban and Built-Up Land**. Land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. Common examples include residential, industrial, and commercial uses; institutional facilities; cemeteries; airports; golf courses; sanitary landfills; sewage treatment plants; and water control structures.
- **Other Land**. Land not included in any other mapping category. Common examples include low-density rural developments, brush, timber, wetlands, and riparian areas that are not suitable for livestock grazing, confined livestock, poultry, or aquaculture facilities, strip mines, borrow pits, or water bodies smaller than 40 acres. Vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

FMMP data can be useful when analyzing whether agricultural conversion is occurring within the county, how that conversion is occurring, and at what rate.

California Farmland Conservancy Program

The California Farmland Conservancy Program (CFCP) seeks to encourage long-term private stewardship of agricultural lands through the voluntary use of ACEs. The CFCP provides grant funding for easement and planning projects that support agricultural land conservation statewide. As of January 2014, the CFCP had funded 172 conservation easements in California's agricultural regions, permanently conserving some of the state's best farmland.

Local

Stanislaus County Local Agency Formation Commission (Agriculture Preservation Policy)

The Stanislaus County Local Agency Formation Commission is established under the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Government Code Section 56000, et seq.). The job of the commission is to "review and approve with or without amendment, wholly, partially, or conditionally, or disapprove proposals for changes of organization or reorganization, consistent with written policies, procedures, and guidelines adopted by the commission." (Government Code Section 56375) This gives the commission exclusive power to consider city incorporations, city annexations, the creation of or addition to special districts. Government Code Section 56377 requires the commission to minimize impacts on open space lands, including agricultural lands, as follows:

> In reviewing and approving or disapproving proposals which could reasonably be expected to induce, facilitate, or lead to the conversion of existing open-space lands to uses other than open-space uses, the commission shall consider all of the following policies and priorities:
>
> (a) Development or use of land for other than open-space uses shall be guided away from existing prime agricultural lands in open-space use toward areas containing nonprime agricultural lands, unless that action would not promote the planned, orderly, efficient development of an area.
>
> (b) Development of existing vacant or nonprime agricultural lands for urban uses within the existing jurisdiction of a local agency or within the sphere of influence of a local agency should be encouraged before any proposal is approved which would allow for or lead to the development of existing open-space lands for non-open-space uses which are outside of the existing jurisdiction of the local agency or outside of the existing sphere of influence of the local agency.

The Stanislaus Local Agency Formation Commission (LAFCO) has adopted an Agricultural Preservation Policy ("Policy") that provides evaluation standards for review of proposals that could induce or lead to the conversion of agricultural lands. The Policy requires that applicants prepare a Plan for Agricultural Preservation that details the impacts on agricultural resources and identifies the method or strategy selected to minimize the loss of agricultural lands. The Policy sets forth three agricultural preservation strategies that the Commission encourages: 1:1 mitigation (that can also be achieved through in-lieu fees), reduction of an existing sphere of influence that contains agricultural lands, and voter-approved urban growth boundaries. In recognition of the County's requirements that 1:1 mitigation apply to conversion of agricultural lands to residential uses, LAFCO's Policy also allows for 1:1 mitigation to be focused on similar conversions.

Stanislaus County Williamson Act Program

The Stanislaus County Department of Planning and Community Development cannot take action on any application for a new structure or use on a parcel restricted by a Williamson Act contract until such time as sufficient evidence is presented to the county and/or the California State Department of Conservation that the proposed new use is compatible with the Williamson Act contract. A landowner may opt to discontinue their contract by filing a notice of non-renewal with the county. In these cases, the contract would expire 10 years after the filing. The county may also cancel a Williamson Act contract without the 10-year expiration period but only under limited circumstances and subject to mandatory findings of fact that those circumstances exist.

In Stanislaus County, the uses compatible with Williamson Act contracts are listed in the General Agricultural (A-2) zoning district. They include: gas, electric, water, communication facilities; farm labor camps and farm employee housing; certain agricultural industries; agricultural service airports; and produce markets. (Stanislaus County Code Sections 21.20.030 and 21.20.045)

Stanislaus County General Plan, Agricultural Element

In recognition of the importance of agriculture to the local economy, the Stanislaus County General Plan includes an Agricultural Element to promote and protect local agriculture. Under Section 65303 of the California Government Code, optional elements of the general plan are authorized but not mandated by the state legislature. The Agricultural Element is coordinated with several other elements of the general plan and consistent with the entire general plan. It interacts primarily with the agriculture-related policies of the Land Use, Conservation/Open Space, and Housing Elements. To avoid duplication, policies in those elements that affect or relate to agriculture are not repeated in this element. However, such policies are cross-referenced whenever appropriate. The Agricultural Element's policies have the same legal status as any other element of the general plan.

The following are goals and policies pertinent to the proposed plan updates.

GOAL ONE. Strengthen the agricultural sector of our economy.

OBJECTIVE 1.1. Enhance the marketing and promotion of agriculture in Stanislaus County.

POLICY 1.1. Efforts to promote the location of new agriculture-related business and industry in Stanislaus County shall be supported.

OBJECTIVE 1.2. Support the development of agriculture-related uses.

POLICY 1.4. Limited visitor-serving commercial uses shall be permissible in agricultural areas if they promote agriculture and are secondary and incidental to the area's agricultural production.

POLICY 1.5. Agricultural service establishments shall be permissible in agricultural areas if they are designed to serve production agriculture in the immediately surrounding area as opposed to having a widespread service area, and if they will not be detrimental to agricultural use of other property in the vicinity.

POLICY 1.6. Processing facilities and storage facilities for agricultural products either grown or processed on the site shall be permissible in agricultural areas.

POLICY 1.7. Concentrations of commercial and industrial uses, even if related to surrounding agricultural activities, are detrimental to the primary use of the land for agriculture and shall not be allowed.

POLICY 1.8. To encourage vertical integration of agriculture, the County shall allow research, production, processing, distribution, marketing, and wholesale and limited retail sales of agricultural products in agricultural areas, provided such uses do not interfere with surrounding agricultural operations.

OBJECTIVE 1.3. Minimizing Agricultural Conflicts.

POLICY 1.9. The County shall continue to protect agricultural resources by limiting the circumstances under which agricultural operations may be deemed to constitute a nuisance.

POLICY 1.10. The County shall protect agricultural operations from conflicts with non-agricultural uses by requiring buffers between proposed non-agricultural uses and adjacent agricultural operations.

POLICY 1.11. The County shall support state regulations requiring landowners to manage noxious weeds and pests on fallow or abandoned lands.

OBJECTIVE 1.4. Provide Housing for Farmworkers

POLICY 1.12. To help provide a stable work force for agriculture, the County shall continue to facilitate efforts of individuals, private organizations and public agencies to provide safe and adequate housing for farm workers.

POLICY 1.13. Temporary housing for full-time farm employees in connection with any agricultural work or place where agricultural work is being performed shall be supported.

POLICY 1.14. Permanent, new housing for seasonal farm workers preferably shall be located in areas supplied with public sewer and water services.

POLICY 1.15. Housing for year-round, full-time farm employees shall be permissible in addition to the number of dwellings normally allowed by the density standard.

OBJECTIVE 1.7. Encourage Regional Coordination in the Central Valley

POLICY 1.22. The County shall encourage regional coordination of planning and development activities for the entire Central Valley.

GOAL TWO. Conserve our agricultural lands for agricultural uses.

OBJECTIVE 2.1. Continued Participation in the Williamson Act

POLICY 2.1. The County shall continue to provide property tax relief to agricultural landowners by participating in the Williamson Act.

POLICY 2.2. The County shall support reasonable measures to strengthen the Williamson Act, making it a more effective tool for the protection of agricultural land.

POLICY 2.3. The County shall ensure all lands enrolled in the Williamson Act are devoted to agricultural and compatible uses supportive of the long-term conservation of agricultural land.

OBJECTIVE 2.2. Discourage Urbanization and the Conversion of Agricultural Land in Unincorporated Areas of the County.

POLICY 2.4. To reduce development pressures on agricultural lands, higher density development and in-filling shall be encouraged.

POLICY 2.5. To the greatest extent possible, development shall be directed away from the County's most productive agricultural areas.

POLICY 2.6. Agricultural lands restricted to agricultural use shall not be assessed to pay for infrastructure needed to accommodate urban development.

POLICY 2.7. Proposed amendments to the General Plan Diagram (map) that would allow the conversion of agricultural land to non-agricultural uses shall be approved only if they are consistent with the County's conversion criteria.

POLICY 2.8. In order to further the conservation of agricultural land, the subdivision of agricultural lands shall not result in the creation of parcels for "residential purposes." Any residential development on agriculturally zoned land shall be incidental and accessory to the agricultural use of the land.

POLICY 2.9. Lot-line adjustments involving agricultural land shall be primarily created and properly designed for agricultural purposes without materially decreasing the agricultural use of the project site.

POLICY 2.10. Minimum parcel sizes allowed for lands designated Agriculture shall not promote the expansion of existing, or creation of new, ranchette areas.

OBJECTIVE 2.3. Expansion of Cities and Unincorporated Communities.

POLICY 2.11. The County recognizes the desire of cities and unincorporated communities to grow and prosper and shall not oppose reasonable requests consistent with city and county agreements to expand, provided the resulting growth minimizes impacts to adjacent agricultural land.

POLICY 2.12. In order to minimize impacts to adjacent agricultural land, the County shall encourage LAFCO to use physical features such as roads and irrigation laterals as the boundaries for sphere of influence expansions.

POLICY 2.13. In recognition that unincorporated land within spheres of influence of cities or community services districts and sanitary districts serving unincorporated communities ultimately will be urbanized, the County shall cooperate with cities and unincorporated communities in managing development in sphere of influence areas.

OBJECTIVE 2.4. Assessing and Mitigating Impacts of Farmland Conversion.

POLICY 2.14. When the County determines that the proposed conversion of agricultural land to non-agricultural uses could have a significant effect on the environment, the County shall fully evaluate on a project-specific basis the direct and indirect effects, as well as the cumulative effects of the conversion.

POLICY 2.15. In order to mitigate the conversion of agricultural land resulting from a discretionary project requiring a General Plan or Community Plan amendment from "Agriculture" to a residential land use designation, the County shall require the replacement of agricultural land at a 1:1 ratio with agricultural land of equal quality located in Stanislaus County.

POLICY 2.16. The County shall participate in local efforts to identify strategic locations for the purchase of agricultural conservation easements by land trusts and shall promote the long-term viability of farmland in areas surrounding existing farmland held under conservation easements.

POLICY 2.17. The County shall work cooperatively with the nine cities within the County and to encourage them to adopt agricultural conservation policies or ordinances which are consistent with County policies or ordinances in order to undertake an integrated, comprehensive Countywide approach to farmland conservation. It is the ultimate goal of the County to have all nine cities participate in or adopt an agricultural mitigation ordinance that is the same as or substantially similar.

OBJECTIVE 2.5. Limit the Impact of Antiquated Subdivisions

POLICY 2.18. Construction of a dwelling on an antiquated subdivision parcel shall only be allowed when such development does not create a concentration of residential uses or conflict with agricultural uses of other property in the vicinity.

GOAL THREE. Protect the natural resources that sustain our agricultural industry.

OBJECTIVE 3.3. Soil Resources

POLICY 3.6. The County shall encourage the conservation of soil resources.

County Measure E

Stanislaus County voters passed Measure E in November 2007. Under Measure E, land that is designated as agricultural or open space in the Land Use Element cannot be amended to residential or rezoned to residential without the approval of a majority of county voters. Because Measure E amended the county general plan, it affects unincorporated lands that are under the county's jurisdiction. Under California law, a general plan amendment that is adopted by voter-approved initiative can be changed only by approval of another initiative.

Measure E is intended to direct residential growth into the incorporated cities, which are more capable of serving such growth, and limit the potential for residential growth to convert agricultural land within the unincorporated areas. Its immediate effect is to restrict future residential developments within the unincorporated county to those areas that are currently designated and zoned for residential development (e.g., Salida and Diablo Grande). Measure E will remain in effect until December 31, 2036, unless it is otherwise amended by a future voter initiative.

Existing Conditions

Stanislaus County is located at the northern end of the San Joaquin Valley. It is traversed from north to south by Interstate 5 and State Route 99, California's main freeways for connecting Northern and Southern California. The Bay Area is located within commuting distance to the west, Much of the pressure for converting agricultural land to urban use in Stanislaus County derives from the high cost of housing in the Bay Area.

Although the county's economy is diversifying, its economic base remains predominantly agricultural. Agricultural land constitutes approximately 85% of all land in the county (California Department of Conservation 2013b). Table 3.2.2 summarizes the various agricultural, urban, and other land uses in Stanislaus County in 2010 and 2012, as compiled by the Department of Conservation. These acreages are for Stanislaus County as a whole, including both incorporated and unincorporated areas.

Table 3.2.2. Stanislaus County Land Uses, in Acres

	Acreage Inventoried	
Land Use Category	2010	2012
Prime Farmland	253,434	251,723
Farmland of Statewide Importance	31,475	31,765
Unique Farmland	87,524	95,187
Farmland of Local Importance	31,366	31,331
Grazing Land	429,545	422,477
Ag Land Subtotal	833,344	832,453
Urban and Built-up Land	64,529	64,822
Other Land	64,830	65,428
Water Area	7,465	7,465
Total Land Inventoried	970,168	970,168

Source: California Department of Conservation 2013b.

The importance of agriculture to Stanislaus County is demonstrated in the value of its agricultural production. In 1993, local crops were valued at $1 billion. In 2012, the total value of Stanislaus County crops was estimated to be approximately $3.28 billion (California Department of Food and Agriculture 2014). The county's top-five farm products, in order of revenue, are almonds, milk, walnuts, cattle and calves, and chickens. In 2012, Stanislaus County ranked sixth in total agricultural revenue among California's 58 counties (California Department of Food and Agriculture 2014).

In large part, the important farmlands located within the county's unincorporated area are currently zoned for agricultural use. Those that are so zoned are protected from conversion to residential developments by the provisions of Measure E.

3.2.3 Impact Analysis

This section discusses the approach and methodology used to assess the impacts of the plan updates; discusses the individual impacts relative to the thresholds of significance; discusses mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for significant impacts; and indicates the overall significance of the impact with mitigation incorporated.

Major Sources Used in Analysis

The major sources used in this analysis are listed below:

- California Department of Conservation, Division of Land Resource Protection. *The California Land Conservation Act, 2012 Status Report*. October 2013.
- California Department of Conservation, Farmland Mapping and Monitoring Program. *Table A-41, Stanislaus County 2010–2012 Land Use Conversion.* October 2013.
- California Department of Conservation, Farmland Mapping and Monitoring Program. *Stanislaus County 2004–2012 Land Use Summary.*
- California Department of Food and Agriculture. *California Agricultural Statistics Review, 2013–2014, County Statistical Data*.

- Stanislaus County General Plan, Agricultural Element (including Appendix B, Agricultural Mitigation Policies).

Approach and Methodology

This analysis addresses the project's short- and long-term adverse impacts on the physical (i.e., natural and built) environment, assuming that the project will be built out. Existing conditions are the baseline against which the significance of the project's potential impacts on agricultural land are evaluated. Therefore, the reasonably foreseeable impacts of the plan updates are compared with the existing environment and not the provisions of the existing general plan and zoning ordinance. The FMMP's most recent available census of agricultural land use is 2012. That year is used as the baseline for this analysis.

Because the project does not propose any site-specific development activities, this analysis focuses on potential indirect impacts of future development that could occur as a result of the project.

Thresholds of Significance

Based on State CEQA Guidelines, Appendix G, the plan updates would have a significant impact with respect to agricultural resources if they would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use.
- Conflict with existing zoning for agricultural use or a Williamson Act contract.
- Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]).
- Result in the loss of forestland or conversion of forestland to non-forest use.
- Involve other changes in the existing environment that, because of their location or nature, could result in the conversion of farmland to non-agricultural use or the conversion of forestland to non-forest use.

Impacts and Mitigation Measures

Impact AGR-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use (less than significant)

The Stanislaus County General Plan update and the Airport Land Use Compatibility Plan (ALUCP) update are not typical development projects in that they would not result in a direct physical change in the environment. The uses that would be allowable under the general plan consistent with the updated objectives and policies that make up the project may indirectly affect the environment. As illustrated in Table 3.2-2, a small amount of agricultural land is converted countywide each year as a result of suburbanization or land being removed from production. The project does not propose any changes to the county general plan's land use map or general plan amendments that would result in additional conversions of agricultural lands, nor are any changes proposed to the ALUCP that would preclude agricultural uses. The project includes changes to reflect current legislation, regulatory

codes (including Caltrans' *Airport Land Use Planning Handbook*), and local standards as well as some minor revisions to general plan language and policy improvements.

The project proposes several changes to the language in the Land Use Element of the general plan that would be protective of agricultural lands.

GOAL ONE. Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.

POLICY SIX. Preserve and encourage upgrading of existing unincorporated urban communities.

IMPLEMENTATION MEASURES

3. Land within the sphere of influence of a community services district, sanitary district or domestic water district shall be rezoned for development only if ~~the US (Urban Service) combining district is used~~ capacity for connecting to available public services exists and any resulting projects are conditioned to require connection to available services.

5. The County shall support and assist unincorporated urban communities in their efforts to establish "self-help" programs (such as assessment financing districts) necessary to upgrade their communities.

References to Urban Services zoning districts would be eliminated; instead, references to Urban Services zoning districts would provide that land within the sphere of influence of a community services district, sanitary district, or domestic water district would be rezoned for development only if capacity for connecting to available public services exist. New policy language would be added that would require, when feasible, new development to be designed and built to allow for the upgrading or expansion of services necessary to upgrade existing unincorporated urban communities. This will limit the premature conversion of agricultural land in advance of the availability of urban services.

GOAL ONE. Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.

POLICY SEVEN. Riparian habitat along the rivers and natural waterways of Stanislaus County shall to the extent possible be protected.

IMPLEMENTATION MEASURE

1. All requests for development which require discretionary approval and include lands adjacent to or within riparian habitat shall include measures for protecting that habitat to the extent that such protection does not pose threats to proposed site uses, such as airports.

This added language emphasizes that all requests for development that require discretionary approval and include lands adjacent to or within riparian habitat would include measures for protecting that habitat to the extent that such protection does not pose threats to proposed site uses, such as airports. This will protect lands on the boundaries of agricultural areas.

Updates to general plan land use language would not result in the conversion of existing farmland.

GOAL THREE. Foster stable economic growth through appropriate land use policies.

POLICY TWENTY-TWO. Support and facilitate efforts to develop and promote economic development and job creation centers throughout the County.

IMPLEMENTATION MEASURE

1. While supporting efforts to direct economic development and job creation centers towards incorporated areas, the County shall also consider approval of centers in unincorporated areas of unique character and proximity to transportation infrastructure.

This policy and measure supports economic development and job creation by directing economic development and job creation centers toward incorporated areas. If centers are not approved in the incorporated areas, the county would also consider approving centers in unincorporated areas of unique character with proximity to transportation infrastructure.

Additionally, several policies and implementation measures in the Land Use Element regarding development within public water districts and/or wastewater districts would be adopted. Several policies about complementing the general plans of cities within the county would also be included in the Land Use Element as well as a policy that would address county support for a growth management strategy that is equitable to the needs of the county and all nine cities. Similarly, the general policy statement regarding "community plans" would be amended to specify that any requests for rezoning within a community plan area must be consistent with the proposed use category on the community plan and processed as a general plan amendment. This goal and associated policy and implementation measure direct new development to those areas with available services and away from productive farmland.

GOAL SIX. Promote and protect healthy living environments.

POLICY TWENTY-NINE. Support the development of a built environment that is responsive to decreasing air and water pollution, reducing the consumption of natural resources and energy, increasing the reliability of local water supplies, and reduces vehicle miles traveled by facilitating alternative modes of transportation, and promoting active living (integration of physical activities, such as biking and walking, into everyday routines) opportunities.

POLICY THIRTY-ONE. The County shall support efforts to improve local health care options through the siting of new facilities in locations with the infrastructure (including, but not limited to, transportation and utility) to support both facility and client needs.

As above, this policy will limit the potential for urban uses, such as health care facilities, to convert agricultural land in advance of the availability of urban services.

Finally, the "commercial" general plan designation would be amended to allow residential development in limited situations or when connected to both public sewer and water service.

These Land Use Element changes are all consistent with and supportive of the Stanislaus County General Plan's Agricultural Element and the other existing policies to protect and preserve farmland within the county.

GOAL TWO. Conserve our agricultural lands for agricultural uses.

OBJECTIVE 2.2. Discourage urbanization and the conversion of agricultural land in unincorporated areas of the County.

POLICY 2.5. To the greatest extent possible, development shall be directed away from the County's most productive agricultural areas.

IMPLEMENTATION MEASURE

3. The County shall encourage the development of alternative energy sources on lands located outside "Most Productive Agricultural Areas".

Alternative energy sources may include solar energy or wind energy collectors installed on a commercial scale. This could result in the conversion of farmland to non-agricultural uses, but only farmland that is not "most productive." No such limitation exists in the current General Plan.

Existing Implementation Measure 1 under Objective 2.2, Policy 2.5 states:

> Until the term "Most Productive Agricultural Areas" is defined on a countywide basis, the term will be determined on a case-by-case basis when a proposal is made for the conversion of agricultural land. Factors to be considered include but are not limited to soil types and potential for agricultural production; the availability of irrigation water; ownership and parcelization patterns; uniqueness and flexibility of use; the existence of Williamson Act contracts; existing uses and their contributions to the agricultural sector of the local economy. As an example, some grazing lands, dairy regions and poultry-producing areas as well as farmlands can be considered "Most Productive Agricultural Areas." Failure to farm specific parcels will not eliminate them from being considered "Most Productive Agricultural Areas." Areas considered to be "Most Productive Agricultural Areas" will not include any land within LAFCO-approved Spheres of Influence of cities or community services districts and sanitary districts serving unincorporated communities.

Proposed Implementation Measure 3, taken together with Implementation Measure 1, will ensure that alternative energy development does not occur on the county's most productive agricultural land. Therefore, this would not have a significant impact on agriculture.

GOAL THREE. Protect the natural resources that sustain our agricultural industry.

OBJECTIVE 3.2. Water Resources.

POLICY 3.4. The County shall encourage the conservation of water for both agricultural, rural domestic, and urban uses.

IMPLEMENTATION MEASURE

5. The County shall encourage the development and use of appropriately treated water (reclaimed wastewater and stormwater) for both agricultural and urban irrigation.

This measure would not have an impact on agriculture.

POLICY 3.6. The County will continue to protect local groundwater for agricultural, rural domestic, and urban use in Stanislaus County.

IMPLEMENTATION MEASURE

1. The County shall implement the existing groundwater ordinance to ensure the sustainable supply and quality of local groundwater.

This policy and measure would help retain viable agricultural uses by protecting groundwater resources. It would not have an impact on agriculture.

The proposed ALUCP update for Modesto City/County Airport and Oakdale Municipal Airport has been coordinated with the general plan update. The proposed changes to the ALUCP for Modesto City/County Airport include updating noise contours for a smaller area, updating the size and configuration of safety zones based on changes in airport operations and new guidance, and including overflight policies for the first time. Similar changes are proposed for Oakdale Municipal Airport. Changes to the ALUCP pertaining to Oakdale Municipal Airport include defining noise contours for the first time, including new safety zones to reflect California Department of Transportation (Caltrans) guidance, and including overflight policies. The ALUCP would establish an expanded Airport Influence Area (AIA) adjacent to Modesto City/County Airport that would expand

its influence and therefore affect more homes than the current ALUCP does. However, the proposed changes would be unlikely to result in the conversion of existing farmland, given that the changes to the AIA would not affect existing development, only future development, by limiting how close to the airport the development occurs. All other changes are policy changes that would not affect existing farmland and therefore would have a less-than-significant impact regarding the conversion of existing farmland within the county.

The general plan update does not propose new zoning or changes to the land use map or the existing boundaries of the land use designations. Additionally, the ALUCP proposes changes to policies that would not affect current land use patterns. Furthermore, any development projects proposed in agricultural areas of the county would continue to be reviewed for consistency, thereby ensuring that they would not lead to the conversion of land from agricultural use to residential, commercial, or other uses that would be inconsistent with existing agricultural production. This review includes abiding by county Measure E, which requires a majority of voters to approve the rezoning or redesignation of land uses from agricultural to residential. Therefore, the project would have a less-than-significant impact, and no mitigation is required.

The impact would be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact AGR-2: Conflict with existing zoning for agricultural use or a Williamson Act contract (less than significant)

The proposed updates to the general plan and the ALUCP would not change the land use designation or zoning of land that is currently zoned for agricultural use, nor would the updates directly affect land that is under an existing Williamson Act contract. The proposed updates would not conflict with the existing policies and procedures in the Stanislaus County General Plan's Agricultural Element, the county's Williamson Act program, or Stanislaus County LAFCO's agriculture preservation policy. Preserving existing agricultural land is still an important goal of the county. These plan updates would not conflict with existing policies to protect agricultural land.

The impact would be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact AGR-3: Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]) (less than significant)

Stanislaus County does not include lands zoned for forestland or timberland; therefore, no impacts on these resources would occur.

Significance without Mitigation: Less than significant (no mitigation required)

Impact AGR-4: Result in the loss of forestland or conversion of forestland to non-forest use (less than significant)

Stanislaus County does not include forestland; therefore, the proposed plan updates would not result in the loss of forestland or conversion of forestland to non-forest use.

Significance without Mitigation: Less than significant (no mitigation required)

Impact AGR-5: Involve other changes in the existing environment that, because of their location or nature, could result in the conversion of farmland to non-agricultural use or the conversion of forestland to non-forest use (less than significant)

The proposed update to the county's general plan and the ALUCP do not include any additional changes that, because of their location or nature, could result in the conversion of farmland to non-agricultural use or the conversion of forestland to non-forest use. None of the general plan policy amendments are site specific. The county does not include forestlands, and as general plan implementation occurs, the project would not propose general plan amendments that would result in additional conversions of agricultural lands. The general plan is not a development project in itself but, rather, a policy document that will guide development in the county in the years ahead. None of the policies or updates to the general plan or the ALUCP would conflict with state and local policies that are in place to preserve the county's existing farmland. These policies, namely the Stanislaus County General Plan's Agricultural Element and the Williamson Act program, are in place to help preserve existing farmland. Stanislaus County LAFCO's agricultural preservation policy and county Measure E both have been put in place to protect the county's agricultural land from the pressures of residential development due to the county's commuting proximity to the San Francisco Bay Area. The proposed plan updates are supportive of, and do not conflict with, these policies. Therefore, impacts would be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

3.2.4 References Cited

Printed References

California Department of Conservation. 2013a. *Table A-41, Stanislaus County 2010–2012 Land Use Conversion.* Farmland Mapping and Monitoring Program. October.

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Stanislaus County. 2007. *Agricultural Element of the Stanislaus County General Plan*.

3.3 Air Quality

3.3.1 Introduction

This chapter discusses the impacts of the plan updates with respect to air quality. It lists the thresholds of significance that form the basis of the environmental analysis, describes the air quality study area and major sources used in the analysis, provides environmental setting information that is relevant to air quality, and assesses whether the plan updates would result significant impacts with respect to air quality.

Study Area

The study area for air quality is the San Joaquin Valley Air Basin (SJVAB).

3.3.2 Environmental Setting

This section describes the federal, state, regional, and local regulations and policies that are applicable to the plan updates, and the existing conditions pertaining to air quality in the study area. The existing conditions constitute the baseline for this environmental analysis. It begins with a review of air pollutants and related air quality issues.

Criteria Pollutants

The federal and state governments have established national ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS), respectively, for six criteria pollutants: ozone, carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and particulate matter (PM), which consists of PM 10 microns in diameter or less (PM10) and PM 2.5 microns in diameter or less (PM2.5). The following section discusses the criteria pollutants, as well as additional air pollutants of concern, toxic air contaminants, and asbestos.

Ozone and NO_2 are considered regional pollutants because they (or their precursors[1]) affect air quality on a regional scale. NO_2 reacts photochemically[2] with reactive organic gases (ROGs) to form ozone, and this reaction occurs at some distance downwind of the source of pollutants. Pollutants such as CO, SO_2, and Pb are considered to be local pollutants that tend to accumulate in the air locally. Particulate matter is considered to be both a local and a regional pollutant.

The primary pollutants of concern in the study area are ozone (including nitrogen oxides), CO, and particulate matter. Principal characteristics surrounding these pollutants are discussed below. Toxic air contaminants (TACs) are also discussed, although no air quality standards exist for these pollutants.

[1] A "precursor" is an air pollutant that combines with others to form ozone.

[2] A photochemical reaction occurs in the presence of light and heat.

Ozone

Ozone is a respiratory irritant that can cause severe ear, nose, and throat irritation and increases susceptibility to respiratory infections. It is also an oxidant that causes extensive damage to plants through leaf discoloration and cell damage. It can cause substantial damage to other materials as well, such as synthetic rubber and textiles.

Ozone is not emitted directly into the air but is formed by a photochemical reaction in the atmosphere. Ozone precursors—ROG and nitrogen oxides (NO_X)—react in the atmosphere in the presence of sunlight to form ozone. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summer air pollution problem. The ozone precursors, ROG and NO_X, are mainly emitted by mobile sources and by stationary combustion equipment.

Hydrocarbons are organic gases that are made up of hydrogen and carbon atoms. There are several subsets of hydrocarbons, including ROGs and volatile organic compounds (VOCs). ROGs are defined by state rules and regulations; VOCs are defined by federal rules and regulations. For the purposes of this assessment, hydrocarbons are classified and referred to as ROGs. Both ROGs and VOCs are emitted during the incomplete combustion of hydrocarbons or other carbon-based fuels, or as a product of chemical processes. The major sources of hydrocarbons are combustion engine exhaust, oil refineries, and oil-fueled power plants; other common sources are petroleum fuels, solvents, dry-cleaning solutions, and paint (through evaporation).

The health effects of hydrocarbons result from the formation of ozone. High levels of hydrocarbons in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen though displacement. Carcinogenic forms of hydrocarbons are considered TACs. There are no separate health standards for ROGs, although some are also toxic; an example is benzene, which is both a ROG and a carcinogen.

Nitrogen Oxides

Nitrogen oxides are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone and react in the atmosphere to form acid rain. Nitrogen dioxide (NO_2) is a brownish, highly reactive gas that is present in all urban environments. The major human sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitrous oxide (NO), which reacts through oxidation in the atmosphere to form NO_2 (U.S. Environmental Protection Agency 2012a). The combined emissions of NO and NO_2 are referred to as NO_X and reported as equivalent NO_2. Because NO_2 is formed and depleted by reactions associated with ozone, the NO_2 concentration in a particular geographical area may not be representative of local NO_X emission sources.

Inhalation is the most common route of exposure to NO_2. Because NO_2 has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects primarily depends on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, such as coughing, difficulty breathing, vomiting, headache, and eye irritation during or shortly after exposure. After a period of approximately 4–12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat. Severe symptomatic NO_2 intoxication after acute exposure has been linked to prolonged respiratory

impairment, with such symptoms as chronic bronchitis and decreased lung function (U.S. Environmental Protection Agency 2012a).

Carbon Monoxide

CO has little effect on plants and materials, but it can have significant effects on human health. CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream. Effects range from slight headaches to nausea to death.

Motor vehicles are the primary source of CO emissions in most areas. In Stanislaus County, high CO levels are of greatest concern during the winter, when periods of light winds combine with the formation of ground-level temperature inversions from evening through early morning. These conditions trap pollutants near the ground, reducing the dispersion of vehicle emissions. Moreover, motor vehicles exhibit increased CO emission rates at low air temperatures. Dramatic reductions in CO levels across California have been witnessed during the past several decades, including a 50% decrease in statewide peak CO levels between 1980 and 2004. These reductions are primarily a result of California Air Resources Board (ARB) requirements for cleaner vehicles, equipment, and fuels (California Air Resources Board 2004:1).

Particulate Matter

Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter also forms when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. Particulate matter less than 10 microns in diameter, about $1/7^{th}$ the thickness of a human hair, is referred to as PM10. Particulate matter that is 2.5 microns or less in diameter, roughly $1/28^{th}$ the diameter of a human hair, is referred to as PM2.5. Major sources of PM10 include motor vehicles; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. PM2.5 results from fuel combustion (from motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, PM10 and PM2.5 can be formed in the atmosphere from gases such as SO_2, NO_X, and VOCs.

PM10 and PM2.5 pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM10 and PM2.5 can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, sulfates, and nitrates, can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage elsewhere in the body; they can also transport absorbed gases such as chlorides or ammonium into the lungs and cause injury. Whereas particles 2.5 to 10 microns in diameter tend to collect in the upper portion of the respiratory system, particles 2.5 microns or less are so tiny that they can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, and contribute to haze and reduce regional visibility.

Toxic Air Contaminants

TACs are pollutants that may result in an increase in mortality or serious illness or that may pose a present or potential hazard to human health. ARB identifies particulate matter from diesel-fueled engines (DPM) as a TAC. Compared to other air toxics ARB has identified, DPM emissions are

estimated to be responsible for about 70% of the total ambient air toxics risk (California Air Resources Board 2000:1).

Naturally Occurring Asbestos (NOA)

Asbestos is the name given to a number of naturally occurring fibrous silicate minerals. It has been mined for applications requiring thermal insulation, chemical and thermal stability, and high tensile strength. In addition to finding asbestos in older buildings, it is also found in its natural state (NOA).

Exposing or disturbing rock and soil that contains NOA can result in the release of fibers to the air and, consequently, public exposure. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (or serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, termolite, can be found associated with ultramafic rock, particularly near geologic faults. Bands of NOA, trending in a north-south direction, have been identified in the foothills in the western portion Stanislaus County (California Department of Conservation 2000). Sources of asbestos emissions include unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying facilities where ultramafic rock is present.

Exposure and disturbance of rock and soil that contain asbestos can result in the release of fibers to the air and consequent exposure to the public. Asbestos can result in a human health hazard when airborne. The inhalation of asbestos fibers into the lungs can result in a variety of adverse health effects, including inflammation of the lungs, respiratory ailments (e.g., asbestosis, which is scarring of lung tissue that results in constricted breathing), and cancer (e.g., lung cancer and mesothelioma, which is cancer of the linings of the lungs and abdomen).

Valley Fever

Valley Fever is not an air pollutant, but is a disease caused by inhaling *Coccidioides immitis* (*C. immitis*) fungus spores. The spores are found in certain types of soil and become airborne when the soil is disturbed. After the fungal spores have settled in the lungs, they change into a multicellular structure called a spherule. Valley Fever symptoms generally occur within 2 to 3 weeks of exposure. Approximately 60% of Valley Fever cases are mild and display flu-like symptoms or no symptoms at all. Of those who are exposed and seek medical treatment, the most common symptoms are fatigue, cough, chest pain, fever, rash, headache, and joint aches. *C. immitis* is endemic to the Central Valley (U.S. Geological Survey 2000).

Regulatory Setting

This section summarizes federal, state, and local regulations that apply to air quality and greenhouse gas emissions (GHGs). The agencies of direct importance in the County are the U.S. Environmental Protection Agency (EPA), the ARB, and the San Joaquin Valley Air Pollution Control District (SJVAPCD). EPA has established federal air quality standards for which ARB and SJVAPCD have primary implementation responsibility. ARB and SJVAPCD are also responsible for ensuring that state air quality standards are met. It begins with a review of air pollutants and related air quality issues.

Federal

Clean Air Act and National Ambient Air Quality Standards

The federal Clean Air Act (CAA), promulgated in 1963 and amended several times thereafter, including the 1990 Clean Air Act amendments (CAAA), establishes the framework for modern air pollution control. The act directs EPA to establish NAAQS for the six criteria pollutants (discussed under the Environmental Setting section). The NAAQS are divided into primary and secondary standards; the former are set to protect human health within an adequate margin of safety, and the latter to protect environmental values, such as plant and animal life. Table 3.3-1 summarizes the NAAQS.

The CAA requires states to submit a state implementation plan (SIP) for areas in nonattainment for federal standards. The SIP, which is reviewed and approved by EPA, must demonstrate how the federal standards would be achieved. Failing to submit a plan or secure approval can lead to denial of federal funding and permits. In cases where the SIP is submitted by the state but fails to demonstrate achievement of the standards, EPA is directed to prepare a federal implementation plan.

State

California Clean Air Act and California Ambient Air Quality Standards

In 1988, the state legislature adopted the California Clean Air Act (CCAA), which established a statewide air pollution control program. CCAA requires all air districts in the state to endeavor to meet the CAAQS by the earliest practical date. Unlike the federal CAA, the CCAA does not set precise attainment deadlines. Instead, the CCAA establishes increasingly stringent requirements for areas that will require more time to achieve the standards. CAAQS are generally more stringent than the NAAQS and incorporate additional standards for sulfates (SO_4), hydrogen sulfide (H_2S), vinyl chloride (C_2H_3Cl), and visibility-reducing particles. The CAAQS and NAAQS are listed together in Table 3.3-1.

ARB and local air districts bear responsibility for achieving California's air quality standards, which are to be achieved through district-level air quality management plans that would be incorporated into the SIP. In California, EPA has delegated authority to prepare SIPs to ARB, which, in turn, has delegated that authority to individual air districts. ARB traditionally has established state air quality standards, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and approving SIPs.

The CCAA substantially adds to the authority and responsibilities of air districts. The CCAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The CCAA also emphasizes the control of "indirect and area-wide sources" of air pollutant emissions. The CCAA gives local air pollution control districts explicit authority to regulate indirect sources of air pollution and to establish traffic control measures (TCMs).

Table 3.3-1. National and State Ambient Air Quality Standards

			Standard (ppm)		Standard (µg/m³)		Violation Criteria	
Pollutant	Symbol	Average Time	California	National	California	National	California	National
Ozone*	O_3	1 hour	0.09	–	180	–	If exceeded	–
		8 hours	0.070	0.075	137	147	If exceeded	If fourth-highest 8-hour concentration in a year, averaged over 3 years, is exceeded at each monitor in an area
Carbon monoxide	CO	8 hours	9.0	9	10,000	10,000	If exceeded	If exceeded on more than 1 day per year
		1 hour	20	35	23,000	40,000	If exceeded	If exceeded on more than 1 day per year
(Lake Tahoe only)		8 hours	6	–	7,000	–	If equaled or exceeded	–
Nitrogen dioxide	NO_2	Annual arithmetic mean	0.030	0.053	57	100	If exceeded	If exceeded on more than 1 day per year
		1 hour	0.18	0.100	339	188	If exceeded	–
Sulfur dioxide	SO_2	24 hours	0.04	0.14	105	365	If exceeded	–
		1 hour	0.25	0.075	655	196	If exceeded	If exceeded on more than 1 day per year
		3 hours	–	0.50*	–	1,300*	–	–
		Annual arithmetic mean	–	0.030	–	80	–	If exceeded on more than 1 day per year
Hydrogen sulfide	H_2S	1 hour	0.03	–	42	–	If equaled or exceeded	–
Vinyl chloride	C_2H_3Cl	24 hours	0.01	–	26	–	If equaled or exceeded	–
Inhalable particulate matter	PM10	Annual arithmetic mean	–	–	20	–	–	–
		24 hours	–	–	50	150	If exceeded	If exceeded on more than 1 day per year
	PM2.5	Annual arithmetic mean	–		12	12.0	–	If 3-year average from single or multiple community-oriented monitors is exceeded
		24 hours	–	–	–	35	–	If 3-year average of 98th percentile at each population-oriented monitor in an area is exceeded
Sulfate particles	SO_4	24 hours	–	–	25	–	If equaled or exceeded	–
Lead particles	Pb	Calendar quarter	–	–	–	1.5	–	If exceeded no more than 1 day per year
		30-day average	–	–	1.5	–	If equaled or exceeded	–
		Rolling 3-month average	–	–	–	0.15	If equaled or exceeded	Averaged over a rolling 3-month period

Source: California Air Resources Board 2013a.
* = secondary standard.
ppm = parts per million.
µg/m³ = micrograms per cubic meter.

Toxic Air Contaminant Regulation

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). In the early 1980s, ARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Toxic Air Contaminant Identification and Control Act (AB 1807) created California's program to reduce exposure to air toxics. AB 2588 supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks.

In August 1998, ARB identified particulate emissions from diesel-fueled engines as TACs. In September 2000, ARB approved a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel-fueled engines and vehicles (California Air Resources Board 2000). The goal of the plan is to reduce diesel PM10 (respirable particulate matter) emissions and the associated health risk by 75% by 2010 and by 85% by 2020. The plan identifies 14 measures that target new and existing on-road vehicles (e.g., heavy-duty trucks and buses), off-road equipment (e.g., graders, tractors, forklifts, sweepers, and boats), portable equipment (e.g., pumps), and stationary engines (e.g., stand-by power generators). ARB will implement the plan over the next several years. The Tanner Act sets forth a formal procedure for ARB to designate substances as TACs. This includes research, public participation, and scientific peer review before ARB designates a substance as a TAC. To date, ARB has identified 21 TACs, and has also adopted EPA's list of Hazardous Air Pollutants (HAPs) as TACs. In August 1998, diesel particulate matter (DPM) was added to the ARB list of TACs (California Air Resources Board 1998).

AB 2588 requires that existing facilities that emit toxic substances above specified levels take the following actions.

- Prepare a toxic emissions inventory.
- Prepare a risk assessment if emissions are significant (i.e., 10 tons per year or on District's Health Risk Assessment [HRA] list).
- Notify the public of significant risk levels.
- Prepare and implement risk reduction measures.

ARB has adopted several regulations that will reduce diesel emissions from in-use vehicles and engines throughout California. For example, ARB adopted an idling regulation for on-road diesel-fueled commercial vehicles in July 2004 and updated it in October 2005. The regulation applies to public and privately owned trucks with a Gross Weight Rating (GWR) greater than 10,000 pounds. Vehicles subject to the regulation are prohibited from idling for more than 5 minutes in any one location. ARB also adopted a regulation for operating diesel-powered construction and mining vehicles. Fleet owners are subject to retrofit or accelerated replacement/repower requirements for which ARB must obtain authorization from EPA prior to enforcement. The regulation also imposes a 5-minute idling limitation on owners, operators, and renters or lessees of off-road diesel vehicles. In some cases, the particulate matter reduction strategies also reduce smog-forming emissions such as NO_X. As an ongoing process, ARB reviews air contaminants and identifies those that are classified as TACs. ARB also continues to establish new programs and regulations for the control of TACs, including DPMs, as appropriate.

Local

San Joaquin Valley Air Pollution Control District

The SJVAPCD has local air quality jurisdiction in Stanislaus County. Primary responsibilities of the air district include overseeing stationary-source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality-related sections of environmental documents required by CEQA. SJVAPCD is also responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws and for ensuring that NAAQS and CAAQS are met. The air district's 2015 *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI) provides lead agencies, consultants, and project applicants with uniform procedures for analyzing construction- and operational-related pollutant emissions from new development (San Joaquin Valley Air Pollution Control District 2015).[3]

Air Quality Management Plans

The SJVAPCD has adopted several attainment plans in an attempt to achieve state and federal air quality standards. The air district must continuously monitor its progress in implementing attainment plans and must periodically report to the ARB and the EPA. It must also periodically revise its attainment plans to reflect new conditions and requirements in accordance with schedules mandated by the CCAA and CAAA.

The 2004 Extreme Ozone Attainment Demonstration Plan for 1-hour Ozone was adopted on October 8, 2004, submitted to EPA on November 15, 2004, and the Clarifications for the 2004 Extreme Ozone Attainment Demonstration Plan for 1-hour Ozone was adopted on August 21, 2008. The EPA proposed approval and partial disapproval of the 2004 Extreme Ozone Attainment Demonstration Plan for 1-hour Ozone on June 30, 2009. In September 2013, the SJVAPCD adopted the 2013 plan for the Revoked 1-hour Ozone standard. The EPA approval of the 2013 Ozone plan is forthcoming. The 2007 Ozone Plan for 8-hour ozone was adopted on April 30, 2007, and the Amendment to the 2007 Ozone Plan to Extend the Rule Adoption Schedule for Organic Waste Operations was adopted on December 18, 2008. A future 8-hour ozone plan is anticipated to be due for submittal to the EPA in 2015 or 2016.

The 2007 PM10 Maintenance Plan and Request for Redesignation was approved by ARB on October 25, 2007, and there are no new PM10 Plans under development. The 2013 PM2.5 Plan was adopted on December 20, 2013. This plan addresses EPA's 24-hour PM2.5 standard of 35 μg/m,^{3} which was established by EPA in 2006.

ARB last updated the CO Attainment Plan in 2004, and no future updates are planned unless violations of the NAAQS or CAAQS for CO occur.

Regulation VIII

The SJVAPCD considers PM10 to be the primary pollutant of concern from construction activities. It also considers compliance with its Regulation VIII "Fugitive PM10 Prohibitions," including implementation of all feasible control measures specified in its 2015 guide (San Joaquin Valley Air

[3] The SJVAPCD issued an update to their GAMAQI in July 2014. However, this update is considered draft and has not been approved by the SJVAPCD's Governing Board. Consequently, the current GAMAQI, which was adopted on January 10, 2002, is utilized in this analysis.

Pollution Control District 2015), to be sufficient mitigation to minimize adverse air quality effects from construction and reduce PM10 emissions to less-than-significant levels. All construction projects must abide by Regulation VIII. Typical measures that might be included in a dust control plan based on Regulation VIII could include, but are not limited to:

- Pre-activity.
    - Pre-water the work site and phase work to reduce the amount of disturbed surface area at any one time.
- Active operations.
    - Apply water to dry areas during leveling, grading, trenching, and earthmoving activities.
    - Construct and maintain wind barriers and apply water or dust suppressants to the disturbed surface areas.
- Inactive operations, including after work hours, weekends, and holidays.
    - Apply water or dust suppressants on disturbed surface areas to form a visible crust, and restrict vehicle access to maintain the visible crust.
- Temporary stabilization of areas that remain unused for 7 or more days.
    - Restrict vehicular access and apply and maintain water or dust suppressants on all un-vegetated areas.
    - Establish vegetation on all previously disturbed areas.
    - Apply and maintain gravel at all previously disturbed areas.
    - Pave previously disturbed areas.
- Unpaved access and haul roads, traffic and equipment storage areas.
    - Apply water or dust suppressants to unpaved haul and access roads.
    - Post a speed limit of not more than 15 miles per hour, using signs at each entrance and again every 500 feet.
    - Apply water or dust suppressants to vehicle traffic and equipment storage areas.
- Wind events.
    - Water application equipment will be used to apply water to control fugitive dust during wind events, unless unsafe to do so.
    - Outdoor construction activities that disturb the soil will cease whenever visible dust emissions cannot be effectively controlled.
- Outdoor handling of bulk materials.
    - Water or dust suppressants will be applied when handling bulk materials.
    - Wind barriers with less than 50% porosity will be installed and maintained, and water or dust suppressants will be applied.

- Outdoor storage of bulk materials.
    - Water or dust suppressants will be applied to storage piles.
    - Storage piles will be covered with tarps, plastic, or other suitable material and anchored in a manner that prevents the cover from being removed by wind action.
    - Wind barriers with less than 50% porosity will be installed and maintained around the storage piles, and water or dust suppressants will be applied.
    - A three-sided structure with less than 50% porosity that is at least as high as the storage piles will be used.
- Onsite transporting of bulk materials.
    - Vehicle speed will be limited on the work site.
    - All haul trucks will be loaded such that the freeboard is not less than 6 inches when transported across any paved public access road.
    - A sufficient amount of water will be applied to the top of the load to limit visible dust emissions.
    - Haul trucks will be covered with a tarp or other suitable cover.
- Offsite transporting of bulk materials.
    - The following practices will be followed:
        - The interior of emptied truck cargo compartments will be cleaned or covered before leaving the site.
        - Spillage or loss of bulk materials from holes or other openings in the cargo compartment's floor, sides, and tailgates will be prevented.
- Outdoor transport using a chute or conveyor.
    - No open chutes or conveyors will be used.
    - Chutes or conveyors will be fully enclosed.
    - Water spray equipment will be used to sufficiently wet the materials.
    - Transported materials will be washed or screened to remove fines (PM10 or smaller)

Indirect Source Review

Rule 9510, *Indirect Source Review*, fulfills the SJVAPCD's emission reduction commitments in the PM10 and Ozone Attainment Plans through emission reductions from required design features and onsite measures for the construction and use of development projects. Rule 9510 does not apply to the General Plan Update and ALUCP. The following discussion explains how it reduces emissions from individual development projects.

Rule 9510 requires emission reductions associated with construction and operational activities for projects subject to the rule. For construction emissions, Rule 9510 requires a 20% reduction of total NO_X emissions and a 45% reduction of the total PM10 exhaust emissions. For operational emissions, Rule 9510 requires 33.3% of the project's operational baseline NO_X and 50% of the project's operational baseline PM10 emissions be reduced over a period of 10 years. Transportation or transit projects exceeding 2.0 tons of construction-related NO_X or PM10 emissions are required to

reduce NO_X emissions by 20% and PM10 exhaust emissions by 45%, compared to the statewide fleet average. Operational emissions associated with transportation and transit projects are not subject to Rule 9510. If the required emissions reductions are not achieved through traditional means, projects may purchase offsets on a per ton basis from the SJVAPCD through Rule 9510's offsite emission reduction fee program to comply with the requirements of Rule 9510. Rule 9510 applies to any applicant that seeks to gain a final discretionary approval for a development project, or any portion thereof, which upon full buildout will include any one of the following:

- 50 residential units
- 2,000 square feet of commercial space
- 25,000 square feet of light industrial space
- 100,000 square feet of heavy industrial space
- 20,000 square feet of medical office space
- 39,000 square feet of general office space
- 9,000 square feet of educational space
- 10,000 square feet of government space
- 20,000 square feet of recreational space
- 9,000 square feet of space not identified above.

Compliance with Rule 9510 is separate from the CEQA process, although the control measures used to comply with Rule 9510 may be used to mitigate CEQA impacts.

Voluntary Emissions Reduction Agreement

The GAMAQI describes the SJVAPCD's Voluntary Emissions Reduction Agreement or VERA approach to mitigating air quality impacts when project design elements, mitigation measures, and compliance with SJVAPCD regulations are not enough to reduce impacts to a less than significant level. As explained there: "[a] VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation for air emissions through a process that funds and implements emissions reduction projects." A VERA is a contractual agreement with the SJVAPCD through which the project proponent commits to mitigating project-specific emissions by providing funds to the SJVAPCD that will be used for specific emissions reduction projects.

Review Under CEQA

Stanislaus County routinely consults with the SJVAPCD during the CEQA reviews of development projects. The SJVAPCD comments on the given project's potential to adversely affect air quality and recommends compliance with SJVAPCD rules/regulations and other means of reducing impacts. The County incorporates the SJVAPCD's recommended best practices into the conditions of approval required of the project. These include use of construction-related equipment powered by engines compliant with Tier II emissions standards, at minimum, and limitations on hours of activity (San Joaquin Valley Air Pollution Control District 2015).

Stanislaus County

General Plan Conservation/Open Space Element

The existing Conservation/Open Space Element includes the following goal and policies related to air quality. Each of these policies also includes implementation measures.

GOAL SIX. Improve Air Quality

POLICY EIGHTEEN. The County will promote effective communication, cooperation and coordination among agencies involved in developing and operating local and regional air quality programs.

POLICY NINETEEN. The County will strive to accurately determine and fairly mitigate the local and regional air quality impacts of proposed projects.

POLICY TWENTY. The County shall strive to reduce motor vehicle emissions by reducing vehicle trips and vehicle miles traveled and increasing average vehicle ridership.

POLICY TWENTY-ONE. The County will support efforts to increase public awareness of air quality problems and solutions.

Existing Conditions

Climate and Atmospheric Conditions

Stanislaus County is located in the northern part of the SJVAB. The SJVAB, which is approximately 250 miles long and averages 35 miles wide, is the second largest air basin in the state. The SJVAB is defined by the Sierra Nevada mountains in the east (8,000 to 14,000 feet in elevation), the Coast Ranges in the west (averaging 3,000 feet in elevation), and the Tehachapi mountains in the south (6,000 to 8,000 feet in elevation). The valley is basically flat with a slight downward gradient to the northwest. The valley opens to the sea at the Carquinez Straits where the San Joaquin–Sacramento Delta empties into San Francisco Bay. The San Joaquin Valley (SJV) thus could be considered a "bowl" open only to the north.

The SJVAB has an inland Mediterranean climate averaging over 260 sunny days per year. The valley floor experiences warm, dry summers and cool, wet winters. Summer high temperatures often exceed 100° F, averaging in the low 90s in the northern valley and high 90s in the south. In the entire SJVAB, high daily temperature readings in summer average 95° F. Over the last 30 years, the SJVAB averaged 106 days per year 90° F or hotter, and 40 days per year 100° F or hotter. The daily summer temperature variation can be as much as 30° F.

In winter, as the cyclonic storm track moves southward, the storm systems moving in from the Pacific Ocean bring a maritime influence to the SJVAB. The high mountains to the east prevent the cold, continental air masses of the interior from influencing the valley. Winters are mild and humid. Temperatures below freezing are unusual. Average high temperatures in the winter are in the 50s, but highs in the 30s and 40s can occur on days with persistent fog and low cloudiness. The average daily low temperature is 45° F.

Although marine air generally flows into the basin from the San Joaquin River Delta, the region's topographic features restrict air movement through and out of the basin. The Coastal Range hinders wind access into the SJVAB from the west, the Tehachapi Mountains prevent southerly passage of air flow, and the high Sierra Nevada range is a significant barrier to the east. These topographic features result in weak air flow which becomes blocked vertically by high barometric pressure over the

SJVAB. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Most of the surrounding mountains are above the normal height of summer inversion layers (1,500–3,000 feet).

The existing air quality conditions in Stanislaus County can be characterized by monitoring data collected in the region. Table 3.3-2 summarizes data for criteria air pollutant levels from monitoring stations in the county for the last 3 years for which complete data are available (2011–2013). Air quality concentrations are expressed in terms of parts per million (ppm) or micrograms per cubic meter (μg/m^3). As shown in Table 3.3-2, the monitoring stations have experienced violations of the NAAQS and CAAQS for all pollutants except CO and NO_2.

Table 3.3-2. Recent Criteria Air Pollutant Levels for Stanislaus County

Pollutant Standards	2011	2012	2013
Ozone (O_3)			
Maximum 1-hour concentration (ppm)			
Modesto-14th Street	0.091	0.104	0.088
Turlock-South Minaret Street	0.111	0.115	0.095
Maximum 8-hour concentration (ppm)			
Modesto-14th Street	0.078	0.091	0.082
Turlock-South Minaret Street	0.094	0.107	0.085
Number of days standard exceeded[b]			
CAAQS 1-hour (>0.09 ppm)			
Modesto-14th Street	0	2	0
Turlock-South Minaret Street	4	17	1
CAAQS 8-hour (>0.070 ppm)			
Modesto-14th Street	7	12	13
Turlock-South Minaret Street	34	56	24
NAAQS 8-hour (>0.075 ppm)			
Modesto-14th Street	3	6	2
Turlock-South Minaret Street	17	35	14
Particulate Matter (PM10)[c]			
National[d] maximum 24-hour concentration (μg/m^3)			
Modesto-14th Street	69.4	74.1	73.0
Turlock-South Minaret Street	69.0	102.8	79.2
National[d] second-highest 24-hour concentration (μg/m^3)			
Modesto-14th Street	63.1	59.9	67.2
Turlock-South Minaret Street	67.7	77.0	77.8
State[e] maximum 24-hour concentration (μg/m^3)			
Modesto-14th Street	73.5	74.6	77.5
Turlock-South Minaret Street	73.3	103.8	82.9
State[e] second-highest 24-hour concentration (μg/m^3)			
Modesto-14th Street	68.6	63.5	70.0
Turlock-South Minaret Street	72.1	76.8	81.3

Pollutant Standards	2011	2012	2013
National annual average concentration (μg/m³)			
Modesto-14th Street	25.5	25.1	30.4
Turlock-South Minaret Street	27.4	30.4	35.0
State annual average concentration (μg/m³)[f]			
Modesto-14th Street	*	25.6	30.9
Turlock-South Minaret Street	*	31.0	35.9
Number of days standard exceeded[b]			
NAAQS 24-hour (>150 μg/m³)[f]			
Modesto-14th Street	0	0	0
Turlock-South Minaret Street	0	0	0
CAAQS 24-hour (>50 μg/m³)[f]			
Modesto-14th Street	*	30.9	57.7
Turlock-South Minaret Street	*	54.8	73.7
Particulate Matter (PM2.5)[c]			
National[d] maximum 24-hour concentration (μg/m³)			
Modesto-14th Street	71.7	62.3	83.2
Turlock-South Minaret Street	77.9	58.4	74.9
National[d] second-highest 24-hour concentration (μg/m³)			
Modesto-14th Street	70.2	57.2	73.5
Turlock-South Minaret Street	74.8	57.7	70.8
State[e] maximum 24-hour concentration (μg/m³)			
Modesto-14th Street	71.7	62.3	83.2
Turlock-South Minaret Street	77.9	58.4	74.9
State[e] second-highest 24-hour concentration (μg/m³)			
Modesto-14th Street	70.2	57.2	73.5
Turlock-South Minaret Street	74.8	57.7	70.8
National annual average concentration (μg/m³)			
Modesto-14th Street	14.6	11.9	14.3
Turlock-South Minaret Street	17.1	14.8	15.1
State annual average concentration (μg/m³)[f]			
Modesto-14th Street	14.7	11.9	14.4
Turlock-South Minaret Street	17.1	14.8	15.2
Number of days standard exceeded[b]			
NAAQS 24-hour (>150 μg/m³)[f]			
Modesto-14th Street	25.0	13.0	37.6
Turlock-South Minaret Street	36.3	25.0	40.3
CAAQS 24-hour (>50 μg/m³)[f]			
Modesto-14th Street	–	–	–
Turlock-South Minaret Street	–	–	–

Pollutant Standards	2011	2012	2013
Carbon Monoxide (CO)			
Maximum 1-hour concentration (ppm)			
Modesto-14th Street	2.9	2.6	2.6
Turlock-South Minaret Street	2.0	1.8	1.9
Maximum 8-hour concentration (ppm)			
Modesto-14th Street	2.71	2.10	2.1
Turlock-South Minaret Street	1.44	1.29	1.6
Number of days standard exceeded[b]			
NAAQS 8-hour (>9 ppm)			
Modesto-14th Street	0	0	0
Turlock-South Minaret Street	0	0	0
CAAQS 8-hour (>9 ppm)			
Modesto-14th Street	0	0	0
Turlock-South Minaret Street	0	0	0

Sources: California Air Resources Board 2015; U.S. Environmental Protection Agency 2015.

ppm = parts per million.
NAAQS = National Ambient Air Quality Standards.
CAAQS = California Ambient Air Quality Standards.
$\mu g/m^3$ = micrograms per cubic meter.
mg/m^3 = milligrams per cubic meter.
– = data not available.
* = insufficient data.

[a] An exceedance of a standard is not necessarily a violation, as each pollutant has specific criteria on which a violation of the state and federal standards would occur.

[b] National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.

[c] State statistics are based on local conditions data, except in the South Coast Air Basin, for which statistics are based on standard conditions data. In addition, state statistics are based on California approved samplers.

[d] Measurements usually are collected every 6 days.

[e] State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

[f] Mathematical estimate of how many days concentrations would have been measured as higher than the level of the standard had each day been monitored. Values have been rounded.

Attainment Status

Local monitoring data (see Table 3.3-2) are used to designate areas as nonattainment, maintenance, attainment, or unclassified for the NAAQS and CAAQS. The four designations are further defined as follows:

- Nonattainment—assigned to areas where monitored pollutant concentrations consistently violate the standard in question.
- Maintenance—assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past, but are no longer in violation of that standard.

- Attainment—assigned to areas where pollutant concentrations meet the standard in question over a designated period of time.
- Unclassified—assigned to areas were data are insufficient to determine whether a pollutant is violating the standard in question.

Federal Attainment Status

EPA has classified Stanislaus County as an extreme nonattainment area for the 8-hour ozone standard. For the CO standard, EPA has classified Stanislaus County as an unclassified/attainment area, except for the Modesto Urbanized Area, which is designated as a moderate maintenance area. For the PM10 standard, EPA has classified the County as a serious maintenance area. For PM2.5 standard, EPA has classified the County as a moderate nonattainment area.

State Attainment Status

The ARB has classified the County as a nonattainment area for the 8-hour ozone, PM10, and PM2.5 standards.

Stanislaus County's attainment status for each of these pollutants relative to the NAAQS and CAAQS is summarized in Table 3.3-3.

Table 3.3-3. Federal and State Attainment Status for Stanislaus County

Pollutant	Federal Standards	State Standards
Ozone – eight hour	Extreme Nonattainment	Nonattainment
PM10	Serious Maintenance	Nonattainment
PM2.5	Moderate Nonattainment	Nonattainment
CO	Attainment/Unclassified[a]	Attainment
NO_2	Attainment/Unclassified	Attainment
SO_2	Attainment/Unclassified	Attainment
Lead	Attainment/Unclassified	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility-Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

Sources: California Air Resources Board 2014; U.S. Environmental Protection Agency 2014.

[a] The Modesto Urbanized Area is designated as a moderate maintenance area, while the rest of Stanislaus County is designated as an unclassified/attainment area

Existing Air Quality Inventory

Stanislaus County is home to many industries, processes, and actions that generate emissions of criteria pollutants. ARB compiles an emissions inventory for all sources of emissions within the County. This inventory is used by the SJVAPCD and ARB for regional air quality planning purposes and is the basis for the region's air quality plans. It includes stationary sources (e.g., landfills, food processing, mineral processes); area-wide sources (e.g., farming operations, construction/demolition activities, residential fuel combustion); and mobile sources (e.g., automobiles, aircraft, off-road equipment). Stanislaus County's inventory of emissions for the most recently available year (2012) is summarized in Table 3.3-4.

Table 3.3-4. Stanislaus County Existing (2012) Emissions Inventory

Source Type	Subcategory	Annual Emissions (tons per day)							
		TOG[a]	ROG	CO	NO_X	SO_X	PM	PM10	PM2.5
Stationary Sources									
Fuel Combustion	Electric Utilities	0.36	0.03	0.04	0.13	0.02	0.13	0.13	0.13
	Cogeneration	0	0	0	0	0	0	0	0
	Manufacturing and Industrial	0.04	0.02	0.42	0.59	0	0.01	0.01	0.01
	Food and Agricultural Processing	0.15	0.08	0.62	0.83	0.02	0.08	0.08	0.08
	Service and Commercial	0.12	0.05	0.44	1.29	0.09	0.13	0.12	0.12
	Other (Fuel Combustion)	0.02	0.02	0.05	0.17	0	0.01	0.01	0.01
Total Fuel Combustion		0.69	0.20	1.67	3.01	0.13	0.36	0.35	0.35
Waste Disposal	Sewage Treatment	0.02	0.02	0.04	0.01	0.02	0	0	0
	Landfills	10.98	0.07	0.03	0.01	0.01	0.09	0.02	0.01
	Incinerators	0.01	0	0.04	0	0	0.01	0	0
	Soil Remediation	0	0	0	0	0	0	0	0
	Other (Waste Disposal)	39.92	3.19	0	0	0	0.02	0.01	0
Total Waste Disposal		50.93	3.28	0.11	0.02	0.03	0.12	0.03	0.01
Cleaning and Surface Coatings	Laundering	0.1	0	0	0	0	0	0	0
	Degreasing	0.44	0.23	0	0	0	0	0	0
	Coatings and Related Process Solvents	1.83	1.79	0	0	0	0.05	0.05	0.05
	Printing	0.72	0.72	0	0	0	0	0	0
	Adhesives and Sealants	0.07	0.06	0	0	0	0	0	0
	Other (Cleaning and Surface Coatings)	0.18	0.12	0	0	0	0	0	0
Total Cleaning and Surface Coatings		3.34	2.92	0	0	0	0.05	0.05	0.05
Petroleum Production and Marketing	Oil and Gas Production	0	0	0	0	0	0	0	0
	Petroleum Refining	0	0	0	0	0	0	0	0
	Petroleum Marketing	8.64	0.85	0	0	0	0	0	0
	Other (Petroleum Production and Marketing)	0	0	0	0	0	0	0	0
Total Petroleum Production and Marketing		8.64	0.85	0	0	0	0	0	0
Industrial Processes	Chemical	0.44	0.44	0	0	0	0.02	0.02	0.01
	Food and Agriculture	0.84	0.72	0	0	0.03	1.04	0.43	0.13
	Mineral Processes	0.02	0.01	0	0	0	0.81	0.51	0.25
	Metal Processes	0.21	0.15	0	0	0	0	0	0
	Wood and Paper	2.24	2.24	0	0	0	0.07	0.04	0.03
	Glass and Related Products	0.01	0.01	0	0.53	0.78	0.14	0.14	0.13
	Other (Industrial Processes)	0.01	0.01	0	0	0.09	0.07	0.05	0.03
Total Industrial Processes		3.77	3.58	0	0.53	0.90	2.15	1.19	0.58

Source Type	Subcategory	Annual Emissions (tons per day)							
		TOG[a]	ROG	CO	NO_X	SO_X	PM	PM10	PM2.5
Area Wide Sources									
Solvent Evaporation	Consumer Products	3.49	2.85	0	0	0	0	0	0
	Architectural Coatings and Related Process Solvents	1.38	1.28	0	0	0	0	0	0
	Pesticides/Fertilizers	1.57	1.55	0	0	0	0	0	0
	Asphalt Paving /Roofing	0.11	0.1	0	0	0	0	0	0
Total Solvent Evaporation		6.55	5.78	0	0	0	0	0	0
Miscellaneous Processes	Residential Fuel Combustion	1.87	0.82	5.05	0.92	0.04	0.8	0.75	0.72
	Farming Operations	122.97	15.54	0	0	0	28.68	13.11	1.92
	Construction and Demolition	0	0	0	0	0	3.12	1.53	0.15
	Paved Road Dust	0	0	0	0	0	10.3	4.71	0.71
	Unpaved Road Dust	0	0	0	0	0	4.22	3	0.25
	Fugitive Windblown Dust	0	0	0	0	0	6.33	2.88	0.5
	Fires	0.02	0.01	0.18	0	0	0.02	0.02	0.02
	Managed Burning and Disposal	0.49	0.28	3.04	0.27	0.01	0.36	0.36	0.34
	Cooking	0.12	0.08	0	0	0	0.52	0.52	0.51
	Other (Miscellaneous Processes)	0	0	0	0	0	0	0	0
Total Miscellaneous Processes		125.47	16.73	8.27	1.19	0.05	54.35	26.88	5.12

Source Type	Subcategory	Annual Emissions (tons per day)							
		TOG[a]	ROG	CO	NO_X	SO_X	PM	PM10	PM2.5
Mobile Sources									
On-Road Motor Vehicles	Light Duty Passenger (LDA)	1.96	1.81	15.06	1.31	0.02	0.28	0.28	0.12
	Light Duty Trucks – 1 (LDT1)	0.72	0.68	5.2	0.45	0	0.04	0.04	0.02
	Light Duty Trucks – 2 (LDT2)	0.93	0.86	7.62	0.9	0.01	0.1	0.1	0.04
	Medium Duty Trucks (MDV)	1.24	1.11	12.02	1.61	0.02	0.13	0.12	0.05
	Light Heavy Duty Gas Trucks – 1 (LHDV1)	0.46	0.44	3.33	0.57	0	0.02	0.02	0.01
	Light Heavy Duty Gas Trucks – 2 (LHDV2)	0.04	0.03	0.27	0.04	0	0	0	0
	Medium Heavy Duty Gas Trucks (MHDV)	0.12	0.12	1.04	0.09	0	0	0	0
	Heavy Heavy Duty Gas Trucks (HHDV)	0.02	0.02	0.37	0.04	0	0	0	0
	Light Heavy Duty Diesel Trucks – 1 (LHDV1)	0.1	0.09	0.43	1.84	0	0.05	0.05	0.03
	Light Heavy Duty Diesel Trucks – 2 (LHDV2)	0.02	0.02	0.09	0.38	0	0.01	0.01	0.01
	Medium Heavy Duty Diesel Trucks (MHDV)	0.1	0.09	0.28	1.56	0	0.08	0.08	0.06
	Heavy Heavy Duty Diesel Trucks (HHDV)	0.54	0.47	2.1	7.98	0.01	0.36	0.36	0.29
	Motorcycles (MCY)	0.48	0.45	3.72	0.12	0	0	0	0
	Heavy Duty Diesel Urban Buses (UB)	0.01	0.01	0.04	0.23	0	0.01	0.01	0.01
	Heavy Duty Gas Urban Buses (UB)	0.01	0.01	0.12	0.02	0	0	0	0
	School Buses – Gas (SBG)	0.01	0.01	0.13	0.02	0	0	0	0
	School Buses – Diesel (SBD)	0	0	0.01	0.07	0	0.01	0.01	0
	Other Buses – Gas (OBG)	0.02	0.02	0.27	0.05	0	0	0	0
	Other Buses – Motor Coach – Diesel (OBC)	0	0	0.02	0.09	0	0	0	0
	All Other Buses – Diesel (OBD)	0	0	0.01	0.07	0	0	0	0
	Motor Homes (MH)	0.02	0.02	0.41	0.11	0	0	0	0
Total On-Road Motor Vehicles		6.71	6.26	52.54	17.55	0.06	1.09	1.08	0.64
Other Mobile Sources	Aircraft	0.27	0.26	3.46	0.09	0.02	0.01	0.01	0.01
	Trains	0.13	0.11	0.4	1.69	0	0.04	0.04	0.04
	Recreational Boats	0.52	0.45	1.37	0.08	0	0.03	0.03	0.02
	Off-Road Recreational Vehicles	0.27	0.27	0.09	0	0	0	0	0
	Off-Road Equipment	1.42	1.29	13.83	2.22	0	0.15	0.15	0.14
	Farm Equipment	1.01	0.87	5.34	4.49	0.01	0.27	0.26	0.25
	Fuel Storage and Handling	0.26	0.25	0	0	0	0	0	0
Total Other Mobile Sources		3.88	3.50	24.49	8.57	0.03	0.50	0.49	0.46

Source: California Air Resources Board 2013b.

[a] TOG (total organic compounds) includes all organic gas compounds emitted to the atmosphere, including the low reactivity or "exempt VOC" compounds (e.g., methane, ethane, various chlorinated fluorocarbons, acetone, perchloroethylene, volatile methyl siloxanes, etc.). It does not include CO, CO_2, carbonic acid, metallic carbides or carbonates, or ammonium carbonate.

Sensitive Receptors

The SJVAPCD generally defines a sensitive receptor as people that may experience adverse effects from unhealthful concentrations of air pollutants or the, or facilities that generally house such people (schools, hospitals, clinics, elderly housing, residences, etc.). Sensitive receptors that could be affected by air pollutant emissions are located throughout the county and are concentrated in urbanized and populated areas.

3.3.3 Impact Analysis

This section discusses the approach and methodology used to assess the impacts of the plan updates; discusses the individual impacts relative to the thresholds of significance; discusses mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for significant impacts; and indicates the overall significance of the impact with mitigation incorporated.

Major Sources Used in Analysis

The major sources used in this analysis are listed below.

- San Joaquin Valley Air Pollution Control District
- Fehr & Peers traffic data generated in preparation of the traffic section of the DEIR
- ARB EMFAC2014 Emissions Model
- Caltrans CT-EMFAC Emissions Model

Approach and Methodology

As implementation of the General Plan and Airport Land Use Compatibility Plan Updates would not include any development projects, the impacts on air quality are examined at a general level in this analysis. Note that although the air quality analysis relies on traffic data, an increase in traffic congestion does not necessarily result in a significant impact on air quality. Forecasted increases in overall vehicle miles travelled and traffic volumes on key roads were used to model potential mobile source and CO hotspot impacts, respectively.

Mobile Sources

Long-term air quality impacts from motor vehicles operating within the plan area were evaluated using vehicle miles traveled (VMT) traffic data provided by the project traffic engineers, Fehr & Peers, and Caltrans' CT-EMFAC (version 5.0) emissions model.

Daily VMT data for AM Peak, Midday Peak, PM Peak, and Off Peak periods was provided in 5 mile-per-hour (mph) speed bins (or ranges) for unincorporated and incorporated Stanislaus County, with and without the effects of the *Final 2014 Regional Transportation Plan/Sustainable Communities Strategies* (2014 RTP/SCS), which are the conformity and SB 375 conditions, respectively. The traffic data used in the emissions modeling analysis are presented in Appendix C-1.

Criteria pollutants were calculated by multiplying the AM Peak, Midday Peak, PM Peak, and Off Peak period VMT estimates by the appropriate exhaust emission factors provided by CT-EMFAC. Total emissions during the AM Peak, Midday Peak, PM Peak, and Off Peak periods were then summed to

obtain a total daily emissions estimate. The resulting calculated daily emissions were then annualized using a factor of 347. Please refer to Appendix C-2 for the CT-EMFAC emission factors.

CO Hot-Spots

The effects of localized CO hotspots were evaluated through CO dispersion modeling consistent with the Transportation Project-Level Carbon Monoxide Protocol, which was developed for Caltrans by the Institute of Transportation Studies at the University of California, Davis. The CO protocol details a qualitative step-by-step procedure to determine whether project-related CO concentrations have a potential to generate new air quality violations, worsen existing violations, or delay the attainment of NAAQS or CAAQS for CO. CO concentrations at potential sensitive receptors adjacent to the most congested and heavily traveled roadway segments were estimated through dispersion modeling using the CALINE4 dispersion model and emission factors from the ARB's EMFAC2014 emissions model.

Roadway and Traffic Conditions

CO hotspots were evaluated at roadway segments within the study area for existing (2014) and design year (2035) conditions. Modeled traffic volumes and operating conditions were obtained from daily segment volume traffic data prepared by the project traffic engineers, Fehr & Peers, with the peak hour volumes estimated as representing 10% of the daily volumes based on industry standard assumptions.

CO modeling was conducted at the following four roadway volumes, which were identified in the traffic study as having the highest daily volumes and/or lowest level of service (LOS).

- SR 99: Hammett Road to SR 219
- SR 99: Beckwith Road to Carpenter Road
- SR 99: Carpenter Road to 9th Street
- SR 99: Woodland Ave to 9th Street

CALINE4 roadway geometry for each modeled segment was based on satellite confirmation of the number of lanes at each segment, and modeled segments were assumed at 1,000 meters (3,281 feet). A 12-foot lane width was assumed) plus an additional mixing zone on either side (generally 10 feet on each side).

Vehicle Emission Rates

Vehicle emission rates were determined using the ARB's EMFAC2014 emission rate program. Free-flow traffic speeds were adjusted to 5.0 miles per hour to represent a worst-case scenario. EMFAC2014 estimates emission rates from approximately 40 vehicle classes. A composite emission factor for a typical Stanislaus County vehicle fleet was calculated by weighting vehicle emissions by the relative number of VMT expected for each vehicle class based on EMFAC2014 default values for Stanislaus County.

Receptor Locations

CO concentrations were estimated at five receptor locations at each of the four modeled segments, for a total of 20 receptors. CALINE4 guidance specifies that the model should not be used to estimate pollutant concentrations within 3 meters (9.8 feet) of the traveled way; this assumption could result

in an artificially high CO concentration, since it is unlikely a person will be located 3 meters from a roadway for 1 to 8 hours. However, to ensure the most conservative analysis, the receptors were placed at the midpoint of each segment 3 meters away from the traveled way of each modeled segment, with additional receptors located 15-, 25-, 50-, and 100-feet from the traveled way of each modeled segment. A standard receptor elevation of 1.8 meters (5.9 feet) was used consistent with CO protocol guidance.

Meteorological Conditions

Meteorological inputs to the CALINE4 model were determined consistent with Caltrans' 1998 Air Quality Technical Analysis Notes. The meteorological conditions used in the modeling represent a calm winter period. Worst-case wind angles were modeled to estimate conservative CO concentrations at each receptor. The meteorological inputs include wind speed of 0.5 meters per second, ground-level temperature inversion (atmospheric stability class G), wind direction standard deviation equal to 5 degrees, ambient temperature of 32°F, and a mixing height of 1,000 meters (3,281 feet).

Background Concentrations and 8-Hour Values.

To account for sources of CO not included in the modeling, a background concentration of 2.3 ppm was added to the modeled cumulative 1-hour values, while a background concentration of 1.9 ppm was added to the modeled cumulative 8-hour values. Background concentration data for 1- and 8-hour values were obtained from the EPA's Air Data webpage (U.S. Environmental Protection Agency 2014). Maximum 1- and 8-hour values for the years 2011–2013 were averaged to obtain a background concentration. Eight-hour modeled values were calculated from the 1-hour values using a persistence factor of 0.7. Background concentrations for future 2035 years were assumed to be the same as those for the current year. Actual 1- and 8-hour background concentrations in future years would likely be lower than those used in the CO modeling analysis because the trend in CO emissions and concentrations is decreasing due to continuing improvements in engine technology and the retirement of older, higher-emitting vehicles. To ensure a conservative analysis, it was assumed that the hourly traffic during an 8-hour sampling period was equal to the 1-hour commuting peak flowrate.

Thresholds of Significance

Based on State CEQA Guidelines Appendix G, the plan updates would have a significant impact with respect to air quality they would result in any of the following.

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

For purposes of this EIR, the County is addressing the first four impacts identified in Appendix G as follows. These impact categories consider the same concerns as Appendix G, but are organized in a manner more in keeping with SJVAPCD thresholds and regulations.

- Impact AQ-1: Generate construction-related emissions in excess of SJVAPCD thresholds
- Impact AQ-2: Generate on-road mobile source criteria pollutant emissions in excess of SJVAPCD thresholds
- Impact AQ-3: Expose sensitive receptors to substantial concentrations of carbon monoxide

According to the State CEQA Guidelines, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make significance determinations for potential impacts on environmental resources. As discussed above, the SJVAPCD is responsible for ensuring that state and federal ambient air quality standards are not violated within the SJVAB. Analysis requirements for construction- and operational-related pollutant emissions are contained in the SJVAPCD's (2015) GAMAQI. A review of the GAMAQI indicates that the district considers PM10 to be the primary pollutant of concern from construction activities and that compliance with SJVAPCD Regulation VIII will constitute sufficient mitigation to reduce PM10 emissions to less-than-significant levels. The amount of PM10 emitted during construction activities varies greatly depending on the level of activity, the specific operations taking place, the equipment being operated, soil characteristics, and weather conditions.

Despite this variability in emissions, experience has shown that several feasible control measures can be reasonably implemented during construction activities to reduce PM10 emissions during construction. The SJVAPCD has determined that compliance with its Regulation VIII, "Fugitive PM10 Prohibitions," including implementation of all feasible control measures specified in its 2015 guide (San Joaquin Valley Air Pollution Control District 2015), is sufficient mitigation to minimize adverse air quality effects from construction.

Since the publication of the district's guidance manual, the SJVAPCD has revised some of the rules comprising Regulation VIII. Guidance from the SJVAPCD staff indicates that implementation of a dust control plan would satisfy all of the requirements of SJVAPCD Regulation VIII (Siong pers. comm. September 2011). Further consultation with the SJVAPCD staff indicates that although no explicit thresholds for construction-related emissions of ozone precursors are found in the GAMAQI, the SJVAPCD considers a significant impact to occur when construction emissions of ROG or NO_X exceed 10 tons per year or PM10 or PM2.5 exceed 15 tons per year (Siong pers. comm. September 2011).

The SJVAPCD's thresholds of significance, as indicated in their guidance documents (San Joaquin Valley Air Pollution Control District 2015) and through consultation with SJVAPCD staff, are summarized below.

- The Plan would expose sensitive receptors to substantial pollutant concentrations.
- Plan operations or construction would generate more than 10 tons/year of ROG or NO_X.
- Plan operations or construction would generate more than 15 tons/year of PM10 or PM2.5.
- Plan-related emissions of CO would exceed NAAQS or CAAQS.
- The Plan would not comply with the SJVAPCD's Regulation VIII regarding particulate matter emissions from construction activities. Compliance with SJVAPCD Regulation VIII and the local zoning code will reduce particulate emission impacts to levels that are considered less than significant by the SJVAPCD.

- The Plan would result in more than 10 cases of cancer in 1 million.

Impacts and Mitigation Measures

Impact AQ-1: Generate construction-related emissions in excess of SJVAPCD thresholds (significant and unavoidable)

Construction associated with the general plan would result in the temporary generation of ozone precursor (ROG, NO_X), CO, and particulate matter exhaust emissions that would result in short-term impacts on ambient air quality in the county. Emissions would originate from mobile and stationary construction equipment exhaust, employee vehicle exhaust, dust from clearing the land, exposed soil eroded by wind, and ROG from architectural coatings and asphalt paving. Construction-related emissions would vary substantially depending on the level of activity, length of the construction period, specific construction operations, types of equipment, number of personnel, wind and precipitation conditions, and soil moisture content.

As indicated in Chapter 2, *Project Description*, the General Plan Update would include changes to the text of the land use designations of the general plan, but does not propose any changes to the land use map or the existing boundaries of the land use designations. Consequently, it not anticipated that plan implementation would directly result in construction activities or emissions. It is currently unknown what level of construction activities would occur with implementation of the plan. Consequently, emissions from construction activities associated with buildout of the project cannot be quantified and are evaluated qualitatively for purposes of this analysis. However, should construction activities exceed the SJVAPCD's thresholds for ROG and NO_X of 10 tons per year or PM10 or PM2.5 of 15 tons per year, a significant construction-related impact would occur.

As previously indicated, all construction projects must abide by Regulation VIII. Since the publication of the district's guidance manual, the SJVAPCD has revised some of the rules comprising Regulation VIII. Guidance from the SJVAPCD staff indicates that implementation of a dust control plan would satisfy all of the requirements of SJVAPCD Regulation VIII. Compliance with Regulation VIII would reduce construction-related fugitive dust emissions from future development activity.

With respect to construction-related exhaust emissions of ROG, NO_X, PM10, and PM2.5, Rule 9510 would help to reduce construction exhaust emissions and further reduce construction impacts. In addition, the County incorporates best practices as identified by the SJVAPCD into project conditions of approval. However, given the lack of specifics regarding construction projects at this time, it is uncertain whether construction activities would result in ROG, NO_X, PM10, and PM2.5 emissions in excess of SJVAPCD thresholds, and the impact is therefore considered to be significant.

Significance: Significant and Unavoidable (no mitigation available)

Impact AQ-2: Generate on-road mobile source criteria pollutant emissions in excess of SJVAPCD thresholds (less than significant)

As indicated in Chapter 2, *Project Description*, the General Plan Update would include changes to the text of the land use designations of the general plan, but does not propose any changes to the land use map or the existing boundaries of the land use designations. Consequently, no changes to land use or the roadway network would occur that would result in changes in operational emissions

(either area source or mobile source[4]) related to the proposed General Plan. In general, emissions of criteria pollutant are expected to decrease between existing and future conditions due mainly to emission factors decreasing with time, as well as how VMT changes with various speeds.

While no changes in operational emissions would occur as a direct result of the General Plan Update, buildout of the general plan would result in operational mobile source emissions due to increases in VMT. Emissions were evaluated using daily VMT traffic data provided by the project traffic engineers, Fehr & Peers, and Caltrans' CT-EMFAC (version 5.0) emissions model. Table 3.3-5 presents a summary of emissions by analysis year for each study scenario evaluated, while Table 3.3-6 presents the same data summarized by with and without 2014 RTP/SCS conditions (conformity and SB 375 conditions, respectively).

Table 3.3-5. Summary of Emissions by Analysis Year and Study Scenario

Study Scenario	VMT	ROG	NO_X	CO	PM10	PM2.5
2014 Conditions						
2014 Combined – Conformity	3,593,175,801	831.2	8,304.0	3,704.6	268.6	139.2
2014 Combined – SB 375	1,932,814,771	438.7	4,368.4	1,974.3	142.1	72.7
2014 Unincorporated – Conformity	2,094,556,247	487.8	4,884.2	2,164.5	157.6	82.0
2014 Unincorporated – SB 375	442,310,504	99.4	988.6	448.6	32.3	16.5
2014 Incorporated – Conformity	3,380,471,790	783.0	7,824.9	3,487.7	252.9	131.2
2014 Incorporated – SB 375	1,490,504,353	339.3	3,379.7	1,525.7	109.8	56.3
2035 Conditions						
2035 Combined – Conformity	5,058,910,967	538.7	4,587.3	1,282.0	42.2	38.9
2035 Combined – SB 375	2,715,426,962	223.2	1,912.1	553.2	16.7	15.4
2035 Unincorporated – Conformity	3,377,402,790	359.0	3,057.1	851.6	28.4	26.2
2035 Unincorporated – SB 375	923,102,308	94.1	813.3	232.0	6.9	6.4
2035 Incorporated – Conformity	4,499,699,057	479.6	4,086.3	1,139.0	37.8	34.9
2035 Incorporated – SB 375	1,792,324,789	186.4	1,606.1	453.9	14.1	13.0
2035 NP Combined – Conformity	4,930,462,671	527.2	4,489.0	1,250.3	41.4	38.2
2035 NP Combined – SB 375	2,596,718,470	268.8	2,316.3	655.9	20.2	18.6
2035 NP Unincorporated – Conformity	3,271,124,265	349.7	2,977.5	825.3	27.7	25.6
2035 NP Unincorporated – SB 375	853,305,294	87.3	753.1	214.5	6.4	5.9

NP = No Project.

[4] *Area* sources include emissions from natural gas combustion, wood burning, landscaping activities, consumer products (e.g., personal care products), and periodic paint emissions from facility upkeep. *Mobile* sources are sources of emissions associated with vehicle trips.

Table 3.3-6. Summary of Emissions by Conformity and SB 375 Conditions

Study Scenario	VMT	ROG	NO_X	CO	PM10	PM2.5
Conformity Conditions						
2014 Combined – Conformity	3,593,175,801	831.2	8,304.0	3,704.6	268.6	139.2
2014 Unincorporated – Conformity	2,094,556,247	487.8	4,884.2	2,164.5	157.6	82.0
2014 Incorporated – Conformity	3,380,471,790	783.0	7,824.9	3,487.7	252.9	131.2
2035 Combined – Conformity	5,058,910,967	538.7	4,587.3	1,282.0	42.2	38.9
2035 Unincorporated – Conformity	3,377,402,790	359.0	3,057.1	851.6	28.4	26.2
2035 Incorporated – Conformity	4,499,699,057	479.6	4,086.3	1,139.0	37.8	34.9
2035 NP Combined – Conformity	4,930,462,671	527.2	4,489.0	1,250.3	41.4	38.2
2035 NP Unincorporated – Conformity	3,271,124,265	349.7	2,977.5	825.3	27.7	25.6
SB 375 Conditions						
2014 Combined – SB 375	1,932,814,771	438.7	4,368.4	1,974.3	142.1	72.7
2014 Unincorporated – SB 375	442,310,504	99.4	988.6	448.6	32.3	16.5
2014 Incorporated – SB 375	1,490,504,353	339.3	3,379.7	1,525.7	109.8	56.3
2035 Combined – SB 375	2,715,426,962	223.2	1,912.1	553.2	16.7	15.4
2035 Unincorporated – SB 375	923,102,308	94.1	813.3	232.0	6.9	6.4
2035 Incorporated – SB 375	1,792,324,789	186.4	1,606.1	453.9	14.1	13.0
2035 NP Combined – SB 375	2,596,718,470	268.8	2,316.3	655.9	20.2	18.6
2035 NP Unincorporated – SB 375	853,305,294	87.3	753.1	214.5	6.4	5.9

NP = No Project.

Existing and Proposed General Plan Goals and Policies that Reduce the Impact

The following policies from the proposed General Plan Update will help directly reduce area and mobile sources in the county.

Housing Element

GOAL ONE. encourage the provision of adequate, affordable housing, including units for rent and for ownership for residents of all income groups, including extremely-low, very low-, low- and moderate-income households.

POLICY ONE D. The County shall encourage energy conservation in existing homes and new housing developments.

Land Use Element

GOAL SIX. Promote and protect healthy living environments

POLICY TWENTY-NINE. Support the development of a built environment that is responsive to decreasing air and water pollution, reducing the consumption of natural resources and energy, increasing the reliability of local water supplies, and reduces vehicle miles traveled by facilitating alternative modes of transportation, and promoting active living (integration of physical activities, such as biking and walking, into everyday routines) opportunities.

IMPLEMENTATION MEASURES

1. County development standards shall be evaluated and revised, as necessary, to facilitate development incorporating the following (or similar) design features:

- Alternative modes of transportation such as bicycle lanes, pedestrian paths, and facilities for public transit;
- Alternative modes of storm water management (that mimic the functions of nature); and
- Pedestrian friendly environments through appropriate setback, landscape, and wall/fencing standards.

POLICY THIRTY. New development shall be designed to facilitate the efficient extension of public transportation systems.

IMPLEMENTATION MEASURES

1. Development proposals shall be referred to the appropriate transit authority to determine the types of facilities needing to be provided, if any.

GOAL THREE (Community of Keyes). Encourage attractive and orderly development which preserves a small town atmosphere.

POLICY SIX. Provide convenient and accessible neighborhood commercial areas within the community to minimize vehicular trips needed for frequently used retail services.

Existing Goal Three, Policies One through Three of the Land Use Element would continue to improve air quality.

Circulation Element

GOAL ONE. Provide and maintain a transportation system ~~of roads and roads~~ throughout the County for the movement of people and goods that also meets land use and safety needs for all modes of transportation.

POLICY SIX. The County shall strive to reduce motor vehicle emissions and vehicle miles traveled (VMT) ~~trips~~ by encouraging the use of alternatives to ~~the~~ single occupant vehicles.

POLICY SEVEN. Bikeways and pedestrian facilities shall be designed to provide safe and reasonable access from residential areas to major bicycle and pedestrian traffic destinations such as schools, recreation and transportation facilities, centers of employment, and shopping areas.

POLICY EIGHT. Promote public transit as a viable transportation choice.

GOAL ~~THREE~~ TWO. Maintain a safe, balanced and efficient transportation system that facilitates inter-city and interregional travel and goods movement.

POLICY NINE. The County shall promote the development of safe inter-city and interregional transportation facilities that more efficiently moves goods and freight within and through the region.

GOAL THREE. Provide and manage parking to accommodate vehicle usage while minimizing the impacts of excessive parking supply.

POLICY ELEVEN. Seek to implement more flexible parking requirements to reduce the amount of land devoted to parking and to make alternative modes of transportation more accessible.

Conservation/Open Space Element

Existing Goal Six, Policies One through Three and Eighteen through Twenty-One of the Conservation/Open Space Element would continue to improve air quality. The above policies will also reduce air emissions from mobile sources. Taken in combination with improvements in air quality emissions standards, the resulting impact would be less than significant, as shown above in Tables 3.3-5 and 3.3-6.

Significance without Mitigation: Less than significant (no mitigation required)

Impact AQ-3: Expose sensitive receptors to substantial concentrations of carbon monoxide (less than significant)

Elevated levels of CO concentrations are typically found in areas with significant traffic congestion. CO is a public health concern because it can cause health problems such as fatigue, headache, confusion, dizziness, and even death. Motor vehicles are the dominant source of CO emissions in most areas. High CO levels develop primarily during winter when periods of light winds combine with the formation of ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures. CO emission rates from motor vehicles have been declining and are expected to continue to decline in the future because of ARB's Mobile Source Program, which supports replacement of older, higher-emitting vehicles with newer vehicles, and increasingly stringent inspection and maintenance programs, as well as other regulatory requirements, such as Assembly Bill 1493 (Pavley) of 2002 that mandates regulations to reduce tailpipe greenhouse gas emissions that also improve fuel economy.

CO concentrations within the project area were evaluated following the Caltrans CO protocol (Garza et al. 1997) to evaluate whether the project would cause or contribute to localized violations of the state or federal ambient standards in the project vicinity. CO concentrations at potential sensitive receptors near congested roadways were estimated using CALINE4 dispersion modeling. Table 3.3-7 summarizes CO modeling results for existing (2014) and design year (2035) conditions.

As indicated in Table 3.3-7, future year CO concentrations will be lower than existing concentrations and no violations of the state or federal 1- or 8-hour CO standards are anticipated in the project area under cumulative-year conditions. Therefore, the impact of project traffic conditions on ambient CO levels in the project area would be less than significant.

Table 3.3-7. Carbon Monoxide Concentrations at Greatest Affected Roadway Segments

		Existing (2014)[a]		Design Year (2035)[a]	
Segment	Receptor	1-hr CO[b]	8-hr CO[c]	1-hr CO[b]	8-hr CO[c]
SR 99: Hammett Road to SR 219	1	8.8	6.0	9.5	6.5
	2	8.8	6.0	9.8	6.7
	3	8.2	5.6	8.7	5.9
	4	8.4	5.7	9.5	6.5
	5	6.9	4.7	7.8	5.3
SR 99: Beckwith Road to Carpenter Road	6	5.3	3.5	5.3	3.5
	7	4.6	3.1	4.6	3.1
	8	4.3	2.8	4.4	2.9
	9	3.4	2.2	4.7	3.1
	10	4.0	2.6	4.0	2.6
SR 99: Carpenter Road to 9th Street	11	3.9	2.6	3.9	2.6
	12	3.8	2.5	3.8	2.5
	13	3.7	2.4	3.7	2.4
	14	3.3	2.1	3.3	2.1
	15	3.1	2.0	3.1	2.0

Segment	Receptor	Existing (2014)[a] 1-hr CO[b]	Existing (2014)[a] 8-hr CO[c]	Design Year (2035)[a] 1-hr CO[b]	Design Year (2035)[a] 8-hr CO[c]
SR 99: Woodland Avenue to 9th Street	16	2.8	1.8	2.8	1.8
	17	2.8	1.8	2.8	1.8
	18	2.5	1.6	2.5	1.6
	19	3.6	2.4	3.7	2.4
	20	3.6	2.4	3.7	2.4

[a] Background concentrations of 2.3 ppm and 1.9 ppm were added to the modeling 1-hour and 8-hour results, respectively.
[b] The federal and state 1-hour standards are 35 and 20 ppm, respectively.
[c] The federal and state 8-hour standards are 9 and 9.0 ppm, respectively.

Proposed General Plan Goals and Policies that Reduce the Impact

The following policies from the proposed General Plan Update will help directly reduce area and mobile sources in the county.

Circulation Element

GOAL ONE. Provide and maintain a transportation system ~~of roads and roads~~ throughout the County for the movement of people and goods that also meets land use and safety needs for all modes of transportation.

POLICY TWO. The Circulation system~~s~~ shall be designed and maintained to promote safety by combining multiple modes of transportation into a single, cohesive system ~~and minimize traffic congestion~~.

IMPLEMENTATION MEASURES

1. The County shall maintain LOS ~~C~~D or better for all County roadways (Daily LOS) and LOS C or better at intersections (Peak Hour LOS), except, within the sphere of influence of a city that has adopted a lower level of service standard, the City standard shall apply. The County may allow ~~adopt~~ either a higher or lower level of service standard for roadways and intersections within urban areas such as Community Plan areas, but in no case shall the adopted LOS fall below LOS D.

Significance without Mitigation: Less than significant (no mitigation required)

Impact AQ-4: Expose sensitive receptors to substantial pollutant concentrations (less than significant)

Toxic Air Contaminants

TACs are a category of air pollutants that have been shown to have an impact on human health, but are not classified as criteria pollutants. Light industrial, industrial, and airport industrial land uses are proposed under the General Plan Update. Potential TACs associated with these uses could include, but are not limited to, solvents, diesel exhaust, and metals (California Air Resources Board 2005).

In general, TAC concentrations are typically highest near the emissions source and decline with increased distance. The ARB recommends avoiding siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day

(California Air Resources Board 2005). Similar recommendations are provided for other source categories, including dry cleaners and gas stations. The General Plan Update does not include policies or goals that prohibit locating new sensitive receptors within 500 feet of major roadways or arterials.

As indicated in Chapter 2, *Project Description*, the General Plan Update would include changes to the text of the land use designations of the general plan, but does not propose any changes to the land use map or the existing boundaries of the land use designations.

This impact is considered less than significant.

Naturally Occurring Asbestos

Disturbance of rock and soil that contains NOA can result in exposure to the public. Asbestos most commonly occurs in serpentine rock and its parent material, ultramafic rock. Bands of NOA, trending in a north-south direction, have been identified in the western portion Stanislaus County (California Department of Conservation 2000).

Construction activities in areas known to contain ultramafic rocks may expose workers and the general public to NOA. The ARB has adopted two Airborne Toxic Control Measures (ATCMs) to control NOA. They are the Asbestos ATCM for Surfacing Applications and the Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations. The Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations requires the implementation of mitigation measures to minimize emissions of asbestos-laden dust in any area in which:

- Any portion of the area to be disturbed is located in a geographic ultramafic rock unit; or
- Any portion of the area to be disturbed has naturally-occurring asbestos, serpentine, or ultramafic rock as determined by the owner/operator, or the Air Pollution Control Officer (APCO); or
- Naturally-occurring asbestos, serpentine, or ultramafic rock is discovered by the owner/operator, a registered geologist, or the APCO in the area to be disturbed after the start of any construction, grading, quarrying, or surface mining operation.

Compliance with the Asbestos ATCM would help reduce exposure to NOA and associated health risks. This impact is considered less than significant.

Valley Fever

Disturbance of soil containing *Coccidioides* fungus could expose the general public to spores known to cause valley fever. Over 75% of valley fever cases in California have been in people who live in the San Joaquin Valley. Stanislaus County has a relatively moderate valley fever rate, with between one and 10 cases reported per 100,000 people per year between 2008 and 2012 (California Health and Human Services Agency 2013). Construction activities in areas known to contain *Coccidioides* fungus may expose workers and the general public to spores that could cause valley fever. Compliance with SJVAPCD Regulation VIII (Mitigation Measure AQ-1) would reduce the risk of contracting valley fever. This impact is considered less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact AQ-5: Expose sensitive receptors to substantial odors (less than significant)

The SJVAPCD has identified certain types of land uses as being commonly associated with odors. Based on these land uses, the SJVAPCD has established screening criteria that identify reasonable buffer distances from odor-generating facilities that would avoid exposing sensitive receptors to significant odor impacts. Table 3.3-8 summarizes the SJVAPCD's odor screening distances as a function of facility type.

Table 3.3-8. SJVAPCD Project Screening Trigger Levels for Potential Odor Sources

Type of Facility	SJVAPCD Recommended Buffer Distance (miles)
Wastewater Treatment Facilities	2
Sanitary Landfill	1
Transfer Station	1
Composting Facility	1
Petroleum Refinery	2
Asphalt Batch Plant	1
Chemical Manufacturing	1
Fiberglass Manufacturing	1
Painting/Coating Operations (e.g. auto body shops)	1
Food Processing Facility	1
Feed Lot/Dairy	1
Rendering Plant	1

Source: San Joaquin Valley Air Pollution Control District 2015.

Potential odor emitters during construction activities include diesel exhaust, asphalt paving, and the use of architectural coatings and solvents. Construction-related operations near existing receptors would be temporary, and construction activities would not be likely to result in nuisance odors that would violate SJVPACD Rule 4102. Given mandatory compliance with SJVPACD rules, no construction activities or materials are proposed that would create a significant level of objectionable odors. This impact is considered less than significant.

As indicated in Chapter 2, *Project Description*, the General Plan Update would include changes to the text of the land use designations of the general plan, but does not propose any changes to the land use map or the existing boundaries of the land use designations. Consequently, no changes to land uses (i.e., neither new land uses, such as sensitive receptors, nor odor generating facilities) would occur under the Plan. Therefore, odor impacts are considered less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

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Personal Communications

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3.4 Biological Resources

3.4.1 Introduction

This section discusses the impacts of the plan updates with respect to biological resources. It lists the thresholds of significance that form the basis of the environmental analysis, provides environmental setting information that is relevant to biological resources, describes the biological resources study area and major sources used in the analysis, and assesses whether the plan updates would result in significant impacts with respect to biological resources.

Study Area

The biological resources study area for this EIR is generally defined as Stanislaus County.

3.4.2 Environmental Setting

This section describes the federal, state, and local regulations and policies that are applicable to the plan updates, and the existing conditions pertaining to biological resources in the study area. The existing conditions constitute the baseline for this environmental analysis.

Regulatory Setting

This section describes the federal, state, and local regulations related to biological resources that would apply to the plan updates.

Federal

Endangered Species Act

Pursuant to the federal Endangered Species Act (ESA), the U.S. Fish and Wildlife Service (USFWS), and the National Marine Fisheries Service (NMFS) have authority over projects that may result in "take" of a species listed as threatened or endangered under the act. Take is defined under the ESA, in part, as killing, harming, or harassing. Under federal regulations, take is further defined to include habitat modification or degradation that results, or is reasonably expected to result, in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. If it is likely that a project would result in take of a federally listed species, an incidental take permit, under Section 7 (interagency consultation) or Section 10 (Habitat Conservation Plan) of the ESA must be obtained from the appropriate federal agency before the project may proceed.

Critical habitat is also defined and used in the ESA. It is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act, as amended in 1964, was enacted to protect fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. The statute requires federal agencies to take into consideration the effect that water-related projects would have on fish and wildlife resources. Consultation and coordination with USFWS and the California Department of Fish and Wildlife (CDFW) are required to address ways to prevent loss of and damage to fish and wildlife resources, and to further develop and improve these resources.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) domestically implements a series of international treaties that provide for migratory bird protection. The MBTA authorizes the Secretary of the Interior to regulate the taking of migratory birds. The act further provides that it is unlawful, except as permitted by regulations, "to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird…" (U.S. Code [USC], Title 16, Section 703). This prohibition includes both direct and indirect acts, although harassment and habitat modification are not included unless they result in direct loss of birds, nests, or eggs. The current list of species protected by the MBTA can be found in the March 1, 2010 *Federal Register* (75 FR 9281). This list comprises several hundred species, including essentially all native birds. Permits for take of nongame migratory birds can be issued only for specific activities, such as scientific collecting, rehabilitation, propagation, education, taxidermy, and protection of human health and safety and of personal property. USFWS publishes a list of birds of conservation concern to identify migratory nongame birds that are likely to become candidates for listing under ESA without additional conservation actions. The list is intended to stimulate coordinated and collaborative conservation efforts among federal, state, tribal, and private parties.

The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) (16 USC 668) prohibits take and disturbance of individuals and nests. Take permits for birds or body parts are limited to religious, scientific, or falconry pursuits. However, the BGEPA was amended in 1978 to allow mining developers to apply to USFWS for permits to remove inactive golden eagle (*Aquila chrysaetos*) nests in the course of "resource development or recovery" operations. With the 2007 removal of bald eagles (*Haliaeetus leucocephalus*) from the ESA list of threatened and endangered species, USFWS issued new regulations to authorize the limited take of bald eagles and golden eagles under the BGEPA, where the take to be authorized is associated with otherwise lawful activities. A final Eagle Permit Rule was published on September 11, 2009 (74 FR 46836–46879; Code of Federal Regulations [CFR], Title 50, Section 22.26).

A permit authorizes limited, non-purposeful take of bald eagles and golden eagles, and can be applied for by individuals, companies, government agencies (including tribal governments), and other organizations to allow disturbance or otherwise take eagles in the course of conducting lawful activities, such as operating utilities and airports. Under BGEPA, take is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest or disturb." Disturb is defined in the regulations as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." Most permits issued under the new regulations authorize disturbance. In limited cases, a

permit may authorize the physical take of eagles, but only if every precaution is first taken to avoid physical take.

USFWS issued the Eagle Conservation Plan Guidance (Eagle Guidance) intended to assist parties to avoid, minimize, and mitigate adverse effects on bald and golden eagles (U.S. Fish and Wildlife Service 2013). The Eagle Guidance calls for scientifically rigorous surveys, monitoring, assessment, and research designs proportionate to the risk to eagles. The Eagle Guidance describes a process by which wind energy developers can collect and analyze information that could lead to a programmatic permit to authorize unintentional take of eagles at wind energy facilities. USFWS recommends that eagle conservation plans be developed in five stages. Each stage builds on the prior stage, such that together the process is a progressive, increasingly intensive look at likely effects on eagles of the development and operation of a particular site and configuration. Additional refinements to the Eagle Guidance are expected at some point in the future.

Clean Water Act

Wetlands and other waters of the United States are protected under Section 404 of the Clean Water Act (CWA). Any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands, is subject to regulation by the U.S. Army Corps of Engineers (USACE). Certification from the applicable Regional Water Quality Control Board (RWQCB) also is required when a proposed activity may result in discharge into waters of the United States, pursuant to CWA Section 401 and EPA's Section 404(b)(1) guidelines. Waters of the United States is defined to encompass navigable waters of the United States; interstate waters; all other waters where their use, degradation, or destruction could affect interstate or foreign commerce; tributaries of any of these waters; and wetlands that meet any of these criteria or are adjacent to any of these waters or their tributaries.

Rivers and Harbors Appropriation Act of 1899

The River and Harbors Appropriation Act of 1899 (RHA) addresses activities that involve the construction of dams, bridges, dikes, and other structures across any navigable water. RHA Section 10 requires authorization from USACE for the construction of any structure in, over, or under any navigable waters of the United States. The law applies to any dredging, excavation, filling, or other modification of a navigable water of the United States, as well as to all structures, including bank protection (e.g., riprap). The San Joaquin River, Stanislaus River, and Tuolumne River are navigable waters subject to the requirements of the RHA.

Executive Order 11990: Protection of Wetlands

Executive Order 11990 (May 24, 1977) established the protection of wetlands and riparian systems as the official policy of the federal government. The executive order requires all federal agencies to consider wetland protection as an important part of their policies; take action to minimize the destruction, loss, or degradation of wetlands; and preserve and enhance the natural and beneficial values of wetlands.

Federal Noxious Weed Act and Code of Federal Regulations (Title 7, Part 360)

These laws and regulations are primarily concerned with the introduction of federally designated noxious weed plants or seeds across the United States' international borders. The Federal Noxious

Weed Act (7 USC 2801–2813) also regulates the interstate movement of designated noxious weeds under the U.S. Department of Agriculture's permit system.

Executive Order 11312: Invasive Species

Executive Order 11312 (February 3, 1999) directs all federal agencies to prevent and control the introduction and spread of invasive nonnative species in a cost-effective and environmentally sound manner to minimize their effects on economic, ecological, and human health. The executive order was intended to build upon existing laws, such as the National Environmental Policy Act (NEPA), the Nonindigenous Aquatic Nuisance Prevention and Control Act, the Lacey Act, the Plant Pest Act, the Federal Noxious Weed Act, and ESA. The executive order established a national Invasive Species Council composed of federal agencies and departments, as well as a supporting Invasive Species Advisory Committee composed of state, local, and private entities. The council and advisory committee oversee and facilitate implementation of the executive order, including preparation of the National Invasive Species Management Plan. Federal activities addressing invasive aquatic species are now coordinated through this council and through the National Aquatic Nuisance Species Task Force.

State

California Environmental Quality Act

CEQA is the regulatory framework by which California public agencies identify and mitigate significant environmental impacts. A project normally has a significant environmental impact on biological resources if it substantially affects a rare or endangered species or the habitat of that species, substantially interferes with the movement of resident or migratory fish or wildlife, or substantially diminishes habitat for fish, wildlife, or plants. The State CEQA Guidelines define rare, threatened, and endangered species as those listed under ESA or the California Endangered Species Act (CESA) or any other species that meet the criteria of the resource agencies or local agencies (e.g., species of special concern, as designated by CDFW). The guidelines state that the lead agency preparing an EIR must consult with and receive written findings from CDFW concerning project impacts on species listed as endangered or threatened. The effects of a proposed project on these resources are important in determining whether the project has significant environmental impacts under CEQA.

CDFW maintains lists of "Special Plants" that include all the plant taxa inventoried by the California Natural Diversity Database (CNDDB), in addition to those listed as threatened or endangered (California Department of Fish and Wildlife 2014a). These species have no formal protection under CESA, but plants with a California Rare Plant Rank of 1A, 1B, and 2 meet the definitions of Section 1901 of the California Fish and Game Code and may qualify for state listing. Pursuant to Section 15380(d) of CEQA, such plant species are considered to be endangered, rare, or threatened for this analysis.

California Endangered Species Act

CESA (California Fish and Game Code Sections 2050–2116) states that all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants and their habitats that are threatened with extinction and those experiencing a significant decline that, if not halted, would lead to a threatened or endangered designation will be protected or preserved.

Under Section 2081 of the California Fish and Game Code, a permit from CDFW is required for projects that could result in the take of a species that is state-listed as threatened or endangered. Under CESA, take is defined as an activity that would directly or indirectly kill an individual of a species. The definition does not include harm or harass, as does the definition of take under ESA. Consequently, the threshold for take under CESA is higher than that under ESA. For example, habitat modification is not necessarily considered take under CESA.

Fully Protected Species

Sections 3511, 3513, 4700, and 5050 of the California Fish and Game Code pertain to fully protected wildlife species (birds in Sections 3511 and 3513, mammals in Section 4700, and reptiles and amphibians in Section 5050) and strictly prohibit the take of these species. CDFW cannot issue a take permit for fully protected species, except under narrow conditions for scientific research or the protection of livestock, or if a natural community conservation plan has been adopted.

California Native Plant Protection Act

The California Native Plant Protection Act (CNPPA) of 1977 gave the California Fish and Game Commission the authority to list plant species as rare or endangered and authorized them to adopt regulations prohibiting importation of rare and endangered plants into California, take of rare and endangered plants, and sale of rare and endangered plants. CESA defers to the CNPPA, which ensures that state-listed plant species are protected when state agencies are involved in projects subject to CEQA. In this case, plants listed as rare under the CNPPA are protected under CEQA, rather than CESA.

Protection of Birds and Raptors

Section 3503 of the California Fish and Game Code prohibits the killing of birds and/or the destruction of bird nests. Section 3503.5 prohibits the killing of raptor species and/or the destruction of raptor nests. Typical violations include destruction of active bird and raptor nests as a result of tree removal, and failure of nesting attempts (loss of eggs and/or young) as a result of disturbance of nesting pairs caused by nearby human activity. Section 3513 prohibits any take or possession of birds designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations pursuant to the MBTA.

Sections 1600–1603 of the California Fish and Game Code

Sections 1600–1603 of the California Fish and Game Code state that it is unlawful for any person or agency to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources, or to use any material from the streambeds, without first notifying CDFW. A Lake and Streambed Alteration Agreement (LSAA) must be obtained if effects are expected to occur. The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports wildlife, fish, or other aquatic life. This definition includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. CDFW's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), waters of the state fall under jurisdiction of the nine RWQCBs. Projects in Stanislaus County fall under the jurisdiction of the Central Valley RWQCB. Under this act, each RWQCB must prepare and periodically update water quality control basin plans (basin plans), each of which sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution. Pursuant to CWA Section 401, an applicant for a Section 404 permit to conduct any activity that may result in discharge into navigable waters must provide a certification from the RWQCB that such discharge will comply with state water quality standards. Projects that affect wetlands or other waters of the state must file a report of waste discharge with the RWQCB, which then issues waste discharge requirements (WDRs).

California Wetlands Conservation Policy

The goals of the California Wetlands Conservation Policy, adopted in 1993 (Executive Order W-59-93 [August 23, 1993]), are "to ensure no overall net loss, and achieve a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California, in a manner that fosters creativity, stewardship, and respect for private property"; to reduce procedural complexity in the administration of state and federal wetlands conservation programs; and to make restoration, landowner incentive programs, and cooperative planning efforts the primary focus of wetlands conservation.

State Lands Commission

The State Lands Commission (SLC) has jurisdiction and management control over those public lands of the State of California received by the State upon its admission to the United States in 1850 ("sovereign lands"). Generally, these sovereign lands include all ungranted tidelands and submerged lands and beds of navigable rivers, streams, lakes, bays, estuaries, inlets, and straits. The SLC manages these sovereign lands for the benefit of the State, subject to the Public Trust, for water-related commerce, navigation, fisheries, recreation, open space, and other recognized Public Trust uses. For construction in the bed of navigable rivers, a land use lease from the SLC is required upon completion of CEQA review.

Local

Stanislaus County General Plan

The Stanislaus County General Plan includes several goals and policies to protect natural resources. The goals and polices listed below are relevant to biological resources in the county and can be found in Chapter 1, *Land Use Element*, and Chapter 3, *Conservation/Open Space Element*, of the plan.

Land Use Element

GOAL ONE. Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.

POLICY SEVEN. Riparian habitat along the rivers and natural waterways of Stanislaus County shall to the extent possible be protected.

Conservation/Open Space Element

GOAL ONE. Encourage the protection and preservation of natural and scenic areas throughout the County

POLICY ONE. Maintain the natural environment in areas dedicated as parks and open space.

POLICY TWO. Assure compatibility between natural areas and development.

POLICY THREE. Areas of sensitive wildlife habitat and plant life (e.g., vernal pools, riparian habitats, flyways and other waterfowl habitats, etc.) including those habitats and plant species listed in the General Plan Support Document or by state or federal agencies shall be protected from development.

POLICY FOUR. Protect and enhance oak woodlands and other native hardwood habitat.

IMPLEMENTATION MEASURE

1. Require all discretionary projects that will potentially impact oak woodlands and other native hardwood habitat, including but not limited to hardwood rangelands identified in the maps in Appendix III-A, to include a management plan for the protection and enhancement of oak woodlands and other native hardwood habitat.

GOAL TWO. Conserve water resources and protect water quality in the County.

POLICY SIX. Preserve vegetation to protect waterways from bank erosion and siltation.

GOAL THREE. Provide for the long-term conservation and use of agricultural lands.

POLICY TEN. Discourage the division of land which forces the premature cessation of agricultural uses.

GOAL NINE. Manage extractive mineral resources to ensure an adequate supply without degradation of the environment.

GOAL TEN. Protect fish and wildlife species of the County.

POLICY TWENTY-NINE. Adequate water flows should be maintained in the County's rivers to allow salmon migration.

POLICY THIRTY. Habitats of rare and endangered fish and wildlife species shall be protected. Information on rare and endangered species and habitats is constantly being updated in response to a 1982 state law by the California State Department of Fish and Wildlife through various sources which include the Stanislaus Audubon Society, California Native Plant Society, and the Sierra Club.

Existing Conditions

The county is situated in the Great Central Valley subdivision of the California Floristic Province in San Joaquin County (Baldwin et al. 2012:41–43). The topography of central part of the county is relatively level, while the west section extends into the Diablo Range and the east into the foothills of the Sierra Nevada.

Land Cover Types

For the purposes of this document, land cover in Stanislaus County has been categorized into 13 types, primarily based on the Wildlife-Habitat Relationships (WHR) classification of vegetation communities. The WHR system was used for the Gap Analysis Program (GAP) mapping of vegetation communities in California, which was the most complete resource to use as the basis for existing conditions in Stanislaus County (University of California, Santa Barbara 2002). Due to the size of the county, number of land cover types, and resulting complexity of the map, several of the GAP land

cover types were combined, where the descriptions, wildlife habitat functions, and agency regulation of the type would be essentially the same (e.g., chamise-redshank chaparral and mixed chaparral are combined into a single chaparral cover type). Additional available data allowed for inclusion of an additional type—annual grassland/vernal pool complex. (California Department of Fish and Game 1998) Table 3.4-1 identifies the combined land cover types mapped in the county and a crosswalk to the corresponding WHR types. Figure 3.4-1 shows the locations of the combined mapped types.

Table 3.4-1. Land Cover Types in Stanislaus County

Land Cover Type	Corresponding WHR Type(s) on GAP Map
Oak woodland	Blue oak woodland Valley oak woodland
Blue oak–foothill pine	Blue oak–digger pine
Valley foothill riparian	Valley foothill riparian
Chaparral	Chamise-redshank chaparral Mixed chaparral
Diablan sage scrub	Diablan sage scrub[a]
Annual grassland	Annual grassland
Vernal pool/Annual grassland complex	Annual grassland
Freshwater emergent wetland	Fresh emergent wetland
Riverine	Riverine
Lacustrine	Lacustrine
Agriculture	Cropland Irrigated hayfield Irrigated row and field crops Orchard-vineyard
Urban	Urban
Barren	Barren

[a] The vegetation community name Diablan sage scrub is used in the GAP data, but is based on Holland (1986) and is not a WHR type. It is tracked by this name in the CNDDB.

The county supports both common and sensitive land cover types. Common types are vegetation communities with low plant species diversity that are widespread. These types may reestablish naturally after disturbance, support primarily nonnative plant species, or be highly managed. They are not generally protected by agencies unless the specific site is habitat for or supports special-status species (e.g., raptor foraging or nesting habitat, upland habitat in a wetland watershed). The common land cover types in the county include agriculture and annual grassland. Urban and barren land cover types are not considered vegetation communities and are not sensitive.

Sensitive land cover types are rare vegetation communities with limited distribution. They may have high species diversity, high productivity, an unusual nature, or a declining status. Local, state, and federal agencies consider these types important, and compensation for loss of sensitive types is generally required by agencies. The general plan includes policies to protect oak woodland, native

hardwood habitat, riparian, vernal pools, and other sensitive habitats. The CNDDB contains a current list of rare natural communities throughout the state. Under state Public Resources Code (Section 21083.4), conservation of and mitigation for impacts on oak woodlands are required. USFWS considers certain types, such as wetlands and riparian communities, important to wildlife; and USACE and EPA consider wetlands important for water quality and wildlife. Waters of the United States and waters of the State are regulated by the USACE and the RWQCB, respectively. The types in the county that are considered sensitive are oak woodland, blue oak-foothill pine, valley foothill riparian, chaparral, Diablan sage scrub, vernal pool/annual grassland complex, freshwater emergent wetland, riverine, and lacustrine.

Locations, dominant plant species, and typical wildlife species found in vegetated and unvegetated land cover types within the county are described below. No field visits were conducted for this analysis, and description of plant species in each cover type are based on information in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988), with updates and additional species range information from the Consortium of California Herbaria (Consortium of California Herbaria 2014).

Oak Woodland

This cover type is a combination of the GAP-mapped blue oak woodland and valley oak woodland types. Oak woodland occurs in the Diablo Range on the west side of the county and in the Sierra foothills on the eastern edge of the county.

Trees in blue oak woodland are predominantly blue oak (*Quercus douglasii*), associated with valley oak (*Quercus lobata*) and interior live oak (*Quercus wislizenii*). Shrub species in this woodland commonly include California buckeye (*Aesculus californica*), common manzanita (*Arctostaphylos manzanita*), ceanothus (*Ceanothus* spp.), California coffeeberry (*Frangula californica*), redberry (*Rhamnus crocea*), and poison oak (*Toxicodendron diversilobum*). Annual grasses and forbs dominate the herbaceous layer.

Valley oak woodland ranges in tree density from savannas of annual grasslands with few trees to dense woodlands. Valley oak is the dominant tree, but it can be associated with California sycamore (*Platanus racemosa*), southern black walnut (*Juglans californica*), interior live oak, box elder (*Acer negundo* var. *californica*), and blue oak. Shrub species include California coffeeberry, poison oak, and blackberry (*Rubus* spp.). As in blue oak woodland, annual grasses and forbs dominate the herbaceous layer.

Oak woodlands provide important foraging and breeding habitat for wildlife, including migratory species. Common wildlife species that use oak woodlands include western fence lizard (*Sceloporus occidentalis*), common king snake (*Lampropeltis getula*), western scrub jay (*Aphelocoma californica*), yellow-billed magpie (*Pica nuttalli*), California quail (*Callipepla californica*), oak titmouse (*Baeolophus inornatus*), acorn woodpecker (*Melanerpes formicivorus*), red-shouldered hawk (*Buteo lineatus*), western gray squirrel (*Sciurus griseus*), California ground squirrel (*Otospermophilus beecheyi*), and mule deer (*Odocoileus hemionus*).

Local and state agencies recognize native oak woodlands as sensitive vegetation communities, and the Stanislaus County General Plan includes policies for the protection of oak woodlands and native hardwood habitat and maps of the locations of oak woodlands.

Blue Oak–Foothill Pine

Blue oak–foothill pine occurs at the western edge of the county in the Diablo Range, at slightly higher elevations than oak woodland and intergrading with chaparral and coastal scrub. Blue oak–foothill pine is co-dominated by foothill pine (*Pinus sabiniana*) and blue oak. Other associated tree species in this cover type are interior live oak, valley oak, and California buckeye. The understory includes a shrub layer with common manzanita, ceanothus, redberry, California coffeeberry, poison oak, and blue elderberry (*Sambucus nigra*). Annual grasses and forbs occur in the ground layer.

Blue oak–foothill pine woodlands provide breeding and foraging habitat for many wildlife species. Common wildlife species that use blue oak-foothill pine include western fence lizard, northern alligator lizard (*Elgaria coerulea*), western diamondback rattlesnake (*Crotalus atrox*), western scrub jay, yellow-billed magpie, California quail, oak titmouse, acorn woodpecker, spotted towhee (*Pipilo maculatus*), red-shouldered hawk, Cooper's hawk (*Accipter cooperii*), western gray squirrel, gray fox (*Urocyon cinereoargenteus*), and mule deer.

Although blue oak–foothill pine is not specifically recognized as a sensitive vegetation community, the Stanislaus County General Plan includes a policy for the protection of native hardwood habitat and maps of the locations of blue oak–foothill pine woodland (native hardwood habitat).

Valley Foothill Riparian

Valley foothill riparian occurs along the major rivers and creeks in the county, including San Joaquin River, Stanislaus River, small patches of the Tuolumne River, Orestimba Creek, and Dry Creek. Dominant tree species in riparian habitat include boxelder (*Acer negundo*), white alder (*Alnus rhombifolia*), Oregon ash (*Fraxinus latifolia*), California sycamore, Fremont cottonwood (*Populus fremontii*), valley oak, and a variety of willows (*Salix* sp.). Shrubs include blackberry, blue elderberry, and California wild grape (*Vitis californica*).

Valley foothill riparian provides food, water, migration and dispersal corridors, escape cover, nesting, and thermal cover for an abundance of wildlife. Common wildlife species that use valley foothill riparian include Sierran tree frog (*Pseudacris sierra*), common kingsnake, yellow-rumped warbler (*Dendroica coronata*), warbling vireo (*Vireo gilvus*), tree swallow (*Tachycineta bicolor*), bushtit (*Psaltriparus minimus*), California towhee (*Pipilo crissalis*), scrub jay, great horned owl (*Bubo virginianus*), northern flicker (*Colaptes auratus*), Bullock's oriole (*Icterus bullockii*), Botta's pocket gopher (*Thomomys bottae*), broad-footed mole (*Scapanus latimanus*), brush rabbit (*Sylvilagus bachmani*), raccoon (*Procyon lotor*), and mule deer.

State and federal agencies recognize riparian habitats as sensitive vegetation communities, and the Stanislaus County General Plan includes a policy for the protection of vegetation along waterways. Riparian areas that also meet criteria as wetlands are protected under the CWA. The CNDDB inventory has records of four specific types of sensitive riparian communities in the County—Great Valley cottonwood riparian forest, Great Valley mixed riparian forest, Great Valley oak riparian forest, and sycamore alluvial woodland.

Chaparral

This cover type is a combination of the GAP-mapped chamise-redshank chaparral and mixed chaparral types. Chaparral occurs in the Diablo Range at the western edge of the county.

In Stanislaus County, chamise-redshank chaparral is dominated by chamise (*Adenostoma fasciculatum*), as redshank (*Adenostoma sparsifolium*) is a southern California species. Associated species with chamise may include California coffeeberry, redberry, and poison oak.

Mixed chaparral is a diverse vegetation community that may include scrub oak, chaparral oak, ceanothus, and manzanita as dominants. Associated species can include chamise, California buckeye, birchleaf mountain mahogany (*Cercocarpus betuloides*), yerba-santa (*Eriodictyon californicum*), coffeeberry, silk-tassel (*Garrya congdonii*), Montana chaparral pea (*Pickeringia montana*), holly leaf cherry (*Prunus ilicifolia*), and poison oak,

Common wildlife species found in chaparral include western fence lizard, western diamondback rattlesnake, western scrub jay, California towhee, spotted towhee, California thrasher (*Toxostoma redivivum*), Lawerence's goldfinch (*Carduelis lawrencei*), sage sparrow (*Amphispiza belli*), greater roadrunner (*Geococcyx californianus*), Bewick's wren (*Thryomanes bewickii*), Botta's pocket gopher, California ground squirrel, and mule deer.

The CNDDB recognizes chamise-redshank chaparral and mixed chaparral on serpentine soils, which occur in the Diablo Range, as sensitive vegetation communities.

Diablan Sage Scrub

Diablan sage scrub occurs in the Diablo Range at the western edge of the county. Dominant species in Diablan sage scrub include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and black sage (*Salvia mellifera*) in association with sticky monkeyflower (*Mimulus aurantiacus*). Diablan sage scrub generally occurs on shallow, rocky soils on hot southern exposures.

Common wildlife species found in Diablan sage scrub include western fence lizard, western diamondback rattlesnake, western scrub jay, California towhee, spotted towhee, California thrasher, Lawerence's goldfinch, sage sparrow, greater roadrunner, Bewick's wren, Botta's pocket gopher, California ground squirrel, and mule deer.

The CNDDB recognizes Diablan sage scrub as a sensitive vegetation community.

Annual Grassland

Much of the annual grassland in the county has been removed, but the remaining areas are mostly in the foothills of the Diablo Range in the west and of the Sierras in the east. Annual grasslands also form the understory for oak woodlands, and weedy annual grassland habitat occurs on undeveloped land within urban areas. Annual grasslands in the county are dominated by nonnative annual grasses and annual and perennial forbs. Typical annual grass species include wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), Italian rye grass (*Festuca perennis*), and foxtail barley (*Hordeum murinum*). Commonly found nonnative forbs include wild mustard (*Brassica* sp.), filarees (*Erodium* spp.), wild radish (*Raphanus raphanistrum*), and clovers (*Trifolium* spp.); natives may include fiddleneck (*Amsinckia* spp.), California poppy (*Eschscholzia californica*), popcorn flower (*Plagiobothrys* sp.), and native clovers (*Trifolium* spp.), as well as many others.

Common wildlife species found in annual grassland include western fence lizard, western meadowlark (*Sturnella neglecta*), mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), Brewer's blackbird (*Euphagus cyanocephalus*), red-winged blackbird (*Agelaius*

phoeniceus), red-tailed hawk (*Buteo jamaicensis*), Botta's pocket gopher, and California ground squirrel.

Vernal Pool/Annual Grassland Complex

Vernal pool/annual grassland complex occurs predominantly on the east side of the county in the part of the valley at the base of the foothills. Smaller patches of this complex occur near the east side of the San Joaquin River and near the west side of the river at the Merced County line. The annual grassland in this complex is generally as described above. Vernal pools support a variety of native and nonnative species, including foxtail (*Alopecurus* spp.), annual hairgrass (*Deschampsia danthonioides*), downingia (*Downingia* spp.), spikerush (*Eleocharis* spp.), coyote thistle (*Eryngium* spp.), popcorn flower, and woolly marbles (*Psilocarphus* spp.).

Vernal pool complexes support common aquatic species such as California linderiella (*Linderiella occidentatlis*), Sierran tree frog, and western toad (*Bufo boreas*). Vernal pools are also frequented by migratory waterfowl and shorebirds.

Vernal pool wetlands are within RWQCB and/or USACE jurisdiction and may be regulated under the CWA. Vernal pools are also habitat for a number of special-status plants and animals. Vernal pool is considered a sensitive natural community.

Freshwater Emergent Wetland

Freshwater emergent wetland occurs in a few patches in the western part of the county. This wetland type is wetter than seasonal wetlands and may be perennially wet. Dominant species include sedges (*Carex* spp.), arrowhead (*Sagittaria* spp.), tule (*Schoenoplectus acutus* var. *occidentalis*), and cattail (*Typha* spp.).

Freshwater emergent wetlands are important sources of foraging, wintering, and nesting habitat for migratory birds. These areas are used by numerous waterfowl and shorebirds and small mammals.

Freshwater emergent wetlands are within USACE and RWQCB jurisdiction and are regulated under the CWA. It is considered a sensitive natural community.

Riverine

The riverine cover type includes the three major rivers in the county—the San Joaquin, Stanislaus, and Tuolumne—as well as Calaveras River in the northernmost corner, Dry Creek, and smaller streams and ditches. These features are primarily open water, but may support some floating aquatic vegetation and freshwater emergent wetland along the river banks. Riparian habitat also occurs adjacent to the riverine cover type.

Riverine habitat in California is important for native fish species and for wildlife that use these areas for foraging. Common wildlife species found in riverine habitat both native and nonnative fish species and various other wildlife species that frequent riverine habitat for drinking and foraging.

Riverine habitats are within USACE and RWQCB jurisdiction and are regulated under the CWA. Riverine is considered a sensitive natural community.

Lacustrine

The lacustrine cover type includes lakes and ponds, which are scattered throughout the valley part of the county. These features are primarily open water, but may support some floating aquatic vegetation and freshwater emergent wetland at the edges. The largest lacustrine features are reservoirs, including Woodward Reservoir, Modesto Reservoir, and Turlock Lake.

Lacustrine habitats provide important habitat for migratory waterfowl and shorebirds. Common wildlife species that use these areas include Sierran tree frog, western toad, mallard (*Anas platyrhynchos*), northern shoveler duck (*Anas clypeata*), common merganser (*Mergus merganser*), and North American beaver (*Castor canadensis*).

Lacustrine habitats are within USACE and RWQCB jurisdiction and are regulated under the CWA. They are considered sensitive natural communities.

Agriculture

Agriculture is the most extensive cover type in the county, occupying the majority of the valley area in the central section. This cover type is a combination of several GAP data types, including cropland, irrigated hayfield, irrigated row and field crops, and orchard-vineyard, which are more specific types than those included in the WHR system. The common element of most agricultural cover types is that they are monocultures and provide minimal habitat diversity. Some types are annuals that are managed using crop rotation, with the exception of orchards and vineyards, which may persist for decades. The irrigated types of agriculture may have standing water for prolonged periods, e.g., rice fields.

Agricultural areas are often used by wildlife species for foraging and cover. Common species that use agricultural areas include mourning dove, American crow, Brewer's blackbird, red-winged blackbird, red-tailed hawk, pocket gophers, and several other small rodents.

Urban

The urban cover type includes the developed areas in the cities of Ceres, Hughson, Modesto, Newman, Oakdale, Patterson, Riverbank, Turlock, and Waterford, and the unincorporated communities of Denair, Keyes, and Salida. The smaller unincorporated communities in the county were not large enough to be included in the coarse-scaled GAP mapping, and, therefore, are not shown on Figure 3.4-1. Urban areas contain landscaped vegetation that generally includes a mix of native and nonnative, horticultural species. Lawns, flowering shrubs, and shade trees are common in residential areas and around business park developments.

Urban areas provide habitat for many common bird species that utilize landscaped areas for foraging, cover, and nesting, such as American robin (*Turdus migratorius*), mourning dove, and northern mockingbird (*Mimus polyglottos*).

Barren

Barren land cover occurs in the northeast and southeast corners of the County and in an area on the east side of I-5 northwest of Newman. There are also designated aggregate mining areas along the Stanislaus and Tuolumne rivers. This cover type correlates with locations of dredge tailings and aggregate mining in the county and is generally disturbed ground with little to no vegetation. The

areas shown on Figure 3.4-1 may show larger barren areas than current conditions, and barren ground may become revegetated.

Barren areas provide very low quality habitat for wildlife because they provide no food or cover.

Wetlands and Other Waters

Wetlands and other waters include several of the land cover types discussed above—freshwater emergent wetland, lacustrine, riverine, some areas of valley-foothill riparian, and vernal pools within the vernal pool/annual grassland complex. These land cover types are regulated as waters of the United States by the USACE and/or as waters of the State by the RWQCB.

Special-Status Species

For the purposes of CEQA, the following categories are considered special-status species.

- Species listed or proposed for listing as threatened or endangered under ESA (50 CFR 17.12 [listed plants], 50 CFR 17.11 [listed animals], and various notices in the *Federal Register* [proposed species]).
- Species that are candidates for possible future listing as threatened or endangered under ESA (79 FR 72450, December 5, 2014).
- Species listed or proposed for listing by the State of California as threatened or endangered under CESA (California Code of Regulations [CCR], Title 14, Section 670.5).
- Species that meet the definitions of rare or endangered under State CEQA Guidelines Section 15380.
- Animals fully protected in California (California Fish and Game Code Section 3511 [birds], 4700 [mammals], and 5050 [amphibians and reptiles]).
- Animal species of special concern (SSC) to CDFW.
- Plants listed as rare under the CNPPA (California Fish and Game Code Section 1900 et seq.).
- Plants with a California Rare Plant Rank of 1A, 1B, 2A, 2B, 3, and 4 (California Native Plant Society 2014).

There are numerous animal and plant species within the county that are given special status under state and federal law because they are rare, threatened, endangered, or otherwise identified as needing protection in order to ensure their survival. CDFW maintains the CNDDB, a statewide inventory of reported occurrences of special-status plant and animal species. This includes federal and state listed species, as well as plants that are considered threatened ("Rare Plant Rank" on Table 3.4-2). Because the project is neither site-specific nor proposing an actual development project, the following information from the CNDDB (California Department of Fish and Wildlife 2014b), the California Native Plant Society (CNPS) Inventory (California Native Plant Society 2014), and the USFWS species list (U.S. Fish and Wildlife Service 2014a) is for the entire county. Table 3.4-2 lists the special-status plant species that have been found to occur in Stanislaus County. Table 3.4-3 lists the special-status animal species found in Stanislaus County. These represent the species reported by the CNDDB and CNPS in November 2014 and from a USFWS species list for the county on December 10, 2014.

Special-Status Plants

The 69 special-status plants identified as occurring in Stanislaus County are found in a variety of natural habitats, including annual grassland, vernal pool, oak woodland, riparian, and chaparral. Of these species, 9 are state and/or federally listed—succulent (fleshy) owl's clover, Hoover's spurge, Tracy's eriastrum, Delta button-celery, Colusa grass, San Joaquin Valley Orcutt grass, hairy Orcutt grass, Hartweg's golden sunburst, and Greene's tuctoria. Table 3.4-2 lists all of the 69 species identified and their CNPS, federal, and state status.

Table 3.4-2. Special-Status Plants Occurring in Stanislaus County

Species	Rare Plant Rank	Federal Status	California Status
Santa Clara thornmint *Acanthomintha lanceolata*	4.2	–	–
Red-flowered bird's–foot trefoil *Acmispon rubriflorus*	1B.1	–	–
Sharsmith's onion *Allium sharsmithiae*	1B.3	–	–
California androsace *Androsace elongate* ssp. *acuta*	4.2	–	–
Alkali milk-vetch *Astragalus tener* var. *tener*	1B.2	–	–
Heartscale *Atriplex cordulata* var. *cordulata*	1B.2	–	–
Crownscale *Atriplex coronata* var. *coronata*	4.2	–	–
Brittlescale *Atriplex depressa*	1B.2	–	–
Lesser saltscale *Atriplex minuscula*	1B.1	–	–
Vernal pool smallscale *Atriplex persistens*	1B.2	–	–
Subtle orache *Atriplex subtilis*	1B.2	–	–
Big tarplant *Blepharizonia plumosa*	1B.1	–	–
Sierra bolandra *Bolandra californica*	4.3	–	–
Round-leaved filaree *California macrophylla*	1B.1	–	–
Oakland star-tulip *Calochortus umbellatus*	4.2	–	–
Hoover's calycadenia *Calycadenia hooveri*	1B.3	–	–
Santa Cruz Mountains pussypaws *Calyptridium parryi* var. *hesseae*	1B.1	–	–
Chaparral harebell *Campanula exigua*	1B.2	–	–
Sharsmith's harebell *Campanula sharsmithiae*	1B.2	–	–

Species	Rare Plant Rank	Federal Status	California Status
Succulent (fleshy) owl's-clover *Castilleja campestris* var. *succulenta*	1B.2	T	E
Lemmon's jewelflower *Caulanthus lemmonii*	1B.2	–	–
Hoover's spurge *Chamaesyce hooveri*	1B.2	T	–
Mt. Hamilton fountain thistle *Cirsium fontinale* var. *campylon*	1B.2	–	–
Brewer's clarkia *Clarkia breweri*	4.2	–	–
Beaked clarkia *Clarkia rostrata*	1B.3	–	–
Serpentine collomia *Collomia diversifolia*	4.3	–	–
Small-flowered morning-glory *Convolvulus simulans*	4.2	–	–
Hoover's cryptantha *Cryptantha hooveri*	1A	–	–
Mariposa cryptantha *Cryptantha mariposae*	1B.3	–	–
Hospital Canyon larkspur *Delphinium californicum* ssp. *interius*	1B.2	–	–
Dwarf downingia *Downingia pusilla*	2B.2	–	–
Tracy's eriastrum *Eriastrum tracyi*	3.2	–	R
Bay buckwheat *Eriogonum umbellatum* var. *bahiiforme*	4.2	–	–
Jepson's woolly sunflower *Eriophyllum jepsonii*	4.3	–	–
Delta button-celery *Eryngium racemosum*	1B.1	–	E
Spiny-sepaled button-celery *Eryngium spinosepalum*	1B.2	–	–
Diamond-petaled California poppy *Eschscholzia rhombipetala*	1B.1	–	–
Stinkbells *Fritillaria agrestis*	4.2	–	–
Talus fritillary *Fritillaria falcata*	1B.2	–	–
Serpentine bluecup *Githopsis pulchella* ssp. *serpentinicola*	4.3	–	–
Hogwallow starfish *Hesperevax caulescens*	4.2	–	–
Tehama County western flax *Hesperolinon tehamense*	1B.3	–	–
Foothill jepsonia *Jepsonia heterandra*	4.3	–	–

Species	Rare Plant Rank	Federal Status	California Status
Knotted rush *Juncus nodosus*	2B.3	–	–
Forked hare-leaf *Lagophylla dichotoma*	1B.1	–	–
Ferris' goldfields *Lasthenia ferrisiae*	4.2	–	–
Legenere *Legenere limosa*	1B.1	–	–
Serpentine leptosiphon *Leptosiphon ambiguous*	4.2	–	–
Mt. Hamilton coreopsis *Leptosyne hamiltonii*	1B.2	–	–
Spring lessingia *Lessingia tenuis*	4.3	–	–
Mt. Hamilton lomatium *Lomatium observatorium*	1B.2	–	–
Showy golden madia *Madia radiata*	1B.1	–	–
Hall's bush-mallow *Malacothamnus hallii*	1B.2	–	–
Sylvan microseris *Microseris sylvatica*	4.2	–	–
Sierra monardella *Mondardella candicans*	4.3	–	–
Merced monardella *Monardella leucocephala*	1A	–	–
Lime Ridge navarretia *Navarretia gowenii*	1B.1	–	–
Colusa grass *Neostapfia colusana*	1B.1	T	E
California adder's-tongue *Ophioglossum californicum*	4.2	–	–
San Joaquin Valley Orcutt grass *Orcuttia inaequalis*	1B.1	T	E
Hairy Orcutt grass *Orcuttia pilosa*	1B.1	E	E
Mt. Diablo phacelia *Phacelia phacelioides*	1B.2	–	–
Michael's rein orchid *Piperia michaelii*	4.2	–	–
Hooked popcorn-flower *Plagiobothrys uncinatus*	1B.2	–	–
Warty popcorn-flower *Plagiobothry verrucosus*	2B.1	–	–
Hartweg's golden sunburst *Pseudobahia bahiifolia*	1B.1	E	E
Delta woolly-marbles *Psilocarphus brevissimus* var. *multiflorus*	4.2	–	–

Species	Rare Plant Rank	Federal Status	California Status
Prairie wedge grass *Sphenopholis obtusata*	2B.2	–	–
Greene's tuctoria *Tuctoria greenei*	1B.1	E	R

Sources: California Department of Fish and Wildlife 2014b; California Native Plant Society 2014; U.S. Fish and Wildlife Service 2014a.

Rare Plant Rank

1B = plants rare, threatened, or endangered in California and elsewhere.
2B = plants rare, threatened, or endangered in California, but more common elsewhere.
4 = plant of limited distribution.

Federal Status

T = threatened.
E = endangered.
C = candidate.

California Status

E = endangered.
R = rare.

Special-Status Animal Species

The special-status wildlife species that have been identified occurring within Stanislaus County are primarily associated with the annual grasslands/vernal pool complexes on the eastern side of the county, the riparian habitats along the San Joaquin, Stanislaus, and Tuolumne rivers, and the lands west of I-5.

Table 3.4-3. Special-Status Animals Occurring in Stanislaus County

Species	Federal Status	California Status
Invertebrates		
Conservancy fairy shrimp *Branchinecta conservatio*	E	–
Longhorn fairy shrimp *Branchinecta longiantenna*	E	–
Vernal pool fairy shrimp *Branchinecta lynchi*	T	–
Vernal pool tadpole shrimp *Lepidurus packardi*	E	–
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T	–
Fish		
Green sturgeon *Acipenser medirostris*	T	SSC
Steelhead – Central Valley DPS *Oncorhynchus clarkii henshawi*	T	–
Steelhead – South Central DPS	T	SSC
Central Valley spring-run chinook salmon *Oncorhynchus tshawytscha*	T	T

Species	Federal Status	California Status
San Joaquin roach *Lavinia symmetricus* ssp. 1	–	SSC
Hardhead *Mylopharodon concephalus*	–	SSC
Sacramento splittail *Pogonichithys macrolepidotus*	–	SSC
Amphibians		
California tiger salamander *Ambystoma californiense*	T	T
Western spdefoot *Spea hammondii*	–	SSC
California red-legged frog *Rana draytonii*	T	SSC
Foothill yellow-legged frog *Rana boylii*	–	SSC
Retiles		
Western pond turtle *Emys marmorata*	–	SSC
Blunt-nosed leopard lizard *Gambelia sila*	E	E
Coast horned lizard *Phrynosoma blainvillii*	–	SSC
San Joaquin whipsnake *Maticophis flagellum ruddocki*	–	SSC
Alameda whipsnake *Masticophis lateralis euryxanthus*	T	T
Giant garter snake *Thamnophis gigas*	T	T
Birds		
Bald eagle *Haliaeetus leucocephalus*	Delisted	E/FP
Swainson's hawk *Buteo swainsoni*	–	T
Golden eagle *Aquila chrysaetos*	–	FP
Mountain plover *Charadrius montanus*	–	SSC
California least tern *Sternula antillarum*	E	E/FP
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	T	E
Burrowing owl *Athene cunicularia*	–	SSC
Loggerhead shrike *Lanius ludovicianus*	–	SSC
Least Bell's vireo *Vireo bellii pusillus*	E	E

Species	Federal Status	California Status
Yellow breasted chat *Icteria virens*	–	SSC
Song sparrow ("Modesto" population) *Melospiza melodia*	–	SSC
Tri-colored blackbird *Agelaius tricolor*	–	E*
Mammals		
Western red bat *Lasiurus blossevillii*	–	SSC
Townsend's big-eared bat *Corynorhinus townsendii*	–	C (T)
Pallid bat *Antrozous pallidus*	–	SSC
Western mastiff bat *Eumops perotis californicus*	–	SSC
Riparian brush rabbit *Sylvilagus bachmani riparius*	E	E
Fresno kangaroo rat *Dipodomys nitratoides exilis*	E	E
Riparian woodrat *Neotoma fuscipes riparia*	E	SSC
San Joaquin kit fox *Vulpes macrotis mutica*	E	T
American badger *Taxidea taxus*	–	SSC

Source: California Department of Fish and Wildlife 2014b.

Federal Status

– = no listing.
C = candidate.
E = endangered.
T = threatened.

California Status

– = no listing.
C = candidate.
E = endangered.
E* = tricolored black bird emergency listing effective from December 3, 2014 to June 1, 2015.
FP = fully protected.
SSC = species of special concern.
T = threatened.

Critical Habitat

Critical habitat has been designated for 11 federally listed species within the limits of Stanislaus County (Figure 3.4-2)—Conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, Central Valley steelhead, California tiger salamander, California red-legged frog, succulent owl's clover, Hoover's spurge, Colusa grass, hairy Orcutt grass, and Green's tuctoria. As depicted on Figure 3.4-2, most of this critical habitat occurs along the eastern boundary of the county and is associated with vernal pools. The other large area of critical habitat occurs in mountainous terrain

along the western border of the county and is designated for California red-legged frog. In addition, the San Joaquin, Stanislaus, and Tuolumne rivers are designated critical habitat for Central Valley steelhead.

Wildlife Corridors

Generally, the eastern and western ends of Stanislaus County represent important wildlife movement corridors within the region. The importance of these areas is highlighted in the California Essential Habitat Connectivity (CEHC) Project (Spencer et al. 2010). The CEHC Project was commissioned by the California Department of Transportation and CDFW for the purpose of making transportation and land-use planning more efficient and less costly, while helping reduce dangerous wildlife-vehicle collisions (Spencer et al. 2010). The CEHC Project identified natural blocks of habitat across California and areas that potentially provide linkages between these blocks. The CEHC Project identifies these areas as Essential Connectivity Areas (ECAs). The ECAs were not developed for the purpose of defining areas subject to specific regulations by the CDFW or other agencies. They are identified as lands likely to be important to wildlife movement between large, mostly natural areas at the statewide level. The ECAs form a functional network of wildlands that are considered important to the continued support of California's diverse natural communities. They were not developed for the needs of particular species but were based primarily on the concept of ecological integrity, which considers the degree of land conversion, residential housing impacts, road impacts, and status of forest structure (for forested areas) (Spencer et al. 2010). In addition, consideration was given to the degree of conservation protection and areas known to support high biological values, such as mapped critical habitat and hotspots of species endemism (Spencer et al. 2010). The ECAs are intended as placeholder polygons that can inform land-planning efforts, but they should eventually be replaced by more detailed linkage designs, developed at finer resolution at the regional and ultimately local scale based on the needs of particular species and ecological processes.

The CEHC Project identified extensive natural landscape blocks and ECAs in the area west of I-5 and the area of annual grassland along the low foothills of the Sierra Nevada in the eastern part of the county (Figure 3.4-3). The area of Stanislaus County west of I-5 serves as an important north–south linkage for wildlife in the Inner Coast Range as well as an east–west corridor between this part of the Diablo Range, the Santa Clara Valley, and beyond to the Santa Cruz Mountains. This area is important to the movement of large mammals, such as deer and tule elk (*Cervus elaphus nannodes*), and smaller animals such as American badger, and is also of important for the conservation and recovery of the federally and state threatened San Joaquin kit fox and federally threatened California red-legged frog.

The eastern portion of the county comprises mostly annual grassland that is used for cattle grazing, which is an important area for the conservation and dispersal of vernal pool associated species, including federally protected vernal pool fairy shrimp, vernal pool tadpole shrimp, California tiger salamander, and several rare plant species.

Both the Stanislaus and Tuolumne rivers represent important dispersal corridors for aquatic species, including Central Valley steelhead, and also for migratory birds and many common and rare mammal species.

3.4.3 Impact Analysis

This section discusses the approach and methodology used to assess the impacts of the plan updates; the individual impacts relative to the thresholds of significance; mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for significant impacts; and the overall significance of the impact with mitigation incorporated.

Major Sources Used in Analysis

The major sources used in this analysis are listed below.

- California Natural Diversity Database (California Department of Fish and Wildlife 2014b)
- CNPS Inventory of Rare and Endangered Plants (California Native Plant Society 2014)
- USFWS Species List for Stanislaus County (U.S. Fish and Wildlife Service 2014a)
- USGS GAP Analysis Program land cover data (U.S. Geological Survey 1998)
- Central Valley Vernal Pool Complexes (California Department of Fish and Game 2009)
- USFWS Maps of Critical Habitat (U.S. Fish and Wildlife Service 2014b)
- California Essential Habitat Connectivity Project (Spencer et al. 2010)

Approach and Methodology

This EIR analyzes whether the project would have potential to adversely affect existing biological resources. Because the project does not propose any site-specific development activities, this analysis focuses on the potential reasonably foreseeable impacts of future development that could occur as a result of approving the plan updates.

No specific level of future development was forecast during this analysis, because there is no reasonable way to know how many of the uses allowable under the project may be approved in the future, and the locations of such uses cannot be known at this time. However, a comparison was made between baseline conditions presented in Figures 3.4-1, 3.4-2, and 3.4-3 to the General Plan Land Use Designation Map, figures in the Stanislaus County ALUCP, and figures in Chapter 3, Conservation/Open Space Element, of the Stanislaus County General Plan in order to identify general areas where biological resources identified in the setting could be affected by the plan updates.

Thresholds of Significance

Based on State CEQA Guidelines Appendix G and professional judgment, the plan updates would have a significant impact with respect to biological resources if they would result in any of the following.

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.), or waters of the State through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources.
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.
- Introduce or spread invasive species.

Impacts and Mitigation Measures

Impact BIO-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service (less than significant)

The full implementation of the project could result in impacts on special-status species. Build-out pursuant to the general plan could result in the conversion of current land cover types (primarily agriculture) that provide habitat for special-status species and could directly and indirectly affect special-status species, including disruption of normal behavior, injury, and mortality, during and after the development of these areas. The analysis below presents more specific assessment of potential impacts by category (special-status plants, special-status fish, and special-status wildlife). The General Plan update's goal for consistency with the ALUCP would result in the limitation of new residential development in certain areas due to their presence within the Airport Influence Areas (AIA). The proposed ALUCP would also limit the creation of conservation areas within AIAs. Because that would not change existing conditions (such conservation areas do not currently exist), the limitation would not have a significant impact. More detail about impacts on special-status species is provided below.

Special-Status Plants

Special-status plants and their potential habitat could be removed or disturbed with future development under the general plan's land use designations. Areas planned for future development around East Oakdale, Del Rio, Salida, and the planned highway commercial development at I-5 and Howard Road could result in the loss of or disturbance to vegetation communities that could support special-status plants, including annual grassland, vernal pool complexes, valley foothill riparian, and oak woodland. These communities provide habitat for nine state and/or federally listed special-status plant species—succulent (fleshy) owl's clover, Hoover's spurge, Colusa grass, San Joaquin Valley Orcutt grass, hairy Orcutt grass, and Greene's tuctoria in vernal pools; Delta button-celery in riparian habitat; Tracy's eriastrum in oak woodland and blue oak–foothill pine; and Hartweg's golden sunburst in annual grassland and oak woodland—as well as numerous other

California Rare Plant Rank species that are not listed. Development activities and future use of these areas could result in the loss or disturbance of habitat and direct removal of special-status plants.

The following goals and policies would help minimize, avoid, and compensate for project impacts on special-status plants.

Land Use Element

GOAL ONE. Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.

POLICY FOUR. Urban development shall be discouraged in areas with growth-limiting factors such as high water table or poor soil percolation, and prohibited in geological fault and hazard areas, flood plains, riparian areas, and airport and private airstrip hazard areas unless measures to mitigate the problems are included as part of the application.

POLICY SEVEN. Riparian habitat along the rivers and natural waterways of Stanislaus County shall to the extent possible be protected.

Conservation/Open Space Element

GOAL ONE. Encourage the protection and preservation of natural and scenic areas throughout the County.

POLICY TWO. Assure compatibility between natural areas and development.

IMPLEMENTATION MEASURES

1. Review zoning regulations and landscaping requirements for compatibility between proposed development and natural areas, including protection from invasive plants.
2. Review zoning regulations and landscaping requirements for compatibility between proposed development and natural areas, including protection from invasive plants.
3. Require Airport Land Use Commission (ALUC) review of the location, compatibility, and design of proposed parks, open space uses, and outdoor recreation areas within adopted Airport Influence Areas.
4. Discourage the establishment of conservation areas or nature preserves within adopted Airport Influence Areas.

Goal One, Policy Two in the updated Conservation/Open Space Element assures compatibility between natural areas and development but also includes Implementation Measure 4, which discourages the establishment of conservation areas or nature preserves within the AIAs identified in the ALUCP. This policy could prevent the future protection and restoration of riparian habitat along the Tuolumne River that falls within the Modesto Airport AIA. This could prevent the protection of potential habitat for special-status plants that occur in riparian habitat.

POLICY THREE. Areas of sensitive wildlife habitat and plant life (e.g., vernal pools, riparian habitats, flyways and other waterfowl habitats, etc.) including those habitats and plant species listed in the General Plan Support Document or by state or federal agencies shall be protected from development and/or disturbance.

POLICY FOUR. Protect and enhance oak woodlands and other native hardwood habitat.

GOAL TWO. Conserve water resources and protect water quality in the County.

POLICY SIX. Preserve natural vegetation to protect waterways from bank erosion and siltation.

GOAL TEN. Protect fish and wildlife species of the County.

POLICY TWENTY-NINE. Habitats of rare and endangered fish and wildlife species, including special status wildlife and plants, shall be protected. ~~Information on rare and endangered species and habitats is constantly being updated in response to a 1982 state law by the California State Department of Fish and Game through various sources which include the Stanislaus Audubon Society, California Native Plant Society, and the Sierra Club.~~

IMPLEMENTATION MEASURES

1. The County shall utilize the California Environmental Quality Act (CEQA) process to ensure that development does not occur that would be detrimental to fish, plant life, or wildlife species.
2. The County shall utilize the California State Department of Fish and Wildlife's California Natural Diversity Data Base and the California's Native Plant Society plant lists as the primary sources of information on special status wildlife and plants. ~~maintain information regarding fish and wildlife habitats and rare and endangered flora and fauna species.~~

Implementation of these goals and policies would reduce the effects of the general plan updated land use designation, updated polices, and the ALUCP and ensure that impacts will be less than significant.

Special-Status Fish

Special-status fish could be affected by future development under the general plan's land use designations along the Stanislaus River in East Oakdale, Del Rio, and Salida; and along Tuolumne River in Modesto. These rivers are designated critical habitat for Central Valley steelhead.

As presented in *Special-Status Plants,* Goal One, Policy Two in the Conservation/Open Space Element assures compatibility between natural areas and development. Implementation Measure 4 of this updated policy discourages the establishment of conservation areas or nature preserves within the AIAs identified in the ALUCP. This policy could prevent the future protection of habitat along the Tuolumne River that falls within the Modesto Airport AIA, which has been identified as critical habitat for Central Valley steelhead, but may not necessarily preclude any restoration activities within the river itself.

Special-Status Wildlife

Habitat for special-status wildlife could be lost or disturbed with future development under the general plan update's land use designations. Areas planned for future development around East Oakdale, Del Rio, Salida, and the planned highway commercial development at I-5 and Howard Road could result in the loss or disturbance of natural habitats, including annual grassland, vernal pool complexes, valley foothill riparian, and blue oak woodland. These natural communities provide habitat for several special-status wildlife species, including Conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, valley elderberry longhorn beetle, California tiger salamander, Swainson's hawk, and San Joaquin kit fox. Development activities and future use of these areas could result in the loss or disturbance of habitat, injury and mortality to special-status species, and disruption of normal behaviors that could reduce reproductive output and overall survivorship.

As presented in *Special-Status Plants,* Goal One, Policy Two in the Conservation/Open Space Element assures compatibility between natural areas and development but also includes the new Implementation Measure 4, which discourages the establishment of conservation areas or nature

preserves within the AIAs identified in the ALUCP. This policy could prevent the future protection and restoration of habitat along the Tuolumne River that falls within the Modesto Airport AIA. This could prevent the protection of habitat for the federally threatened valley elderberry longhorn beetle, which has been documented along the river.

The following goals and policies would help minimize, avoid, and compensate for project impacts on special-status fish and wildlife species.

Land Use Element

GOAL ONE. Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.

POLICY FOUR. Urban development shall be discouraged in areas with growth-limiting factors such as high water table or poor soil percolation, and prohibited in geological fault and hazard areas, flood plains, riparian areas, and airport and private airstrip hazard areas unless measures to mitigate the problems are included as part of the application.

POLICY SEVEN. Riparian habitat along the rivers and natural waterways of Stanislaus County shall to the extent possible be protected.

Conservation/Open Space Element

GOAL ONE. Encourage the protection and preservation of natural and scenic areas throughout the County.

POLICY TWO. Assure compatibility between natural areas and development.

IMPLEMENTATION MEASURES

1. Review zoning regulations and landscaping requirements for compatibility between proposed development and natural areas, including protection from invasive plants.
2. Review zoning regulations and landscaping requirements for compatibility between proposed development and natural areas, including protection from invasive plants.
3. Require Airport Land Use Commission (ALUC) review of the location, compatibility, and design of proposed parks, open space uses, and outdoor recreation areas within adopted Airport Influence Areas.
4. Discourage the establishment of conservation areas or nature preserves within adopted Airport Influence Areas.

POLICY THREE. Areas of sensitive wildlife habitat and plant life (e.g., vernal pools, riparian habitats, flyways and other waterfowl habitats, etc.) including those habitats and plant species listed in the General Plan Support Document or by state or federal agencies shall be protected from development and/or disturbance.

IMPLEMENTATION MEASURES

4. All discretionary projects within an adopted Airport Influence Area (AIA) that have the potential to create habitat, habitat conservation, or species protection shall be reviewed by the Airport Land Use Commission.
6. Any ground disturbing activities on lands previously undisturbed that will potentially impact riparian habitat and/or vernal pools or other sensitive areas shall include mitigation measures for protecting that habitat, as required by the State Department of Fish and Wildlife.

POLICY FOUR. Protect and enhance oak woodlands and other native hardwood habitat.

GOAL TWO. Conserve water resources and protect water quality in the County.

POLICY SIX. Preserve natural vegetation to protect waterways from bank erosion and siltation.

GOAL TEN. Protect fish and wildlife species of the County.

POLICY TWENTY-NINE. Habitats of rare and endangered fish and wildlife species, including special status wildlife and plants, shall be protected. ~~Information on rare and endangered species and habitats is constantly being updated in response to a 1982 state law by the California State Department of Fish and Game through various sources which include the Stanislaus Audubon Society, California Native Plant Society, and the Sierra Club.~~

IMPLEMENTATION MEASURES

1. The County shall utilize the California Environmental Quality Act (CEQA) process to ensure that development does not occur that would be detrimental to fish, plant life, or wildlife species.
2. The County shall utilize the California State Department of Fish and Wildlife's California Natural Diversity Data Base and the California's Native Plant Society plant lists as the primary sources of information on special status wildlife and plants. ~~maintain information regarding fish and wildlife habitats and rare and endangered flora and fauna species.~~

Implementation of these goals and policies would reduce the effects of the general plan updated land use designation, updated polices, and the ALUCP. This impact would be less than significant considering the Plan's aforementioned goals and policies.

Significance without Mitigation: Less than significant (no mitigation required)

Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service (less than significant)

Sensitive natural communities could be affected by the project, including valley foothill riparian types (Great Valley cottonwood riparian forest, Great Valley mixed riparian forest, Great Valley oak riparian forest, and sycamore alluvial woodland) and oak woodland. Vernal pools (northern hardpan vernal pool), freshwater emergent wetlands, and other waters could also be affected, but are addressed under Impact BIO-3. Other sensitive natural communities in the county, including blue oak–foothill pine woodland and chaparral occur outside of areas that would be affected by development under the project.

Under the general plan update's land use designations, valley foothill riparian habitat and oak woodland could be lost or disturbed with future development. Areas planned for future development around East Oakdale, Del Rio, and Salida could result in the loss or disturbance of valley foothill riparian along the Stanislaus River.

Conservation/Open Space Element Goal One, Policy Two assures compatibility between natural areas and development but also includes the new Implementation Measure 4, which discourages the establishment of conservation areas or nature preserves within the AIAs identified in the ALUCP. This policy could prevent the future protection and restoration of riparian habitat along the Tuolumne River that falls within the Modesto Airport AIA.

The general plan update includes several goals and policies that emphasize the conservation and management of sensitive natural communities. The following policies would help minimize, avoid, and compensate for project impacts on sensitive natural communities.

Land Use Element

GOAL ONE. Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.

POLICY FOUR. Urban development shall be discouraged in areas with growth-limiting factors such as high water table or poor soil percolation, and prohibited in geological fault and hazard areas, flood plains, riparian areas, and airport and private airstrip hazard areas unless measures to mitigate the problems are included as part of the application.

POLICY SEVEN. Riparian habitat along the rivers and natural waterways of Stanislaus County shall to the extent possible be protected.

Conservation/Open Space Element

GOAL ONE. Encourage the protection and preservation of natural and scenic areas throughout the County.

POLICY ONE. Maintain the natural environment in areas dedicated as parks and open space.

POLICY TWO. Assure compatibility between natural areas and development.

IMPLEMENTATION MEASURES

1. Review zoning regulations and landscaping requirements for compatibility between proposed development and natural areas, including protection from invasive plants.
2. Review zoning regulations and landscaping requirements for compatibility between proposed development and natural areas, including protection from invasive plants.
3. Require Airport Land Use Commission (ALUC) review of the location, compatibility, and design of proposed parks, open space uses, and outdoor recreation areas within adopted Airport Influence Areas.
4. Discourage the establishment of conservation areas or nature preserves within adopted Airport Influence Areas.

POLICY FOUR. Protect and enhance oak woodlands and other native hardwood habitat.

GOAL TWO. Conserve water resources and protect water quality in the County.

POLICY SIX. Preserve natural vegetation to protect waterways from bank erosion and siltation.

GOAL TEN. Protect fish and wildlife species of the County.

POLICY TWENTY-NINE. Habitats of rare and endangered fish and wildlife species, including special status wildlife and plants, shall be protected. ~~Information on rare and endangered species and habitats is constantly being updated in response to a 1982 state law by the California State Department of Fish and Game through various sources which include the Stanislaus Audubon Society, California Native Plant Society, and the Sierra Club.~~

IMPLEMENTATION MEASURES

1. The County shall utilize the California Environmental Quality Act (CEQA) process to ensure that development does not occur that would be detrimental to fish, plant life, or wildlife species.
2. The County shall utilize the California State Department of Fish and Wildlife's California Natural Diversity Data Base and the California's Native Plant Society plant lists as the

primary sources of information on special status wildlife and plants. ~~maintain information regarding fish and wildlife habitats and rare and endangered flora and fauna species.~~

The effects of the project on sensitive natural communities would be reduced to less than significant through the implementation of the above policies.

Significance without Mitigation: Less than significant (no mitigation required)

Impact BIO-3: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) or waters of the State through direct removal, filling, hydrological interruption, or other means (less than significant)

Wetlands could be filled or disturbed as a result of future development under the general plan update's land use designations. Areas planned for future development around East Oakdale, Del Rio, and Salida could result in effects on any wetlands and waters associated with the Stanislaus River. However, these are generally areas which have been historically farmed or have significant surrounding development and wetlands, if any, would be of limited size. East Oakdale would have the best potential for wetlands, however the remaining area for development is limited and that would limit potential impacts. Development activities could result in the fill of wetlands and the degradation of wetlands and waters over time due to sedimentation, alteration of hydrology, and effects on water quality.

Goal One, Policy Two in the Conservation/Open Space Element assures compatibility between natural areas and development but also includes the new Implementation Measure 4, which discourages the establishment of conservation areas or nature preserves within the AIAs identified in the ALUCP. This policy could prevent the future protection and restoration of wetland and aquatic habitat along the Tuolumne River that falls within the Modesto Airport AIA.

Also, Goal Nine, Policies Twenty-Six and Twenty-Seven in the updated Conservation/Open Space Element support the development of sand and gravel mines in several ARAs of the county, which could affect wetlands and other waters, including vernal pool/annual grassland complex, freshwater emergent wetland, riverine, and lacustrine cover types. Mining activities could result in the fill and the degradation of wetlands and waters over time due to sedimentation, alteration of hydrology, and effects on water quality. Wetlands and other waters potentially subject to these impacts occur in the Orestimba Creek Fan ARA, Garzas Creek Fan ARA, Calaveras River Terrace ARA, Stanislaus River ARA, and Tuolumne River ARA.

The general plan update includes several goals and policies that would support the protection of wetlands and waters. The following policies would help minimize, avoid, and compensate for project impacts on wetlands and waters.

Land Use Element

GOAL ONE. Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.

POLICY FOUR. Urban development shall be discouraged in areas with growth-limiting factors such as high water table or poor soil percolation, and prohibited in geological fault and hazard areas, flood plains, riparian areas, and airport and private airstrip hazard areas unless measures to mitigate the problems are included as part of the application.

POLICY SEVEN. Riparian habitat along the rivers and natural waterways of Stanislaus County shall to the extent possible be protected.

Conservation/Open Space Element

GOAL ONE. Encourage the protection and preservation of natural and scenic areas throughout the County.

POLICY ONE. Maintain the natural environment in areas dedicated as parks and open space.

POLICY TWO. Assure compatibility between natural areas and development.

IMPLEMENTATION MEASURES

1. Review zoning regulations and landscaping requirements for compatibility between proposed development and natural areas, including protection from invasive plants.
2. Review zoning regulations and landscaping requirements for compatibility between proposed development and natural areas, including protection from invasive plants.
3. Require Airport Land Use Commission (ALUC) review of the location, compatibility, and design of proposed parks, open space uses, and outdoor recreation areas within adopted Airport Influence Areas.
4. Discourage the establishment of conservation areas or nature preserves within adopted Airport Influence Areas.

POLICY THREE. Areas of sensitive wildlife habitat and plant life (e.g., vernal pools, riparian habitats, flyways and other waterfowl habitats, etc.) including those habitats and plant species listed in the General Plan Support Document or by state or federal agencies shall be protected from development and/or disturbance.

GOAL TWO. Conserve water resources and protect water quality in the County.

POLICY SIX. Preserve natural vegetation to protect waterways from bank erosion and siltation.

IMPLEMENTATION MEASURES

1. Development proposals and mining activities including or in the vicinity of waterways and/or wetlands shall be closely reviewed to ensure that destruction of riparian habitat and vegetation is minimized. This shall include referral to the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the State Department of Fish and ~~Game~~ Wildlife, and the State Department of Conservation.

The effects of the project on wetlands and other waters as defined by Section 404 of the Clean Water Act and regulated by the state would be reduced to less than significant through the implementation of the policies mentioned above.

Significance without Mitigation: Less than significant (no mitigation required)

Impact BIO-4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (significant and unavoidable)

Movement corridors for fish and wildlife could be affected by future development under the general plan update's land use designations. Areas planned for future development around East Oakdale, Del Rio, Salida, and the planned highway commercial development at I-5 and Howard Road could interfere with the movement of fish and wildlife through the encroachment upon the Stanislaus River (East Oakdale, Del Rio, and Salida) and with the movement of wildlife, in particular San Joaquin kit fox, west of I-5 (highway commercial development).

The general plan update includes several goals and policies that emphasize the conservation and management of natural resources and the preservation of open space lands. The following policies would help minimize, avoid, and compensate for project impacts on movement corridors for fish and wildlife.

Land Use Element

GOAL ONE. Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.

POLICY FOUR. Urban development shall be discouraged in areas with growth-limiting factors such as high water table or poor soil percolation, and prohibited in geological fault and hazard areas, flood plains, riparian areas, and airport and private airstrip hazard areas unless measures to mitigate the problems are included as part of the application.

POLICY SEVEN. Riparian habitat along the rivers and natural waterways of Stanislaus County shall to the extent possible be protected.

Conservation/Open Space Element

GOAL ONE. Encourage the protection and preservation of natural and scenic areas throughout the County.

POLICY TWO. Assure compatibility between natural areas and development.

IMPLEMENTATION MEASURES

1. Review zoning regulations and landscaping requirements for compatibility between proposed development and natural areas, including protection from invasive plants.
2. Review zoning regulations and landscaping requirements for compatibility between proposed development and natural areas, including protection from invasive plants.
3. Require Airport Land Use Commission (ALUC) review of the location, compatibility, and design of proposed parks, open space uses, and outdoor recreation areas within adopted Airport Influence Areas.
4. Discourage the establishment of conservation areas or nature preserves within adopted Airport Influence Areas.

POLICY THREE. Areas of sensitive wildlife habitat and plant life (e.g., vernal pools, riparian habitats, flyways and other waterfowl habitats, etc.) including those habitats and plant species listed in the General Plan Support Document or by state or federal agencies shall be protected from development and/or disturbance.

POLICY FOUR. Protect and enhance oak woodlands and other native hardwood habitat.

GOAL TWO. Conserve water resources and protect water quality in the County.

POLICY SIX. Preserve natural vegetation to protect waterways from bank erosion and siltation.

GOAL TEN. Protect fish and wildlife species of the County.

POLICY TWENTY-NINE. Habitats of rare and endangered fish and wildlife species, including special status wildlife and plants, shall be protected. ~~Information on rare and endangered species and habitats is constantly being updated in response to a 1982 state law by the California State Department of Fish and Game through various sources which include the Stanislaus Audubon Society, California Native Plant Society, and the Sierra Club.~~

IMPLEMENTATION MEASURES

1. The County shall utilize the California Environmental Quality Act (CEQA) process to ensure that development does not occur that would be detrimental to fish, plant life, or wildlife species.
2. The County shall utilize the California State Department of Fish and Wildlife's California Natural Diversity Data Base and the California's Native Plant Society plant lists as the primary sources of information on special status wildlife and plants. ~~maintain information regarding fish and wildlife habitats and rare and endangered flora and fauna species.~~

The potential for additional development in the county's rural communities is relatively limited. Nonetheless, the effects of the project on wildlife movement corridors, in particular the effects on the Stanislaus and Tuolumne rivers, would substantially impede the movement of fish and wildlife through the County. Considering the past loss of riparian habitat and the proximity of development and agricultural lands to these rivers, and the already narrow movement corridor west of I-5, the impacts from the project on wildlife movement corridors would be significant and unavoidable. There is no feasible mitigation available to reduce this impact.

Significance: Significant and Unavoidable (no mitigation available)

Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources (no impact)

The applicable local policies and ordinance protecting biological resources consist of those adopted by the County. The project would not conflict with any county policies or ordinances protecting biological resources.

Significance without Mitigation: No impact (no mitigation required)

Impact BIO-6: Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan (no impact)

No natural community conservation plans have been adopted in Stanislaus County. (California Department of Fish and Wildlife 2014c) There are no adopted habitat conservation plans within Stanislaus County. The project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

Significance without Mitigation: No impact

Impact BIO-6: Introduce or spread invasive species (less than significant)

Invasive plants are present in the county. However, development activities could introduce new invasive plants or contribute to the spread of existing invasive plants to uninfested areas outside the county. Invasive plants or their seeds may be dispersed by construction equipment if appropriate prevention measures are not implemented. The introduction or spread of invasive plants as a result of the project could have a significant effect on sensitive natural communities within and outside the project area by displacing native flora.

Introduction or spread of invasive plant species is of concern to CDFW. The following changes to the Conservation/Open Space Element will ensure that this impact is less than significant.

GOAL ONE. Encourage the protection and preservation of natural and scenic areas throughout the County.

POLICY TWO. Assure compatibility between natural areas and development.

IMPLEMENTATION MEASURES

1. Review zoning regulations and landscaping requirements for compatibility between proposed development and natural areas, including protection from invasive plants.

Significance without Mitigation: Less than Significant (no mitigation required)

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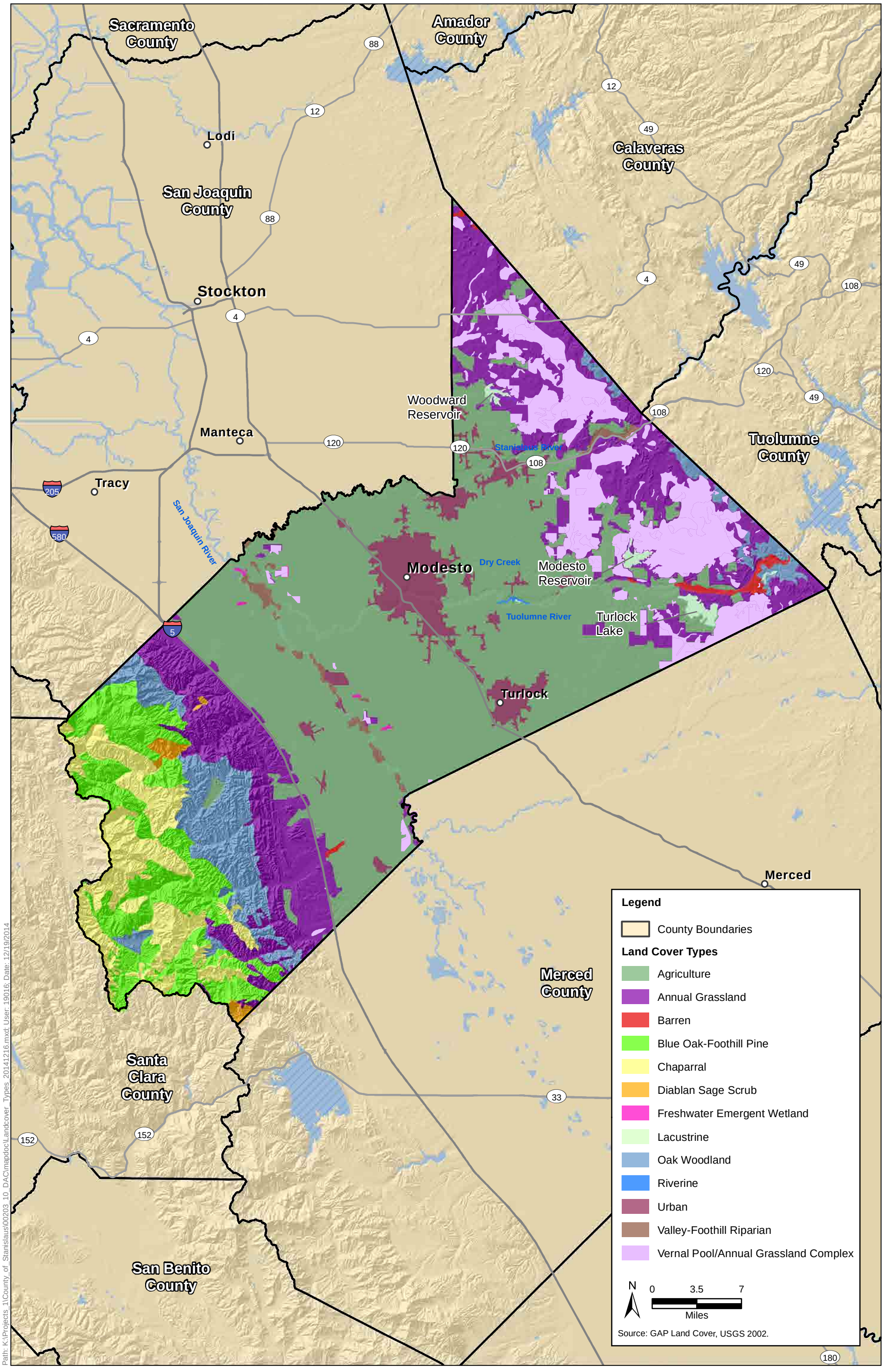

Path: K:\Projects_1\County_of_Stanislaus\00203_10_DAC\mapdoc\Landcover_Types_20141216.mxd; User: 19016; Date: 12/19/2014

Figure 3.4-1
Land Cover in Stanislaus County

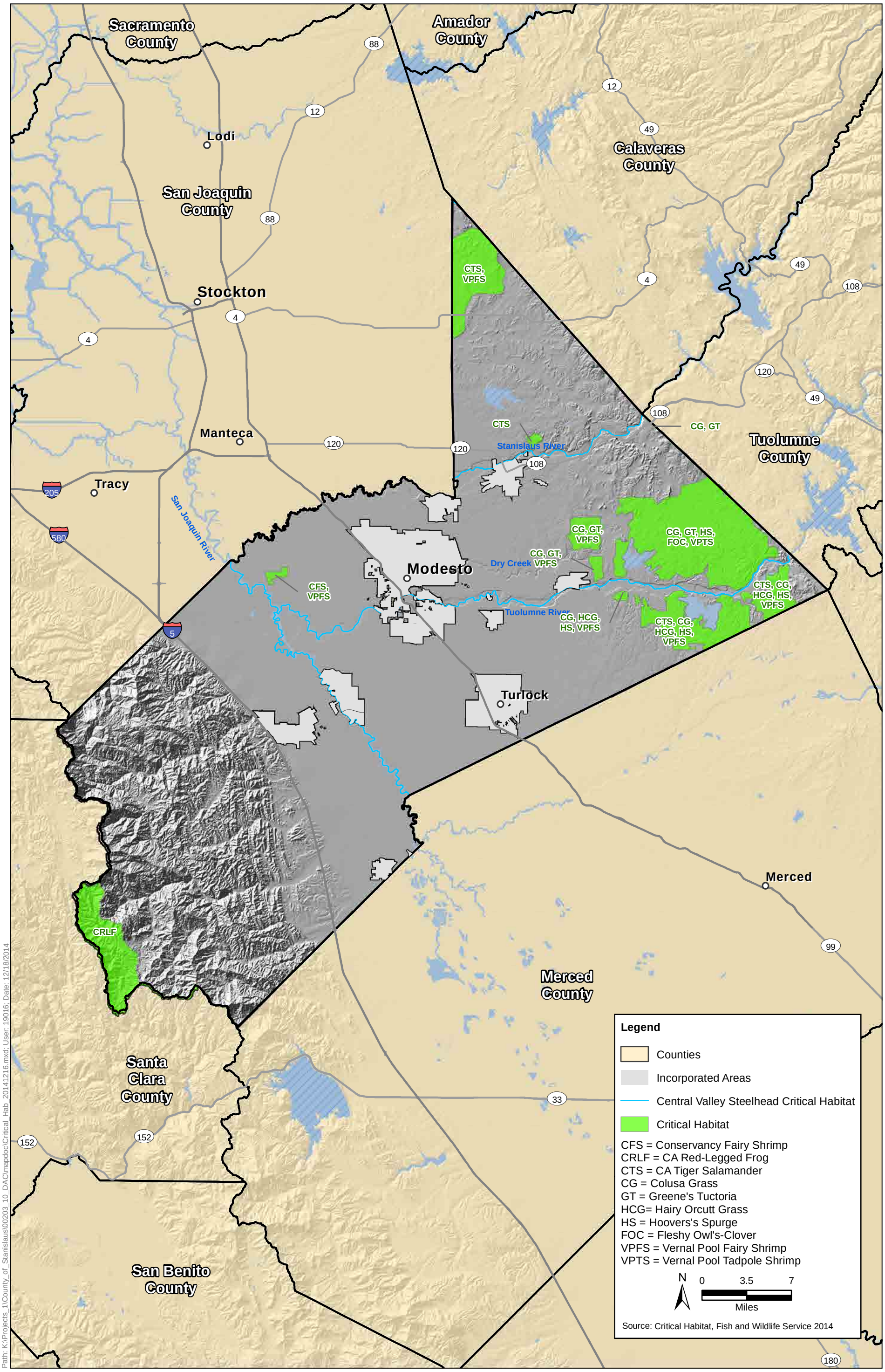

Figure 3.4-2
Critical Habitat in Stanislaus County

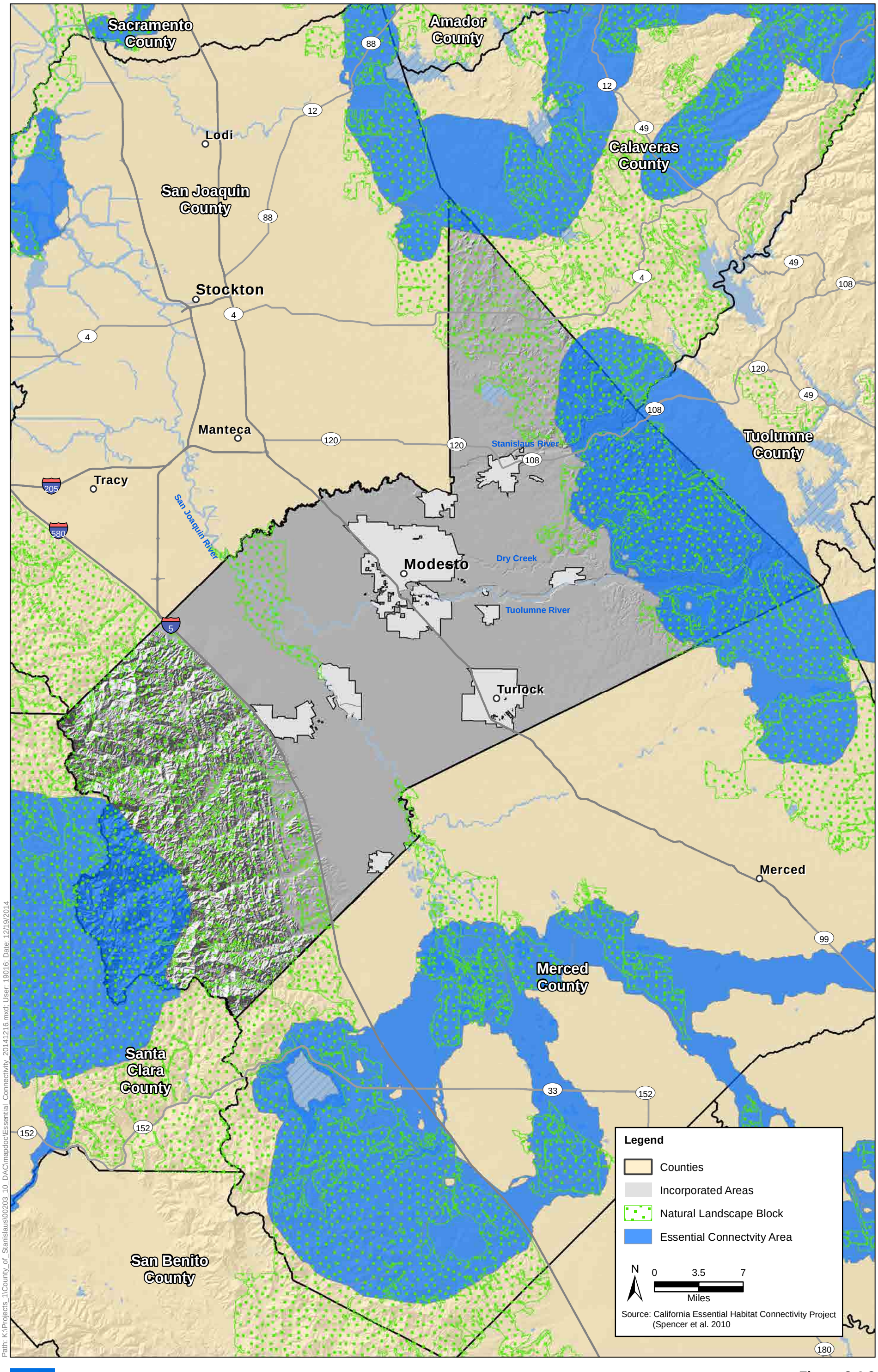

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Figure 3.4-3
Wildlife Movement Corridors

3.5 Cultural Resources

3.5.1 Introduction

This section discusses the impacts of the plan updates with respect to cultural resources. It lists the thresholds of significance that form the basis of the environmental analysis, describes the cultural resources study area and major sources used in the analysis, provides environmental setting information that is relevant to cultural resources, and assesses whether the plan updates would result in significant impacts with respect to this resource. The discussion of impacts on paleontological resources is found in Section 3.6, *Geology, Soils, and Paleontological Resources* because those resources are linked to geologic formations and are not cultural remains.

Study Area

The cultural resources study area for the EIR is defined as unincorporated Stanislaus County.

3.5.2 Environmental Setting

This section describes the federal, state, and local regulations and policies that are applicable to the plan updates, and the existing conditions pertaining to cultural resources in the study area. The existing conditions will constitute the baseline for this analysis.

Regulatory Setting

This section describes the federal, state, and local regulations related to cultural resources that would apply to the plan updates.

A cultural resource may be designated as significant by national, state, or local authorities. For a resource to qualify for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR), it must meet one or more established criteria.

Federal

National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) requires that, before beginning any undertaking, a federal agency must take into account the effects of the undertaking on historic properties and offer the Advisory Council on Historic Preservation and other interested parties an opportunity to comment on these actions. The NHPA applies to federal actions and is most commonly invoked at the local level when a development project is subject to federal permits. It is also invoked when local projects, such as road projects, receive federal funds. Specific regulations regarding compliance with Section 106 state that, although the tasks necessary to comply with Section 106 may be delegated to others, the federal agency is ultimately responsible for ensuring that the Section 106 process is completed.

The Section 106 review process involves a five-step procedure.

1. Initiate the Section 106 process (assess the ability of the undertaking to affect historic properties, identify consulting parties, and plan to involve interested parties).
2. Identify historic properties in the area of potential effect.
3. Assess adverse effects.
4. Resolve adverse effects.
5. Implement the project according to the memorandum of agreement, or implement the project without a memorandum of agreement if one is unnecessary.

Section 106 requires federal agencies or those they fund or permit to consider the effects of their actions on properties that are determined eligible for listing or are listed in the NRHP. To determine whether an undertaking could affect NRHP-eligible properties, cultural resources (including archaeological, historical, architectural, and traditional cultural properties) must be inventoried and evaluated for the NRHP.

To be listed in the NRHP, a property must be at least 50 years old (or be of exceptional historic significance if less than 50 years old) and meet one or more of the NRHP criteria. To qualify for listing, a historic property must represent a significant theme or pattern in history, architecture, archaeology, engineering, or culture at the local, state, or national level. It must meet one or more of the four criteria listed below and have sufficient integrity to convey its historic significance. The criteria for evaluating the eligibility of a historic property for listing in the NRHP are defined in Code of Federal Regulations [CFR], Title 36, Section 60.4 as follows.

- Criterion A – Association with events that have made a significant contribution to the broad patterns of our history.
- Criterion B – Association with the lives of persons significant to our past.
- Criterion C – Resources that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D – Resources that have yielded, or may be likely to yield, information important to history or prehistory.

In addition to meeting the significance criteria, a significant historic property must possess integrity to be considered eligible for listing in the NRHP. Integrity refers to a property's ability to convey its historic significance. Integrity is a quality that applies to historical resources in seven specific ways: location, design, setting, materials, workmanship, feeling, and association. To be considered a significant historic property, a resource must possess two, and usually has more, of these kinds of integrity, depending on the context and the reasons why the property is significant. National Park Service's *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (National Park Service 1995), discusses the types of integrity.

- **Location** – the place where the historic property was constructed or the place where the historic event took place.
- **Design** – the combination of elements that create the form, plan, space, structure, and style of a property.
- **Setting** – the physical environment of a historic property.

- **Materials** – the physical environments where combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
- **Workmanship** – the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- **Feeling** – a property's expression of the aesthetic or historic sense of a particular period of time.
- **Association** – the direct link between an important historic event or person and a historic property.

The NRHP criteria also limit the consideration of moved properties because significance is embodied in locations and settings. Under the NRHP, moving a building destroys the integrity of location and setting. A moved property can be eligible for listing if it is significant primarily for architectural value or if it is the surviving property most importantly associated with a historic person or event (National Park Service 1995).

Section 106 regulations define an adverse effect as an effect that alters, directly or indirectly, the qualities that make a resource eligible for listing in the NRHP (36 CFR 800.5[a][1]). Consideration must be given to the property's location, design, setting, materials, workmanship, feeling, and association, to the extent that these qualities contribute to the integrity and significance of the resource. Adverse effects may be direct and reasonably foreseeable, or may be more remote in time or distance (36 CFR 8010.5[a][1]). Examples of adverse effects are listed below.

- Physical destruction of or damage to all or part of the property.
- Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (Weeks and Grimmer 1995) and applicable guidelines.
- Removal of the property from its historic location.
- Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance.
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features.
- Neglect of a property that causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to a Native American tribe or Native Hawaiian organization.
- Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

State

California Environmental Quality Act

CEQA uses the term *historical resources* to describe buildings, sites, structures, objects, or districts that may have historical, pre-historical, architectural, archaeological, cultural, or scientific importance. CEQA states that "[a] project that may cause a substantial adverse change in the

significance of an historical resource is a project that may have a significant effect on the environment." (Public Resources Code [PRC] Section 21084.1)

If implementation of a project could result in significant effects on historical resources, then alternative plans or mitigation measures that reduce the effects to a less-than-significant level must be incorporated into the project (California Code of Regulations (CCR), Title 14, Sections 15064.5, 15126.4). The first step in the analysis of a project's potential impacts on historical resources is to determine whether any significant historical resources are present. The State CEQA Guidelines define three ways that a property will qualify as a historical resource for the purposes of CEQA review.

1. The resource is listed in or determined eligible for listing in the California Register of Historical Resources (CRHR).
2. The resource is included in a local register of historical resources, as defined in Section 5020.1[k] of the Public Resources Code (PRC) or identified as significant in a historical resource survey meeting the requirements of Section 5024.1[g] of the PRC, unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3. The lead agency determines the resource to be significant, as supported by substantial evidence in light of the whole record (14 CCR 15064.5[a]).

Each of these is related to the eligibility criteria for inclusion in the CRHR (PRC Sections 5020.1[k], 5024.1, 5024.1[g]). A historical resource may be eligible for inclusion in the CRHR if it meets any of the following conditions (14 CCR 4850).

1. It is associated with events or patterns of events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
2. It is associated with the lives of persons important to local, California, or national history.
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values.
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

Properties that are listed in or eligible for listing in the NRHP are considered eligible for listing in the CRHR and thus are also significant historical resources for the purpose of CEQA (PRC Section 5024.1[d][1]).

Under CEQA, a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. Actions that would materially impair the significance of a historic resource are any actions that would demolish or adversely alter the physical characteristics that convey the property's historical significance and qualify it for inclusion in the CRHR, the NRHP, or in a local register or survey that meets the requirements of PRC Sections 5020.1[k] and 5024.1[g].

Policies Concerning Native American Heritage

PRC Section 5097.9 states that no public agency or a private party on public property "shall…interfere with the free expression or exercise of Native American religion…." The code

further states that "nor shall any such agency or party cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require."

County and city lands are exempt from this provision, except for parklands larger than 100 acres.

Policies Concerning Human Remains

Disturbance of human remains without the authority of law is a felony (California Health and Safety Code Section 7052). If the remains are Native American in origin, they are within the jurisdiction of the Native American Heritage Commission (NAHC) (California Health and Safety Code Section 7050.5c; PRC Section 5097.98).

If human remains are discovered or recognized in any location other than a dedicated cemetery, there can be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the following take place.

- The County Coroner has been informed and has determined that no investigation of the cause of death is required; and
- The Coroner makes a determination that the remains are Native American or has reason to believe they are Native American, in which case the Coroner must contact NAHC, and
- NAHC determines the most likely descendant; and
    - The most likely descendants of the deceased Native American(s) have made a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code, Section 5097.98, or
    - The NAHC was unable to identify a most likely descendant, or
    - The most likely descendent failed to make a recommendation within 24 hours after being notified by the NAHC. (California Health and Safety Code Section 7050.5c; PRC Section 5097.98).

Senate Bill 18 (Chapter 905, Statutes of 2004) – Local and Tribal Intergovernmental Consultation

Senate Bill (SB) 18 is a process separate from CEQA that requires cities and counties that include traditional tribal cultural places on both public and private lands to consult with federally and non-federally recognized Native American tribes prior to approving amendments to their general plans. A cultural place is a landscape feature, site, or cultural resource that has some relationship to particular tribal religious heritage, or is a historic or archaeological site of significance or potential significance.

SB 18 places the responsibility of initiating consultation on Stanislaus County by notifying tribal representatives of the proposed general plan amendment and giving the tribes at least 90 days to accept the offer of consultation. The purpose of SB 18 is to provide time for tribal input early in the planning process so that the general plan amendment can incorporate features that would protect tribal cultural places. Consultation is a "government to government" interaction between tribal representatives and representatives of the County. The NAHC maintains a list of Native American individual/groups, organized by county, for SB 18 Tribal Consultation.

Assembly Bill 52 (Chapter 532, Statutes of 2014) – Native American Consultation Under CEQA

Assembly Bill (AB) 52, effective July 1, 2015, establishes new requirements under CEQA for lead agencies to offer Native American tribes the opportunity to formally consult over proposed projects prior to the release of draft environmental documents for public review. The consultation is to cover potential impacts, mitigation measures, and project alternatives that may reduce or avoid impacts. No EIR or negative declaration can be approved unless no tribe requested consultation, the consultation resulted in mutually agreeable mitigation or alternatives, or the lead agency concluded the consultation without an agreement but after a good faith attempt at consultation. AB 52 also expands CEQA's concerns to include the potential for significant adverse effects on tribal cultural resources, as defined in the new statute.

Local

Stanislaus County General Plan Goals and Policies

The Conservation/Open Space Element of the Stanislaus County General Plan has established goals to "preserve areas of national, state, regional, and local historical importance," and to preserve "'Qualified Historical Buildings' as defined by the State Building Code" (Conservation/Open Space Element, Goal Eight, Policies Twenty-Four and Twenty-Five). Except for compliance with CEQA, the only implementation measure for the policy goals that may be relevant to this general plan update is the requirement to seek input from the Knight's Ferry Municipal Advisory Council concerning any development proposals in the historical site zone encompassing Knight's Ferry.

The following County general plan goal, policies, and implementation measures apply to cultural resources.

GOAL EIGHT. Preserve areas of national, state, regional, and local historical importance.

POLICY TWENTY-FOUR. The County will support the preservation of Stanislaus County's cultural legacy of historical and archeological resources for future generations.

(Comment: Landmarks of historical consequence not only include old schoolhouses, and covered bridges, but also such sites as Native American burial grounds, cemeteries, pottery, rock carvings, and rock paintings. Normally, "sensitive" areas are often located near natural watercourses, springs, or ponds, or on elevated ground. However, due to the silt build-up in the valley and the meandering of rivers, archaeological and historical sites may be found in unsuspected areas.)

IMPLEMENTATION MEASURES

1. The County shall continue to utilize the HS (Historical Site) zone in Knight's Ferry and La Grange to protect the historical character of the communities.
2. The County shall seek input from the Knight's Ferry Municipal Advisory Council concerning any development proposals in the HS zone in Knight's Ferry.
3. The County shall work with the County Historical Society, and other organizations and interested individuals to study, identify and inventory archeological resources and historical sites, structures, buildings and objects.
4. The County will cooperate with the State Historical Preservation Officer to identify and nominate historical structures, objects, buildings and sites for inclusion under the NHPA.
5. The County shall utilize the California Environmental Quality Act (CEQA) process to protect archaeological or historic resources. Most discretionary projects require review for compliance with CEQA. As part of this review, potential impacts must be identified and mitigated.

6. The County shall make referrals to the Office of Historic Preservation and the CCIC as required to meet CEQA requirements.
7. The County will work with all interested individuals and organizations to protect and preserve the mining heritage of Stanislaus County.

POLICY TWENTY-FIVE. "Qualified Historical Buildings" as defined by the State Building Code shall be preserved.

IMPLEMENTATION MEASURES

1. Whenever possible, the County Building Inspection Division shall utilize the provisions of the State Building Code that allow historical buildings to be restored without damaging the historical character of the building.
2. The County shall continue to utilize the HS (Historical Site) zone in Knight's Ferry and La Grange to protect the historical character of the communities.

City Ordinances and Policies

City ordinances and policies do not apply to unincorporated lands under the jurisdiction of Stanislaus County. The following summaries describe the means by which cities protect historical resources within the incorporated areas of the county.

City of Modesto

Modesto has a landmark preservation ordinance that establishes the recognition, preservation, enhancement, perpetuation, and use of structures, natural features, sites, and areas within the city as having historic, architectural, archaeological, structural engineering, or aesthetic significance. The eligibility of a site is determined through a recommendation by the Modesto Landmark Preservation Commission, followed by a public hearing and final determination by the City Council. Accordingly, Modesto has a list of local sites beyond those in the CRHR and NRHP.

When a project proposes to alter a building older than 45 years, or when construction would occur within 100 feet of such a building, data sufficient to indicate the historical significance of the building must be submitted to the City. If a resource is found to be historically significant locally, the City requires the implementation of measures to preserve that resource. If archaeological resources are discovered during construction, all activity must cease in the area until a qualified archaeologist has evaluated the find according to State CEQA Guidelines.

City of Turlock

The Cultural and Historic Resources section of the City's General Plan Conservation Element states the following guiding policy: "Integrate historic preservation into planning for Downtown and other areas with historic significance." Implementing policies recommend following state requirements for a certified local government and utilizing the historic building code to encourage the adaptive reuse of historic buildings. (City of Turlock 2012.)

City of Hughson

The Open Space and Conservation Element of the Hughson General Plan includes a cultural resource conservation policy: "The City will support the efforts of the Hughson Historical Society to document and preserve the community's history and create a museum to highlight Hughson's past." It also commits the city to undertake cultural resources analyses as part of the CEQA process." (City of Hughson 2005.)

City of Oakdale

The Oakdale General Plan contains policies related to its historic neighborhoods and historical preservation including Policies LU-2.5 ("Preserve and enhance the integrity, cohesiveness, and character of Oakdale's historic neighborhoods including the street grid pattern, architectural styles, tree canopies, public improvements and amenities"), LU-3.7 ("Preserve and enhance buildings of historic and architectural importance, and ensure that new development is compatible with and contributes to the historic identity of Downtown."), and NR-7 ("Encourage the preservation and adaptive reuse of historic sites and structures."). Generally, the Land Use and Natural Resources Elements of the general plan outlines goals to preserve the older portions of the city as a basis of its heritage. Policies include instructions to conduct cultural resources surveys before approving development plans and to consider establishing "flexible zoning regulations to encourage preservation of structures and architectural styles."

Oakdale does not have a specific historic preservation ordinance. However, there is a historic-cultural overlay district that encompasses the central business district and surrounding residential areas. Any action requiring a City permit for work within the district requires design review by the appointed committee. (City of Oakdale 2013.)

City of Newman

The Newman 2030 General Plan's Recreation and Cultural Resources Element lists specific policies to achieve the goal of preserving historic resources, including for example RCR-5.1 ("The City shall exercise its responsibility to identify, document and evaluate Newman's historic resources that may be affected by proposed development projects and other landscape-altering activities.") and RCR-5.2 ("The City shall set as a high priority the protection and enhancement of Newman's historically and architecturally-significant buildings"). Those policies include instructions to update the city's inventory of historic buildings and sites; adopt the state Historical Building Code; and to create historic districts with standards for preservation and development.

The City has a historic preservation overlay district for which all new building permits must undergo design review by an architectural review committee. This process applies to commercial and industrial developments as well as new residential subdivisions. (City of Newman 2007.)

City of Waterford

The City's 2025 Vision General Plan's Urban Design Element encourages restoration and maintenance of historic buildings or sites, as illustrated by Policy UD-3c ("Encourage the preservation and enhancement of buildings of special historic and/or architectural interest"). (City of Waterford 2006.)

City of Patterson

The Patterson General Plan's Parks, Recreation, and Cultural Resources Element contains a number of policies to preserve and enhance the City's historical heritage. These include Policies PR-4.1 ("Protection of significant structures. The City shall set as a high priority the protection and enhancement of Patterson's historically and architecturally significant buildings.") and PR-4.2 ("Historic district. The City shall maintain a historic district in the downtown area and along East Las Palmas Avenue and develop standards for the preservation and rehabilitation of historic structures and compatible infill development. New development near designated historic landmark structures and sites shall be designed to be compatible with the character of the designated historic

resource."). In addition, the Patterson Historical Society maintains a list of buildings of special historical interest.

In addition, Goal PR-5 is "to protect Patterson's Native American Heritage." Policies under this goal provide directives to consult with Native Americans over development projects, coordinate with the Central California Information Center regarding development proposals, and avoid sensitive sites where possible. (City of Patterson 2010.)

Airport Land Use Compatibility Plan

The ALUCP does not specifically address or set policies for cultural resources and would not alter any aspects of the general plan update that might affect cultural resources.

Existing Conditions

Prehistoric Background

The prehistoric populations of Stanislaus County include the territories of the Northern Valley Yokuts and the Plains and Sierra Miwok. Geographically, the Miwoks occupied the eastern edge of Stanislaus County in the foothills, while the Yokuts lived in the Valley (Santos 2002).

It is estimated that the Yokuts population ranged from 11,000 to 31,000 at European contact and was concentrated along waterways and on the east side of the San Joaquin River (Wallace 1978, Latta 1977). Settlements were typically composed of single-family dwellings, sweathouses, and ceremonial structures. Subsistence revolved around water resources in the San Joaquin Valley (Wallace 1978).

The Miwok population at European contact is estimated to have been around 9,000. Miwok territory was focused on the westward slope of the Sierra Nevada range and in the eastern Central Valley along the San Joaquin and Sacramento rivers. Miwok villages were composed of single-family dwellings, sweat houses, and semi-subterranean dance houses. Subsistence was focused on gathering plant foods, such as acorns, and deer hunting (Kroeber 1919, California Department of Parks and Recreation 2013).

Historic Background

European presence in Stanislaus County began as early as 1806, when Lieutenant Gabriel Moraga and Father Pedro Munoz led 25 men from Mission San Juan Bautista to explore the Central Valley for suitable mission locations (Santos 2002, Tinkham 1921). However, no missions were founded in Stanislaus County, and the Spanish had little control over the San Joaquin Valley in general (Wallace 1978).

In 1821, Mexico achieved independence from Spain. The years following independence saw the privatization of mission lands in California with the passage of the Secularization Act of 1833, which enabled Mexican governors in California to distribute mission lands to individuals as land grants. Between 1843 and 1846, successive Mexican governors established five land grants within Stanislaus County (Santos 2002).

War between the United States and Mexico led to the transfer of Alta California to the United States with the signing of the Treaty of Guadalupe Hidalgo in 1848. Under this treaty, the U.S. agreed to pay Mexico $15 million for the conquered territory, including Alta California, Nevada, Utah, and parts of

Colorado, Arizona, New Mexico, and Wyoming. Settlement in California continued dramatically thanks to the Gold Rush of 1849; and on September 9, 1850, California entered the union as a free state (Rolle 2003). Stanislaus County was formed 4 years later from part of Tuolumne County (Santos 2002).

Early settlement in Stanislaus County was focused on the foothills of the Sierra Nevada and on the three rivers in the area. Communities such as La Grange and Knight's Ferry, both located near the Sierra Nevada foothills, began as mining camps along the Tuolumne and Stanislaus rivers. By the 1860s, larger and more permanent settlements were developing along the Stanislaus River. These include Oakdale, New Hope, Adamsville, and Paradise. Initially, wheat was the primary agricultural crop County because it provided farmers with a source of income relatively quickly. Other cereal grains, such as barley and oats, were also common. Steamboats and small barges on the San Joaquin River provided early transportation for freight and passengers. Hill's Ferry and Grayson became important shipping points for wheat during the 1860s (Hoover and Kyle 2002:517), and numerous settlements were established on the San Joaquin, Stanislaus, and Tuolumne rivers, particularly at ferry crossing points.

River towns were generally abandoned in favor of railroad towns beginning in the 1870s (Santos 2002). Development on the valley floor in support of the agricultural industry was energized when the Central Pacific Railroad (later Southern Pacific Railroad) came to Stanislaus County. Railroads played a key role in the formation of Stanislaus County's two largest cities, Modesto and Turlock, as well as the smaller towns. Like Modesto, Turlock was established in 1871 along the railroad line. During the late nineteenth and early twentieth centuries, Turlock developed as a shipping point and retail center for surrounding farms. Southern Pacific Railroad branch lines constructed through the county in the 1880s stimulated the development of small commercial centers such as Oakdale, Waterford, and Newman.

Implementation of new irrigation systems expanded opportunities for agricultural diversification in Stanislaus County. For example, although wheat was very important, alfalfa quickly became a leading crop that provided feed for growing herds of dairy cattle. The cultivation of orchard crops such as peaches, apricots, almonds, and oranges also became more prevalent. Although the agricultural economy fluctuated during the twentieth century, it remains a key element of the county's economy today.

Cultural Resources Inventory

To compile a listing of recognized cultural resources within Stanislaus County, information was obtained from the State Office of Historic Preservation. Resources are shown in Table 3.5-1. Included in the table are sites listed on the NRHP, sites designated as a California State Landmark, and sites listed as California Points of Historical Interest. Not included are sites that are solely on Modesto's local list. Within Stanislaus County, there are 20 NRHP listings, 5 state landmarks, and 7 points of historical interest. The majority of these are located in urban areas east of State Route 99.

Table 3.5-1. Stanislaus County Historical Resources

Location	Resource Name	NRHP	State Landmark	Point of Historical Interest
Ceres	Whitmore, Daniel, House	X		
County Highway J-7 Empire	Empire City		X	
Denair	Denair Mercantile Development Company Building			X
Knights Ferry and vicinity	Knights Ferry		X	
Knights Ferry vicinity	Willms Ranch		X	
La Grange	Kingen Hotel	X		
La Grange	La Grange		X	
La Grange	La Grange Dam			X
La Grange	Louie's Place	X		
La Grange	Odd Fellows Halls	X		
La Grange	Old Adobe Barn	X		
La Grange	Old La Grange Schoolhouse	X		
La Grange	Shell Gas Station	X		
La Grange	St. Louis Catholic Church	X		
La Grange	Stage Stop	X		
La Grange vicinity	Gold Dredge	X		
Unincorporated County	Adamsville			X
Modesto	McHenry Mansion	X		X
Unincorporated County (Empire)	Paradise			X
Modesto	U.S. Post Office	X		
Modesto	Walton, Dr. Robert and Mary, House	X		
Modesto	Wood, Walter B., House	X		
Oakdale	First National Bank of Oakdale Building	X		
Patterson	Patterson Branch Library	X		
Patterson	Plaza Building	X		
Riverbank	Riverbank Branch Library	X		
Turlock	Temporary Detention Camps for Japanese Americans - Turlock Assembly Center		X	
Turlock	Turlock Carnegie Library	X		
Turlock	Turlock High School Auditorium and Gymnasium	X		
Westley	Grayson			X
Westley	Tuolumne City			X

Source: California Office of Historic Preservation 2013.

3.5.3 Impact Analysis

This section discusses the approach and methodology used to assess the impacts of the plan updates; discusses the individual impacts relative to the thresholds of significance; identifies mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for significant impacts; and indicates the overall significance of the impact with mitigation incorporated.

Major Sources Used in Analysis

The major sources used in this analysis are listed below.

- Stanislaus County General Plan Update 1994
- Final Programmatic Environmental Impact Report, 2014 Regional Transportation Plan/ Sustainable Communities Strategy, Stanislaus County (Stanislaus Council of Governments [StanCOG] 2014) (StanCOG EIR).

Approach and Methodology

For this EIR, the County referred to data recently obtained during the creation of the StanCOG EIR. The County obtained listings of historical resources from the California State Office of Historic Preservation, which provided the county resources listed in the NRHP (20), those designated as a California State Landmark (5), and/or those listed as California Points of Historical Interest (7). All of these are built environment resources (houses, buildings, etc.) The County does not maintain a list or database of archaeological resources. The changes to the general plan were then compared against the existing knowledge of historical and cultural resources in order to identify the potential for implementation of the general plan updates to impact existing historical resources. No new field work or background record searches were conducted for the preparation of this program EIR. The general plan update was analyzed for programmatic changes to the avoidance or mitigation of impacts on cultural resources set forth in the current general plan.

Thresholds of Significance

Based on State CEQA Guidelines Appendix G, the plan updates would have a significant impact with respect to cultural resources if they would result in any of the following.

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.
- Disturb any human remains, including those interred outside of formal cemeteries.

According to State CEQA Guidelines Section 15126.4(b), public agencies should, whenever feasible, seek to avoid damaging effects on any historical resource of an archaeological nature. The following factors listed under Section 15126.4(b)(3) must be considered for a project involving such an archaeological site.

(A) Preservation in place (avoidance) is the preferred manner of mitigating impacts to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.

(B) Preservation in place may be accomplished by, but is not limited to, the following:

- Planning construction to avoid archaeological sites;
- Incorporation of sites within parks, green space, or other open space;
- Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site.
- Deeding the site into a permanent conservation easement.

(C) When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provisions for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken. Such studies shall be deposited with the California Historical Resources Regional Information Center. Archaeological sites known to contain human remains shall be treated in accordance with the provisions of Section 7050.5 Health and Safety Code.

(D) Data recovery shall not be required for a historical resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historical resource, provided that the determination is documented and that the studies are deposited with the California Historical Resources Regional Information Center.

Impacts and Mitigation Measures

The 2014 updates to the Stanislaus County General Plan incorporate changes that have occurred in terms of legislation, regulatory codes, and extension of the planning horizon. Changes have been incorporated into the Land Use, Circulation, Conservation/Open Space, Noise, and Safety elements. The ALUCP is also being updated.

Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 (significant and unavoidable)

The changes to the Conservation and Open Space Element involve only minor revisions to the goal, policies, and implementation measures pertaining to cultural resources.

GOAL EIGHT. Preserve areas of national, state, regional, and local historical importance.

POLICY TWENTY-FOUR. The County will support the preservation of Stanislaus County's cultural legacy of archaeological, historical ~~and archeological~~, and paleontological resources for future generations.

IMPLEMENTATION MEASURES

5. The County shall utilize the California Environmental Quality Act (CEQA) process to protect archaeological, ~~or~~ historic, or paleontological resources. Most discretionary projects require review for compliance with CEQA. As part of this review, potential impacts must be identified and mitigated.

POLICY TWENTY-FIVE. "Qualified Historical Buildings" as defined by the State Building Code shall be preserved.

IMPLEMENTATION MEASURES

1. Whenever possible, the County Building ~~Inspection~~ Permits Division shall utilize the provisions of the State Building Code that allow historical buildings to be restored without damaging the historical character of the building.

Although the concentration of future development in already urbanized areas and circulation improvements may indirectly increase the quantity of projects seeking the demolition, alteration, or relocation of CEQA historic resources, the general plan updates do not alter County policies regarding the significance of impacts on CEQA historic resources.

Similarly, the proposed general plan update and ALUCP policies do not alter the significance of the impacts on historic resources. General plan updates do not modify the procedures or policies regarding how historical resources are identified or evaluated for eligibility; nor do the updates change how impacts on historic resources are accessed or mitigated under the general plan. Therefore, any projects resulting from the promotion of increased urban density or the improvement of transportation networks would continue to require project-level review.

The responsible departments for several of the implementation measures under Goal Eight, Policies Twenty-Four and Twenty-Five have been updated. Those changes that pertain to paleontological resources are discussed in Section 3.6, *Geology, Soils, and Paleontological Resources*. No other changes pertaining to any of the cultural resources goals, policies, and implementation measures were made in the proposed 2014 general plan updates. Additional information obtained from any Native American consultation conducted per SB 18 and the minor changes in the departments responsible for the existing implementation measures would not have any potential impacts on cultural resources.

In general, prior to commencement of any action, development, or land use changes on lands subject to federal jurisdiction, or for projects involving federal funding, a cultural resource survey and an environmental analysis must be prepared. These, in concert with County general plan policies and state laws described above, would largely avoid substantial adverse changes in the significance of historical resources. Historical resources are also protected under the regulations of the NHPA when projects involve federal agencies.

The ALUCP regulates development projects to some degree, but does not authorize them, even indirectly. As a result, the ALUCP update would not result in any substantial adverse effect on significant historical resources.

However, development pursuant to the general plan, as amended by the project will result in changes to existing cultural resources. At the individual project level, there may be future projects that are consistent with the general plan, comply with all state and local laws that are protective of significant historical resources, and still result in a significant adverse impact on a historical resource. Typically, this would be a project that demolishes or otherwise destroys a significant historical resource. Demolition or destruction cannot be mitigated under CEQA (*Architectural Heritage Association. v. County of Monterey* [2004] 122 Cal. App. 4th 1095; *League for Protection of Oakland's Architectural and Historic Resources v. City of Oakland* [1997] 52 Cal. App. 4th 896). It is reasonable to assume that there will be development projects with this impact in the future. Therefore, when examined in conjunction with development under the general plan, the updates would result in a significant and unavoidable impact.

Significance: Significant and unavoidable (no mitigation available)

Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 (significant and unavoidable)

Archaeological resources are known to be present throughout Stanislaus County. Therefore, it is possible that future development, redevelopment, and construction activities proposed under the general plan update may result in direct or indirect impacts on both prehistoric and historic archaeological resources. There are no development projects associated with the revised plans for the ALUCP. If archaeological resources are present in the areas where development is planned to occur, they could be damaged by earth-disturbing construction activities, such as excavation for foundations, placement of fills, trenching for utility systems, and grading for roads and staging areas. In particular, construction activities may disturb such resources, thereby exposing them to potential vandalism, or causing them to be displaced from the original context and integrity. Additionally, transportation improvements could restrict access to previously accessible locations that are important to Native Americans. This is considered a significant impact. Specific analysis will be required under CEQA when individual projects are proposed. In general, however, causing a substantial adverse change in the significance of an archaeological resource that has the potential to yield information important to the prehistory or history of the local area, California, or the nation in general, would be considered significant.

The state policies and regulations discussed above relating to Native American heritage and treatment of Native American burials will reduce the potential for significant impacts. Assembly Bill 52, to take effect in July 2015, will provide further protections for tribal cultural resources as well as archaeological resources through the CEQA process. AB 52 will require the county to consult with affiliated California tribes and prepare an EIR for those projects that may arguably result in a significant adverse effect on a Native American cultural resource.

Goal Eight, Policy Twenty-Four of the Conservation/Open Space Element provides measures for protecting archaeological and paleontological resources (see Impact CUL-1). Because the proposed general plan updates regarding cultural resources are very minor, the impacts anticipated on existing cultural resources would not be much different than those under the existing general plan. Implementation of the above policy, implementation measures, and AB 52 would reduce impacts from implementation of the project on existing archaeological and tribal cultural resources, but not to a less than significant level.

AB 52 establishes that an adverse effect on a tribal cultural resource is a significant effect on the environment. While it would require preparation of an EIR in those situations where a future development project would have such an effect or destroy a tribal cultural resource, the EIR would not prohibit approval of that development project. Therefore, it is reasonably foreseeable that there may be a future situation where a tribal cultural resource could be irreparably harmed, resulting in a significant and unavoidable impact.

Significance: Significant and unavoidable (no mitigation available)

Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries (less than significant)

Buried human remains that were not identified during previous research and field studies also could be inadvertently unearthed during ground-disturbing activities, possibly resulting in damage to the human remains. Therefore, human remains could be damaged or destroyed by future development

related to build out of the Stanislaus County General Plan. In the absence of regulations, this impact would be significant.

The state regulations discussed above relating to the treatment of burials will reduce the potential for significant impacts. Future CEQA analysis of development projects will similarly promote the identification of remains and their proper, respectful disposition. In addition, Goal Eight, Policy Twenty-Four of the Conservation/Open Space Element provides measures for protecting archaeological and paleontological resources (see Impact CUL-1). As noted previously, paleontological resources are addressed in Section 3.6, *Geology, Soils, and Paleontological Resources*. Because the proposed general plan updates would not reduce the effectiveness of these controls, no new impacts are anticipated on human remains. To the extent that the remains are of Native Americans, the impact is addressed in Impact CUL-2, above. Implementation of the above policies and implementation measures, and measures required under state law, including CEQA, would reduce impacts on human remains to less than significant. No additional mitigation is required.

Significance without Mitigation: Less than significant (no mitigation required)

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3.6 Geology, Soils, and Paleontological Resources

3.6.1 Introduction

This section discusses the impacts of the plan updates with respect to geology, soils, and paleontological resources. It lists the thresholds of significance that form the basis of the environmental analysis, describes the geology, soils, and paleontology study area and major sources used in the analysis, provides environmental setting information that is relevant to geology, soils, and paleontological resources, and assesses whether the plan updates would result in significant impacts with respect to this resource.

Study Area

The geology, soils, and paleontological resources study area for the EIR is defined as unincorporated Stanislaus County.

3.6.2 Environmental Setting

This section describes the federal, state, and local regulations and policies that are applicable to the plan updates, and the existing conditions pertaining to geology, soils, and paleontological resources in the study area. The existing conditions will constitute the baseline for the environmental analysis.

Regulatory Setting

This section describes the federal, state, regional, and local regulations related to geology, soils, and paleontological resources that would apply to the plan updates.

Federal

U.S. Geological Survey National Landslide Hazard Program

To fulfill the requirements of Public Law 106-113, the U.S. Geological Survey created the National Landslide Hazards Program to reduce long-term losses from landslide hazards by improving understanding of the causes of ground failure and suggesting mitigation strategies. The Federal Emergency Management Agency is the responsible agency for the long-term management of natural hazards.

Paleontological Resources Act of 2009

The Paleontological Resources Act of 2009 (Public Law No. 111-11, Subtitle D) provides for the protection and preservation of paleontological resources. Under this law, the Secretaries of both the Department of the Interior and the Department of Agriculture are directed to inventory, manage, and protect paleontological resources on the public lands they administer. In addition, the Secretaries are directed to coordinate these efforts and to establish education programs to increase public awareness of the significance of paleontological resources. The law also prohibits the collection of paleontological resources from federal land without a permit, except in the case of noncommercial collecting that complies with other regulations for that federal land.

State

Alquist-Priolo Earthquake Fault Zoning Act

California's Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) (PRC Section 2621 et seq.), originally enacted in 1972 as the Alquist-Priolo Special Studies Zones Act and renamed in 1994, is intended to reduce risks to life and property from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location of most types of structures intended for human occupancy[1] across the traces of active faults and strictly regulates construction in the corridors along active faults (earthquake fault zones). It also defines criteria for identifying active faults, giving legal weight to terms such as *active*, and establishes a process for reviewing building proposals in and adjacent to earthquake fault zones.

Under the Alquist-Priolo Act, faults are zoned, and construction along or across them is strictly regulated if they are "sufficiently active" and "well-defined." A fault is considered sufficiently active if one or more of its segments or strands shows evidence of surface displacement during Holocene time (defined for purposes of the act as referring to approximately the last 11,000 years). A fault is considered well-defined if its trace can be identified clearly by a trained geologist at the ground surface, or in the shallow subsurface using standard professional techniques, criteria, and judgment (Bryant and Hart 2007).

Seismic Hazards Mapping Act

Like the Alquist-Priolo Act, the Seismic Hazards Mapping Act of 1990 (PRC Sections 2690–2699.6) is intended to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong ground shaking, liquefaction, and seismically induced landslides. Its provisions are similar in concept to those of the Alquist-Priolo Act: the state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards; and cities and counties are required to regulate development within mapped seismic hazard zones.

Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development. Specifically, cities and counties are prohibited from issuing development permits for sites within seismic hazard zones until appropriate site-specific geologic and/or geotechnical investigations have been carried out and measures to reduce potential damage have been incorporated into the development plans. Geotechnical investigations conducted within Seismic Hazard Zones must incorporate standards specified by California Geological Survey Special Publication 117a, *Guidelines for Evaluating and Mitigating Seismic Hazards* (California Geological Survey 2008).

Clean Water Act Section 402—General Permit for Construction and Other Land Disturbance Activities

The Clean Water Act (CWA) is discussed in detail in Section 3.9, *Hydrology and Water Quality*. However, because CWA Section 402 is directly relevant to grading activities, additional information is provided here.

[1] With reference to the Alquist-Priolo Act, a *structure for human occupancy* is defined as one "used or intended for supporting or sheltering any use or occupancy, which is expected to have a human occupancy rate of more than 2,000 person-hours per year" (14 CCR 2, Section 3601[e]).

Section 402 of the CWA mandates that certain types of construction activity comply with the requirements of the United States Environmental Protection Agency's (EPA's) National Pollutant Discharge Elimination System (NPDES) program. EPA has delegated to California's State Water Resources Control Board (SWRCB) the authority for the NPDES program in California, where it is implemented by the state's nine Regional Water Quality Control Boards (RWQCBs).

Dischargers whose projects disturb 1 or more acres of soil, or less than 1 acre but that are part of a larger common plan of development that in total disturbs 1 or more acres, are required to obtain coverage under the SWRCB's General Order 2010-0014-DWQ. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. Construction General Permit applicants are required to prepare a Notice of Intent and a stormwater pollution prevention plan (SWPPP) and implement and maintain best management practices (BMPs) to avoid adverse effects on receiving water quality as a result of construction activities, including earthwork.

Coverage under the General Permit is obtained by submitting permit registration documents to the SWRCB that include a risk level assessment and a site-specific SWPPP identifying an effective combination of erosion control, sediment control, and non-stormwater BMPs. The General Permit requires that the SWPPP define a program of regular inspections of the BMPs and, in some cases, sampling of water quality parameters.

In Stanislaus County, state NPDES Stormwater Permits are obtained from the Central Valley RWQCB.

The County has prepared a Storm Water Management Program to meet the terms of the General Permit. In addition, in July 2014, the County updated its Standards and Specifications (Stanislaus County Department of Public Works 2014) to meet current regulations, including bringing these construction design requirements into compliance with the Construction General Permit 2009-0009-DWQ requirements. The purpose of the County's Standards and Specifications is to "establish minimum design requirements for the construction of improvements in the public rights of-way, residential subdivisions, commercial developments, industrial developments, and other types of development projects that are subject to the approval of the Department of Public Works or are to be dedicated to the County for maintenance and/or operations."

Clean Water Act Section 402—Municipal Separate Storm Sewer System Program

EPA defines a municipal separate storm sewer system (MS4) as any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, country, or other public body having jurisdiction over stormwater, that is designed or used for collecting or conveying stormwater. As part of the NPDES program, EPA initiated a program requiring that entities having MS4s apply to their local RWQCB for stormwater discharge permits. The program proceeded through two phases. Under Phase I, the program initiated permit requirements for designated municipalities with populations of 100,000 or more to obtain NPDES permit coverage for their stormwater discharges. Phase II expanded the program to municipalities with populations less than 100,000 as well as small MS4s outside the urbanized areas that are designated by the permitting authority to obtain NPDES permit coverage for their stormwater discharges.

Generally, Phase I MS4s are covered by individual permits and Phase II MS4s are covered by a general permit. Each regulated MS4 is required to develop and implement a storm water

management program to reduce the contamination of stormwater runoff and prohibit illicit discharges.

The County has an MS4 permit. As with the General Permit, the County updated its Standards and Specifications to meet current regulations, including bringing these construction design requirements into compliance with the NPDES General Permit and Waste Discharge Requirements for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4) Order No. 2013-0001-DWQ requirements.

2013 California Building Standards Code

The State's minimum standards for structural design and construction are given in the California Building Standards Code (CBSC) (CCR, Title 24). The CBSC is based on the IBC (International Code Council 2012), which is used widely throughout United States (generally adopted on a state-by-state or district-by-district basis) and has been modified for California conditions with numerous, more detailed or more stringent regulations. The CBSC requires that "classification of the soil at each building site will be determined when required by the building official" and that "the classification will be based on observation and any necessary test of the materials disclosed by borings or excavations." In addition, the CBSC states that "the soil classification and design-bearing capacity will be shown on the (building) plans, unless the foundation conforms to specified requirements." The CBSC provides standards for various aspects of construction, including (i.e., not limited to) excavation, grading, and earthwork construction; fills and embankments; expansive soils; foundation investigations; and liquefaction potential and soil strength loss. In accordance with California law, certain aspects of the project would be required to comply with all provisions of the CBSC.

The California Building Code (CBC) requires extensive geotechnical analysis and engineering for grading, foundations, retaining walls, and other structures, including criteria for seismic design. The County's standard practice is to adopt by reference the latest versions of the CBSC into Title 16 (Buildings and Construction) of the Stanislaus County Code.

California Public Resources Code

Several sections of the California Public Resources Code protect paleontological resources. Section 5097.5 prohibits "knowing and willful" excavation, removal, destruction, injury, and defacement of any paleontological feature on public lands (lands under state, county, city, district, or public authority jurisdiction, or the jurisdiction of a public corporation), except where the agency with jurisdiction has granted express permission. Section 30244 requires reasonable mitigation for impacts on paleontological resources that occur as a result of development on public lands.

Local

Geologic and Seismic Hazards

Stanislaus County General Plan Goals and Policies

The Safety Element of the County's general plan has two goals related to geologic and seismic hazards. Each is supported by policies and implementation measures.

GOAL ONE. Prevent loss of life and reduce property damage as a result of natural disasters.

POLICY THREE. Development should not be allowed in areas that are particularly susceptible to seismic hazard.

IMPLEMENTATION MEASURES

1. The County shall enforce the Alquist-Priolo Earthquake Fault Zoning Act.
2. Development in areas of geologic hazard shall be considered for approval only where the development includes an acceptable evacuation route.
3. Development proposals adjacent to reservoirs shall include evaluations of the potential impacts from a seismically induced seiche.
4. The routes of new public roads in areas subject to significant seismic hazard shall be designed to minimize seismic risk.
5. Where it is found that right-of-way widths greater than those specified in the Circulation Element are necessary to provide added safety in geologically unstable areas, additional width shall be required.

POLICY FOUR. Development west of I-5 in areas susceptible to landslides (as identified in this element) shall be permitted only when a geological report is presented with (a) documented evidence that no such potential exists on the site, or (b) identifying the extent of the problem and the mitigation measures necessary to correct the identified problem.

IMPLEMENTATION MEASURES

1. The County shall utilize the California Environmental Quality Act (CEQA) process to ensure that development does not occur that would be especially susceptible to landslide. Most discretionary projects require review for compliance with CEQA. As part of this review, potential impacts must be identified and mitigated or a statement of overriding concerns adopted.
2. Development west of I-5 shall include a geological report unless the Chief Building Official and Planning Director are satisfied that no need for the study is present.
3. The routes of new public roads in areas subject to landslides shall be designed to minimize landslide risks.

POLICY FIVE. Stanislaus County shall support efforts to identify and rehabilitate structures that are not earthquake resistant.

IMPLEMENTATION MEASURE

1. The County shall take advantage of programs that would provide funds to identify and rehabilitate structures that do not currently meet building standard minimums for earthquake resistance.

GOAL TWO. Minimize the effects of hazardous conditions that might cause loss of life and property.

POLICY FOURTEEN. The County will continue to enforce state-mandated structural Health and Safety Codes, including but not limited to the Uniform Building Code, the Uniform Housing Code, the Uniform Fire Code, the Uniform Plumbing Code, the National Electric Code, and Title 24.

(Comment: The Uniform Building Code includes provisions for safe construction under the most current standards. The Uniform Housing Code provides for upgrading of existing dwellings to eliminate health and safety problems without requiring upgrading of non-hazardous conditions.)

IMPLEMENTATION MEASURES

1. All building permits shall be reviewed to ensure compliance with the Uniform Building Code.
2. All complaints of substandard dwellings shall be acted upon to ensure compliance with the Uniform Housing Code.
3. The Uniform Fire Code shall be followed in inspections and maintenance of structures regulated under that code.

The Conservation Element of the County's general plan has one policy and various implementation measures related to geologic and seismic hazards.

GOAL FIVE. Reserve, as open space, lands subject to natural disaster in order to minimize loss of life and property of residents of Stanislaus County.

POLICY SIXTEEN. Discourage development on lands that are subject to flooding, landslide, faulting or any natural disaster to minimize loss of life and property.

IMPLEMENTATION MEASURES

1. Enforce the provisions of the Alquist-Priolo Earthquake Fault Zoning Act.
2. Development will not be permitted in floodways unless it meets the requirements of Chapter 16.40 of the County Code and is approved by the State Reclamation Board.
3. Development proposals in an area identified as having unstable soils (bluff, landslide areas in the foothills, etc.) shall include measures for mitigating possible hazards.
4. The County shall enforce the subdivision ordinance requirement for soils reports, which may be required to include a geologic report.
5. The County shall utilize the California Environmental Quality Act (CEQA) process to ensure that development does not occur that would be subject to natural disasters.

County Code

The county has adopted the CBC, as published by the International Code Council, 2013 Edition. The CBC is updated on a triennial cycle, and it is the County's practice to adopt the latest version on a triennial basis.

County Grading Permit

The Development Services Division of the County's Public Works Department is responsible for issuing grading permits. The division reviews construction site plans and design calculations before issuing a grading permit. In 2014, as part of its Standards & Specifications Update, the County adopted grading standards based on the requirements of the California Building Code (Appendix J [Grading]) and Section 4.106 (Mandatory Measures for Residential and Section 5.106) (Non-residential Site Development) of the California Green Building Standards.

Paleontological Resources

There are no local regulations protecting paleontological resources.

Existing Conditions

Geologic Setting

Stanislaus County spans three geomorphic provinces: the Great Valley, the Coast Ranges, and the Sierra Nevada geomorphic provinces. The largest area of the county is in the San Joaquin Valley portion of the Great Valley geomorphic province, which is in the flat, lowland center of the county; a narrow band on the eastern edge of the county is the Sierra Nevada foothills of the Sierra Nevada geomorphic province; and a broad band on the west side of the county is the steeper Coast Ranges geomorphic province (California Geological Survey 2002).

The San Joaquin Valley floor, a thick sequence of sedimentary deposits, ranges in age from Jurassic through Quaternary. Under the eastern and central portions of the valley, the base of the sequence

likely rests on Mesozoic crystalline rock allied to the plutons of the Sierra Nevada; to the west, basement rocks are believed to be Franciscan metasediments and/or mélange. Mesozoic sedimentary rocks now in the subsurface indicate marine deposition. These rocks are overlain by Tertiary strata reflecting marine, estuarine, and terrestrial conditions, which are in turn overlain by Quaternary fluvial and alluvial strata recording uplift and erosion of the Sierra Nevada and Coast Ranges to approximately their present shape (Norris and Webb 1990:412–426). In the county, the major geologic units of this province, listed from west to east, are the San Joaquin River deposits of the Dos Palos Alluvium (Holocene age), Quaternary alluvial fan deposits (Holocene age), the sedimentary alluvial deposits of the Modesto and Riverbank Formations (Pleistocene age), the alluvium of the Turlock Lake Formation (Pleistocene), the andesitic conglomerates of the Mehrten Formation (Tertiary age), the consolidated alluvium of the Laguna Formation (Plio-Pleistocene), localized outcrops of the sedimentary Ione Formation (Tertiary age), and bands of Quaternary alluvium in stream drainages (Wagner et al. 1991) (Figure 3.6-1).

The Coast Ranges geomorphic province is characterized by en echelon (i.e., parallel to subparallel) northwest-trending mountain ranges formed by active uplift related to complex tectonics of the San Andreas fault/plate boundary system (Norris and Webb 1990:359–380). The eastern Coast Ranges are broadly antiformal (i.e., fold is convex, with oldest geologic units in the core). In the county, the major geologic units of this province consist of a central "core" of Mesozoic units—primarily the Cretaceous Panoche Formation and Franciscan Complex—flanked on the east by an upward younging sequence of marine and terrestrial sedimentary units that include the Moreno Formation (Cretaceous age), the San Pablo Formation (Miocene age), a fanglomerate (Miocene age), and alluvial deposits (Quaternary age) (Wagner et al. 1991) (Figure 3.6-1).

The Sierra Nevada geomorphic province is a linear, tilted fault block almost 400 miles long that extends from northern Butte County to the Mohave Desert. Its western slope is gentle (approximately 2 degrees), in stark contrast to its steep eastern slope. Massive granites make up the upper elevation Sierra, which has been shaped by glaciation, such as is seen in Yosemite. Lower in the Sierra is the northwest-trending Mother Lode, which is made up of metamorphic rock containing gold-bearing veins. This western slope is deeply incised by rivers and disappears beneath the sediments of the Great Valley (California Geological Survey 2002:2). The major geologic units of this province are the Gopher Ridge Volcanics (Jurassic age), the rhyolitic tuff and sedimentary rocks that make up the Valley Springs Formation (Tertiary age), the andesitic conglomerates that make up the Mehrten Formation (Tertiary age), and the volcanic rock of the Table Mountain Latite (Tertiary age)(Wagner et al. 1991) (Figure 3.6-1).

Seismicity

Primary Seismic Hazards

The State of California considers two aspects of earthquake events primary seismic hazards: surface fault rupture (disruption at the ground surface as a result of fault activity) and seismic ground shaking.

Surface Fault Rupture

There is a risk of surface rupture where the Ortigalita fault crosses the southwest corner of the county. This portion of the county in the Coast Ranges is in a seismically active region, and Alquist-Priolo earthquake fault zone maps have been prepared for two quadrangles: the Crevison Peak quadrangle and Mustang Peak quadrangle. The Ortigalita Fault, which is a complex zone of reverse,

lateral, and strike-slip faults, is classified as an active fault for much of its length, including in Stanislaus County where it crosses the Crevison Peak and Mustang Peak quadrangles. A designation of active means the fault has shown movement in the last 11,700 years (during the Holocene) and is sufficiently well defined (California Division of Mines and Geology 1985a:9 and 1985b:2; California Division of Mines and Geology 1986a and 1986b; California Geological Survey 2010a) (Figure 3.6-2).

There are no other active faults in the county (California Geological Survey 2010a).

The other nearest active faults are the Greenville Fault Zone and the Corral Hollow-Carnegie Fault Zone, located east of Livermore in the Coast Ranges. The Greenville Fault Zone is a northwest trending strike-slip fault zone that is approximately 55 miles long along the western side of the Diablo Range (Bryant and Cluett 2002:1). The Corral Hollow-Carnegie Fault Zone is a relatively short fault segment, subparallel to and east of the Greenville Fault Zone. Portions of this fault have been active in the last 15,000 years (California Geological Survey 2010a; U.S. Geological Survey 2013).

Strong Ground Shaking

Unlike surface rupture, ground shaking is not confined to the trace of a fault, but rather propagates into the surrounding areas during an earthquake. The intensity of ground shaking typically diminishes with distance from the fault, but ground shaking may be locally amplified and/or prolonged by some types of substrate materials.

The ground-shaking hazard in the county ranges from moderate to low. The ground-shaking hazard is highest in the western portion of the county in the Diablo Range of the Coast Ranges and becomes progressively less eastward across the county. Based on a probabilistic seismic hazard map that depicts the peak horizontal ground acceleration values exceeded at a 10% probability in 50 years, the probabilistic peak horizontal ground acceleration values for the county range from 0.44 in the west to 0.14g in the east (where g equals the acceleration speed of gravity) (California Geological Survey 2008a) (Figure 3.6-3). As a point of comparison, probabilistic peak horizontal ground acceleration values for the San Francisco Bay Area range from 0.4g to more than 0.8g.

Secondary Seismic Hazards

Secondary seismic hazards refers to seismically induced landsliding, liquefaction, and related types of ground failure. As discussed in *Regulatory Setting*, the State of California maps areas that are subject to secondary seismic hazards pursuant to the Seismic Hazards Mapping Act of 1990. However, the state has prioritized coastal urban areas for mapping and has not mapped Stanislaus County. Secondary seismic hazards are addressed briefly below based on available information.

Landslide and Other Slope Stability Hazards

The potential for landsliding in the county varies greatly. The greatest risk of landslides is in the western portion of the county in the steep Diablo Range (California Geological Survey and U.S. Geological Survey 2011). Although the California Geological Survey has not designated any part of the county as a Zone of Required Investigation for landslide hazard (California Geological Survey 2007), two factors make slope instability (both seismically and nonseismically induced) a concern in this area: the steep topography and the potential for moderate ground shaking (California Geological Survey and U.S. Geological Survey 2011).

In addition, slope stability related to precipitation may also be a factor in the Diablo Range. This area has a history of landsliding and is considered a risk area by the County because of the steep slopes and unstable geologic formations (Stanislaus County 2004:29; Stanislaus County 1994:5-4).

There is a moderate risk of landsliding on the far east side of the county in the Sierra Nevada foothills (California Geological Survey and U.S. Geological Survey 2011); however, for most of the county, which is in the flat land of the San Joaquin Valley, there is a low risk or no risk of landsliding (California Geological Survey and U.S. Geological Survey 2011).

Liquefaction and Related Hazards

Liquefaction is the process in which soils and sediments lose shear strength and fail during seismic ground shaking. The vibration caused by an earthquake can increase pore pressure in saturated materials. If the pore pressure is raised to be equivalent to the load pressure, this causes a temporary loss of shear strength, allowing the material to flow as a fluid. This temporary condition can result in severe settlement of foundations and slope failure. The susceptibility of an area to liquefaction is determined largely by the depth to groundwater and the properties (e.g., texture and density) of the soil and sediment within and above the groundwater. The sediments most susceptible to liquefaction are saturated, unconsolidated sand and silt soils (particularly Quaternary age units) with low plasticity within 50 feet of the ground surface (California Geological Survey 2008b:35–36).

There is potential for liquefaction in the county. The portion of the county most susceptible to liquefaction is likely the western margin of the valley because of the combination of young geologic units (Quaternary fan deposits and Dos Palos Alluvium) and potential for strong ground shaking. Therefore, where groundwater is shallow (Section 3.9, *Hydrology and Water Quality*), liquefaction could occur. Other parts of the valley also have young geologic units and shallow groundwater conditions, but the ground-shaking hazard is lower. The CBC requires site-specific technical studies of liquefaction potential during the design of buildings in areas at risk of liquefaction.

The geologic units in the Coast Ranges and Sierra Nevada foothills are likely not susceptible to liquefaction because they are older and more consolidated or because they are igneous. In addition, shallow groundwater is not likely to be present in the steeper terrain.

Land Subsidence

Subsidence is the sinking of a large area of ground surface in which the material is displaced vertically downward, with little or no horizontal movement. Many areas in the Central Valley have experienced subsidence, most notably the San Joaquin Valley and San Joaquin–Sacramento River Delta (Faunt 2009:99). Subsidence occurs in three ways: as a result of groundwater overdraft or oil and gas withdrawal, compaction and oxidation of peat soils, and hydrocompaction (U.S. Geological Survey 2000:1–2). Land subsidence as a result of groundwater overdraft is discussed below. Land subsidence as a result of compaction and oxidation of peat soils and hydrocompaction are not significant concerns in the county and are not discussed.

Groundwater overdraft occurs when groundwater extraction rates exceed the rate of recharge. Overdraft can result in compression of a clay bed within an aquifer to such an extent that it no longer expands to its original thickness after groundwater recharge. Clay beds often compress when wells extract groundwater and expand in response to recharge after pumping stops. Clay beds contain individual clay particles and small pores that fill with groundwater in saturated conditions. Groundwater maintains the pore space, expands the clay particles, and helps the bed maintain its

thickness. A clay bed will yield a certain volume of groundwater (i.e., safe yield) without losing its storage capacity. If safe yield is not exceeded, the clay bed will compress and expand as the soil pores alternately fill with water and drain. This can lead to elastic land subsidence at the ground surface where elevation decreases when water is extracted then increases when water is recharged. If the safe yield of a clay bed is exceeded, however, its pores collapse and the surrounding clay particles settle in their place. When the clay particles settle, the clay bed is effectively thinned, resulting in permanent land subsidence at the ground surface.

Stanislaus County is just north of the region of the San Joaquin Valley most severely affected by land subsidence (Faunt 2009:99), but land subsidence as a result of groundwater overdraft is a serious concern of the county, as expressed in the county's Groundwater Ordinance (County Code Chapter 9.37).

Soils

Soils in the county are best described at a landscape scale, rather than at a detailed scale, because of the large area under consideration. The Natural Resources Conservation Service (NRCS) maps soils at a landscape scale by mapping soil associations. Soil associations are groupings of individual soils that occur together in the landscape and are typically named after the two or three dominant soil series. Soil associations cover broad areas that have a distinctive pattern of soils, relief, and drainage. Figure 3.6-4 shows the soil associations in the county (U.S. Department of Agriculture 2006).

The county's three main physiographic regions in which the soils formed are the San Joaquin Valley, the Sierra Nevada foothills, and the Coast Ranges.

Soil issues of concern in the county include high water table, restricted permeability, and shrink swell potential (Natural Resources Conservation Service 2007). These issues can cause construction concerns. For example, soils with a moderate to high shrink-swell potential, also known as *expansive soils*, expand and contract with changes in moisture content and therefore do not provide a suitable substrate for construction without modification. Larger scale maps showing the individual soil map units that comprise each association are often used for evaluating soil suitability on a site-specific scale (e.g., selecting a building site).

Paleontological Resources

Paleontological sensitivity is a qualitative assessment based on the paleontological potential of the stratigraphic units present, the local geology and geomorphology, and other factors relevant to fossil preservation and potential yield. According to the Society of Vertebrate Paleontology (SVP) (2010), standard guidelines for sensitivity are (1) the potential for a geological unit to yield abundant or significant vertebrate fossils or to yield a few significant fossils, large or small, vertebrate, invertebrate, or paleobotanical remains and (2) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecological, or stratigraphic data (Table 3.6-1).

Table 3.6-1. Paleontological Sensitivity Ratings

Potential	Definition
High	Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Paleontological potential consists of both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data.
Undetermined	Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources.
Low	Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections, or based on general scientific consensus, will only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule.
None	Some rock units, such as high-grade metamorphic rocks (e.g., gneisses and schists) and plutonic igneous rocks (e.g., granites and diorites), have no potential to contain significant paleontological resources. Rock units with no potential require neither protection nor mitigation measures relative to paleontological resources.

Source: Society of Vertebrate Paleontology 2010.

It is also important to recognize that unlike archaeological sites, which are narrowly defined, paleontological sites are defined by the entire extent (both areal and stratigraphic) of a unit or formation. In other words, once a unit is identified as containing vertebrate fossils, or other rare fossils, the entire unit is a paleontological site (Society of Vertebrate Paleontology 2010:2). For this reason, the paleontological sensitivity of geologic units is described and analyzed broadly, rather than being limited to county boundaries.

Although it is not possible to make a determination of the sensitivity for paleontological resources of each geologic unit because of the county's size, most of the geologic units are highly sensitive for paleontological resources (Figure 3.6-5). The University of California Museum of Paleontology (UCMP) database contains 765 records of vertebrate fossils found in the county (University of California Museum of Paleontology 2014a). These records, by geologic formation, are summarized in Table 3.6-2. In addition, most of the valley is immediately underlain by the Modesto and Riverbank Formations of Late Pleistocene (Wagner et al. 1991). These deposits represent sediment eroded from the uplifting Sierra Nevada. California's Pleistocene sedimentary units—especially those that, like the Modesto and Riverbank Formations, record deposition in continental settings—are typically considered highly sensitive for paleontological resources because of the large number of recorded fossil finds in such units throughout the state.

Table 3.6-2. Paleontological Resources by Geologic Unit

Geologic Unit	Map Abbreviation	Age	Fossils	UCMP Vertebrate Records		Paleontological Sensitivity
				State	County	
Coast Ranges						
Los Banos Alluvium	Qlb	Pleistocene	No known vertebrate fossils but depositional environment and age indicate it has the potential to contain fossils	None	None	Uncertain but likely high
San Pablo Formation	Msp	Miocene	A wide range of vertebrate fossils, including several species of early horses, Gomphotherium (an early relative of the elephant), fox, oredont (a sheep-like herbivore), bassariscus (a relative of the raccoon), rodents, and bony fish (2014b)	1,395	496	High
Fanglomerate	Mf	Miocene	No known vertebrate fossils but depositional environment and age indicate it has the potential to contain fossils	No known	No known	
Kreyenhagen Formation	Ek	Eocene/ Oligocene	No known vertebrate fossils but depositional environment and age indicate it has the potential to contain fossils (2014c)	No known	No known	Uncertain but likely high
Tesla Formation	Pet	Paleocene	No known vertebrate fossils but depositional environment and age indicate it has the potential to contain fossils	No known	No known	Uncertain but likely high
Panoche Formation	Kp	Cretaceous	Abundant invertebrate fossils (2014d) and one reptile fossil	1	No vertebrate records	High
Upper Cretaceous-Lower Jurassic marine sandstone and shale	Kju	Cretaceous	No known fossils (2014a)[a]	No vertebrate records	No vertebrate records	Uncertain
Franciscan Complex	Kjf	Cretaceous	A late Jurassic ichthyosaur and a plesiosaurus (2014e)	2	0	High
Greenstone	gs	Cretaceous	No known	0	0	Uncertain
Moreno Formation	Km	Cretaceous	Diverse assemblage of fish and reptiles, including mosasaur, plesiosaur, tortoise, bony fish, and cartilaginous fish, and an amphibian (2014f)	90	3	High

Geologic Unit	Map Abbreviation	Age	Fossils	UCMP Vertebrate Records		Paleontological Sensitivity
				State	County	
Gabbro and diabase (Coast Range Ophiolite)	Jgb	Upper Jurassic-Lower Cretaceous	None	0	0	None
Volcanic rocks	Jv	Jurassic	No known	0	0	Uncertain
Serpentinized ultramafic rock (Coast Range Ophiolite)	um	Upper Jurassic-Lower Cretaceous	None	0	0	None
San Joaquin Valley						
Alluvium in stream drainages	Q	Holocene	Likely too young to contain fossils.	None	None	Low
Dos Palos Alluvium	Qdp	Holocene	No known fossils (2014g)[a;] and upper portion likely too young to contain fossils. Holocene materials are not typically evaluated as paleontologically sensitive, because biological remains are not considered fossils unless they are older than 5,000 years. Depositional environment and age of lower portion indicate it has the potential to contain fossils. In addition, units overlie sensitive units such as the Modesto Formation.	None	None	Low in shallow subsurface High at depth
Quaternary alluvial fan deposits	Qf					
Patterson Alluvium	Qp					
San Luis Ranch Alluvium	Qsl					
Modesto Formation	Qm	Pleistocene	Include horse, mammoth camel, pocket gopher, bison, and ground sloth (2014h)	27	10	High
Riverbank Formation	Qr	Pleistocene	Include ground sloth, dire wolf, horse, rabbit, birds, wood rat, bison, camel, coyote, antelope, deer, and mammoth, as well as clams, fish, turtles, frogs, snakes (2014i)	348	1	High

Geologic Unit	Map Abbreviation	Age	Fossils	UCMP Vertebrate Records		Paleontological Sensitivity
				State	County	
Turlock Lake Formation	Qtl	Pleistocene	Include horses, ground sloths (Jefferson's ground sloth and Harlan's ground sloth), saber-toothed cat, Armbruster's wolf, scimitar-toothed cat, llama, *Tetrameryx irvingtonensis* Stirton (ancestor to modern pronghorn), deer, camels, mammoth, smooth-tooted pocket gopher, *Capromeryx* (pronghorn-like ungulates), coyote, *Miracinonyx trumani* (American cheetah-like cat), turtle, and tortoise (Dundas et al. 1996) (2014j)	226 (recorded as Riverbank Formation but identified as Turlock Lake Formation in Dundas et al. 1996)	0	High
Laguna Formation	Pl	Plio-Pleistocene	No vertebrate fossils known; however, the alluvial nature of this unit and its degree of consolidation indicate fossils are likely present	None	None	High
Ione Formation	Ei	Eocene/ Oligocene	No vertebrate fossils known but abundant plant fossils related to magnolias, cycads, and lilies. May contain vertebrate fossils based on depositional environment and preservation potential (2014k)	No vertebrate records	No vertebrate records	High
Sierra Nevada						
Mehrten Formation		Tertiary	Include extinct horse, primitive rhinoceros, camel, and tortoise (2014l)	302	232	High
Valley Springs Formation		Tertiary	No known fossils but depositional environment and age indicate it has the potential to contain fossils	None	None	Uncertain but likely high
Table Mountain Latite		Tertiary	Plutonic igneous rock so does not contain fossils	None	None	None
Salt Springs and Merced Falls Slate	Jsm	Jurassic	None	None	None	Uncertain
Gopher Ridge Volcanics	Jgo	Jurassic	No known fossils; volcanic rocks may contain fossils but this unit is generally metamorphosed and therefore not fossil-bearing	None	None	Low
Copper Hills Volcanics	Jch	Jurassic	No known fossils	None	None	Low

[a] All 2014 dates are references to University of California, Berkeley, Museum of Paleontology (2014) searches conducted by ICF International.

Figure 3.6-5 is a map showing the general paleontological sensitivity of the surficial geologic units in the county. This map was created using GIS data from the statewide geologic map (California Geological Survey 2010b) and therefore groups similar geologic units together.

Table 3.6-3 correlates the geologic units shown on Figure 3.6-1, the regional geologic map, and the geologic units shown on Figure 3.6-5, the statewide map. The paleontological sensitivity assigned in Table 3.6-3 is based on the sensitivity shown in Table 3.6-2. Where units with differing sensitivity were grouped in the statewide map, the ranking of the most sensitive unit was used.

Table 3.6-3. General Correlation of Geologic Units Shown on Figures 3.6-1 and 3.6-5

Unit Abbreviation	Designation		Paleontological Sensitivity
	Statewide Map[a]	Regional Map[b]	
Coast Ranges			
Qoa	Older alluvium, lake, playa, and terrace deposits	Los Banos Alluvium	Uncertain but likely high
QPc	Pliocene or Pleistocene sandstone, shale, and gravel deposits	Fanglomerate (Miocene), Tesla Formation, San Pablo Formation	High
Ep	Sandstone, shale, conglomerate (Paleocene)	Tesla Formation and Patterson Alluvium	Uncertain but likely high
E	Sandstone, shale, conglomerate (Eocene)	Kreyenhagen Formation	Uncertain but likely high
Ku	Upper Cretaceous sandstone, shale, and conglomerate	Panoche Formation and Moreno Formation	High
Kl	Lower Cretaceous sandstone, shale, and conglomerate	Panoche Formation	High
J	Shale, sandstone, minor conglomerate, chert, slate, limestone (Jurassic)	Upper Cretaceous-Lower Jurassic marine sandstone and shale	Uncertain
KJf_m, KJf	Franciscan Complex	Franciscan Complex	High
gb	Gabbro and dark dioritic rocks	Gabbro and diabase[c]	None
um	Ultramafic rock	Serpentinized ultramafic rock[c]	None
Mzv	Undivided Mesozoic volcanic and metavolcanic rocks	Volcanic rocks (Jurassic) and greenstone[c]	Uncertain
Valley			
Q	Alluvium, lake, playa, and terrace deposits	Alluvial fan deposits, San Luis Ranch Alluvium, Modesto Formation, Riverbank Formation, Turlock Lake Formation, and Dos Palos Formation	High
QPc	Pliocene or Pleistocene sandstone, shale, and gravel deposits	Turlock Lake Formation, Mehrten Formation, Laguna Formation, and Patterson Alluvium	High
E and Ec	Sandstone, shale, conglomerate (Eocene)	Ione Formation	High

Unit Abbreviation	Designation		Paleontological Sensitivity
	Statewide Map[a]	Regional Map[b]	
Sierra Nevada			
Mc	Sandstone, shale, conglomerate, and fanglomerate (Miocene)	Valley Springs Formation	Uncertain but likely high
Tv	Tertiary volcanic rocks	Table Mountain Latite	None
J	Shale, sandstone, minor conglomerate, chert, slate, limestone (Jurassic)	Salt Springs and Merced Falls Slate	Uncertain
Mzv	Undivided Mesozoic volcanic and metavolcanic rocks	Copper Hill Volcanics and Gopher Ridge Volcanics	Uncertain

[a] California Geological Survey 2010b.

[b] Wagner et al. 1991.

[c] Component of the Coast Range Ophiolite that outcrops in the Franciscan Formation.

3.6.3 Impact Analysis

This section discusses the approach and methodology used to assess the impacts of the plan updates; the individual impacts relative to the thresholds of significance; mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for significant impacts; and the overall significance of the impact with mitigation incorporated.

Major Sources Used in Analysis

The major sources used in this analysis are listed below.

- California Geological Survey website data (Wagner et al. 1991; California Division of Mines and Geology 1985a:9, 1985b:2; California Division of Mines and Geology 1986a, 1986b; California Geological Survey 2010a; Bryant and Cluett 2002:1; California Geological Survey 2008a; California Geological Survey and U.S. Geological Survey 2011)
- NRCS data (2007) and U.S. Department of Agriculture (2006)
- University of California Museum of Paleontology data (2014a–2014l)

Approach and Methodology

Evaluation of the geology and soils impacts in this section is based on information from published maps, reports, and other documents that describe the geologic, seismic, and soil conditions of the county, and on professional judgment. The analysis assumes that the project will conform to the latest CBSC standards, County general plan seismic safety standards, the County grading ordinance, and NPDES requirements.

The primary source of information used in developing the paleontological resources section is the paleontological database at the University of California, Berkeley. Effects on paleontological resources were analyzed qualitatively on a large-scale level, based on professional judgment and the SVP guidelines below.

SVP's *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources* provides standard guidelines that are widely followed (Society of Vertebrate Paleontology 2010). These guidelines reflect the accepted standard of care for paleontological resources. The SVP guidelines identify two key phases in the process for protecting paleontological resources from project impacts.

- Assess the likelihood that the area contains significant nonrenewable paleontological resources that could be directly or indirectly impacted, damaged, or destroyed as a result of the project.
- Formulate and implement measures to mitigate potential adverse impacts.

An important strength of SVP's approach to assessing potential impacts on paleontological resources is that the SVP guidelines provide some standardization in evaluating paleontological sensitivity. Table 3.6-4 defines the SVP's sensitivity categories for paleontological resources and summarizes SVP's recommended treatments to avoid adverse effects in each sensitivity category.

No new field work, research, or engineering level design was conducted for the preparation of this EIR.

Table 3.6-4. Society of Vertebrate Paleontology's Recommended Treatment for Paleontological Resources

Sensitivity Category	Mitigation Treatment
High or Undetermined	An intensive field survey and surface salvage prior to earthmoving, if applicable. Monitoring by a qualified paleontological resource monitor of excavations. Salvage of unearthed fossil remains and/or traces (e.g., tracks, trails, burrows). Screen washing to recover small specimens, if applicable. Preliminary survey and surface salvage before construction begins. Preparation of salvaged fossils to a point of being ready for curation (i.e., removal of enclosing matrix, stabilization and repair of specimens, and construction of reinforced support cradles where appropriate). Identification, cataloging, curation, and provision for repository storage of prepared fossil specimens. A final report of the finds and their significance.
Low or no	Rock units with low or no potential typically will not require impact mitigation measures to protect fossils.

Source: Society of Vertebrate Paleontology 2010.

Thresholds of Significance

Based on State CEQA Guidelines Appendix G, the plan updates would have a significant impact with respect to geology, soils, and paleontological resources if it would result in any of the following.

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other

substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

- Strong seismic ground shaking
- Seismic-related ground failure, including liquefaction
- Landslides

- Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landsliding.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Impacts and Mitigation Measures

Impact GEO-1: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving fault rupture (less than significant)

Construction on or near an active fault could result in loss, injury, or death involving surface fault rupture. If structures are located on or a near an active fault, rupture of that fault could cause damage or destruction of the structure, resulting in injury, loss of life, or property damage. This would be a significant impact. However, existing Goal One, Policy Three, Implementation Measure 1 of the Safety Element requires enforcement of the Alquist-Priolo Earthquake Fault Zoning Act, which prohibits most construction intended for human occupancy across an active fault trace and strictly regulates construction near an active fault. Compliance with the Alquist-Priolo Earthquake Fault Zoning Act would reduce this risk. The impact would be less than significant, and no mitigation is required.

Significance without Mitigation: Less than significant (no mitigation required)

Impact GEO-2: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides (less than significant)

Construction in areas with potential to experience seismic-related ground failure, such as strong ground shaking, landsliding, and liquefaction could expose people or structures to potential substantial adverse effects. If structures constructed as part of the general plan buildout were not properly designed and sited for the strong ground shaking conditions or the earthquake-induced ground failure conditions present in portions of the county, these structures could fail and cause harm to people or property in the immediate area.

The western part of the county is known to be susceptible to strong ground shaking and landsliding. In addition, there is potential for liquefaction along the western portion of the valley and other areas

in the county where the geologic units are young and unconsolidated, and the depth to groundwater is shallow. The potential damage and harm that could result from strong ground shaking and landsliding would be a significant impact.

The County has updated its general plan to require that all construction in the county comply with the CBSC.

GOAL TWO. Minimize the effects of hazardous conditions that might cause loss of life and property.

POLICY SIX. All new development shall be designed to reduce safety and health hazards.

IMPLEMENTATION MEASURES

4. All building permits shall be reviewed to ensure compliance with the ~~Uniform Building Code~~ California Code of Regulation, Title 24, California Building Codes.

POLICY FOURTEEN. The County will continue to enforce state-mandated structural Health and Safety Codes, including but not limited to the ~~Uniform~~ California Building Code, the ~~Uniform Housing~~ International Property Maintenance Code, the ~~Uniform~~ California Fire Code, the ~~Uniform~~ California Plumbing Code, the ~~National~~ California Electric Code, and Title 24, Parts 1-9.

(Comment: The ~~Uniform~~ California Building Code includes provisions for safe construction under the most current standards. The ~~Uniform Housing~~ International Property Maintenance Code provides for upgrading of existing dwellings to eliminate health and safety problems without requiring upgrading of non-hazardous conditions.).

IMPLEMENTATION MEASURES

1. All building permits shall be reviewed to ensure compliance with the ~~Uniform~~ California Building Code.

In addition, the general plan has added private roads to the types of roads that should be designed to minimize landslide risks.

GOAL ONE. Prevent loss of life and reduce property damage as a result of natural disasters.

POLICY FOUR. Development west of I-5 in areas susceptible to landslides (as identified in this element) shall be permitted only when a geological report is presented with (a) documented evidence that no such potential exists on the site, or (b) identifying the extent of the problem and the mitigation measures necessary to correct the identified problem.

IMPLEMENTATION MEASURES

3. The routes of new public and private roads in areas subject to landslides shall be designed to minimize landslide risks.

If structures were built in areas susceptible to liquefaction, the foundations could fail and cause damage or collapse of the structure. The CBSC, which has been incorporated by reference into Title 16 of the County Code, requires a soil investigation for all construction, which would indicate whether soils susceptible to liquefaction are present. If such soils are present, the CBSC requires that a geotechnical investigation be conducted by a professional geologist. The County Code incorporates the latest version of the CBSC; therefore, building practices are required to conform to each cycle of building code revisions.

Additionally, Conservation Element Implementation Measure 3 of Goal Five, Policy Sixteen and Safety Element Implementation Measure 1 of Goal One, Policy Four require mitigation of landslide hazards as part of development approvals.

Significance without Mitigation: Less than significant (no mitigation required)

Impact GEO-3: Result in substantial soil erosion or the loss of topsoil (less than significant)

Ground-disturbing earthwork associated with the general plan buildout may increase erosion rates, potentially causing accelerated erosion. Construction activities would cause ground disturbance and vegetation removal on site. As a result, soil would be exposed to rain and wind, potentially causing accelerated erosion, thereby resulting in significant impacts. However, a SWPPP and a grading permit would be prepared for all construction projects, as required by the RWQCB and the county code, which would specify BMPs to prevent soil erosion.

Compliance with the federal and local erosion-related regulations applicable to the general plan buildout (i.e., the SWPPP that is developed for the site and the requirements of the county's municipal code) would ensure that the construction activities do not result in significant erosion. This impact would be less than significant, and no mitigation is required.

Significance without Mitigation: Less than significant (no mitigation required)

Impact GEO-4: Location on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide (less than significant)

In addition to the seismic-related ground failure described in Impact GEO-1, buildout in areas with the potential to experience nonseismic-related landsliding caused by heavy precipitation could also expose people or structures to potential substantial adverse effects. The area susceptible to landslide is west of I-5. If foundations were not properly designed and sited for the landslide conditions present in this area, they could fail and cause harm to people or property.

The area west of I-5 consists of steep, hilly terrain known to be susceptible to landslides. The potential damage and harm that could result from landsliding would be a significant impact.

The county requires that all construction comply with the CBSC and that a geotechnical report be prepared in areas susceptible to landslides. The geotechnical report must document evidence that no landslide potential exists on the site or identify the extent of the problem and the mitigation measures necessary to correct the landslide problem. Compliance with the CBSC and the County's general plan would reduce this risk. This impact would therefore be less than significant, and no mitigation is required.

Significance without Mitigation: Less than significant (no mitigation required)

Impact GEO-5: Location on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property (less than significant)

Expansive soils occur in the county, and structures built on expansive soils would be subject to the expansion and contraction of these soils, which could cause structural damage if the subsoil, drainage, and foundation are not properly engineered. However, soil sampling and treatment procedures for expansive soils, as well as other soil-related issues, are addressed by the CBC. Compliance with the CBSC would create conditions suitable for construction. This impact would be less than significant, and no mitigation is required.

Significance without Mitigation: Less than significant (no mitigation required)

Impact GEO-6: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater (less than significant)

Septic systems would be installed in areas that have no public sewer as county buildout occurs. Goal Two, Policy Five in the Conservation/Open Space Element of the general plan encourages new development to be served by the public sewer system, rather than a septic system (see Section 3.9, *Hydrology and Water Quality*). Septic system installations are subject to County regulation and permitting requirements that ensure the proper operation of the system. The septic system's design depends on the permeability and other aspects of the soil in which it will be located. Under County code requirements, in areas where standard septic tank systems are not suitable, a licensed soil scientist would be required to design an alternative wastewater disposal system that can meet State and County building codes. This impact would be less than significant, and no mitigation is required.

Significance without Mitigation: Less than significant (no mitigation required)

Impact GEO-7: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (less than significant)

Many of the geologic units in the county are highly sensitive for paleontological resources (see Table 3.6-2). If fossils are present where development is planned, they could be damaged by earth-disturbing activities during construction, such as excavation for foundations, placement of fills, trenching for utility systems, and grading for roads and staging areas. The more extensive and deeper the earth-disturbing activity, the greater the potential for damage to paleontological resources. The general plan update addresses paleontological resources in Policy Twenty-Four and Implementation Measure 5 of Conservation Element Goal Eight.

> **POLICY TWENTY-FOUR.** The County will support the preservation of Stanislaus County's cultural legacy of archeological, historical, ~~and archeological~~ and paleontological resources for future generations.
>
> **IMPLEMENTATION MEASURE**
>
> 5. The County shall utilize the California Environmental Quality Act (CEQA) process to protect archaeological, ~~or~~ historic, or paleontological resources. Most discretionary projects require review for compliance with CEQA. As part of this review, potential impacts must be identified and mitigated.

This substantially reduces the potential for paleontological resources to be damaged or destroyed by future development related to buildout of the general plan and ensures this impact will be less than significant.

Significance without Mitigation: Less than Significant (no mitigation required)

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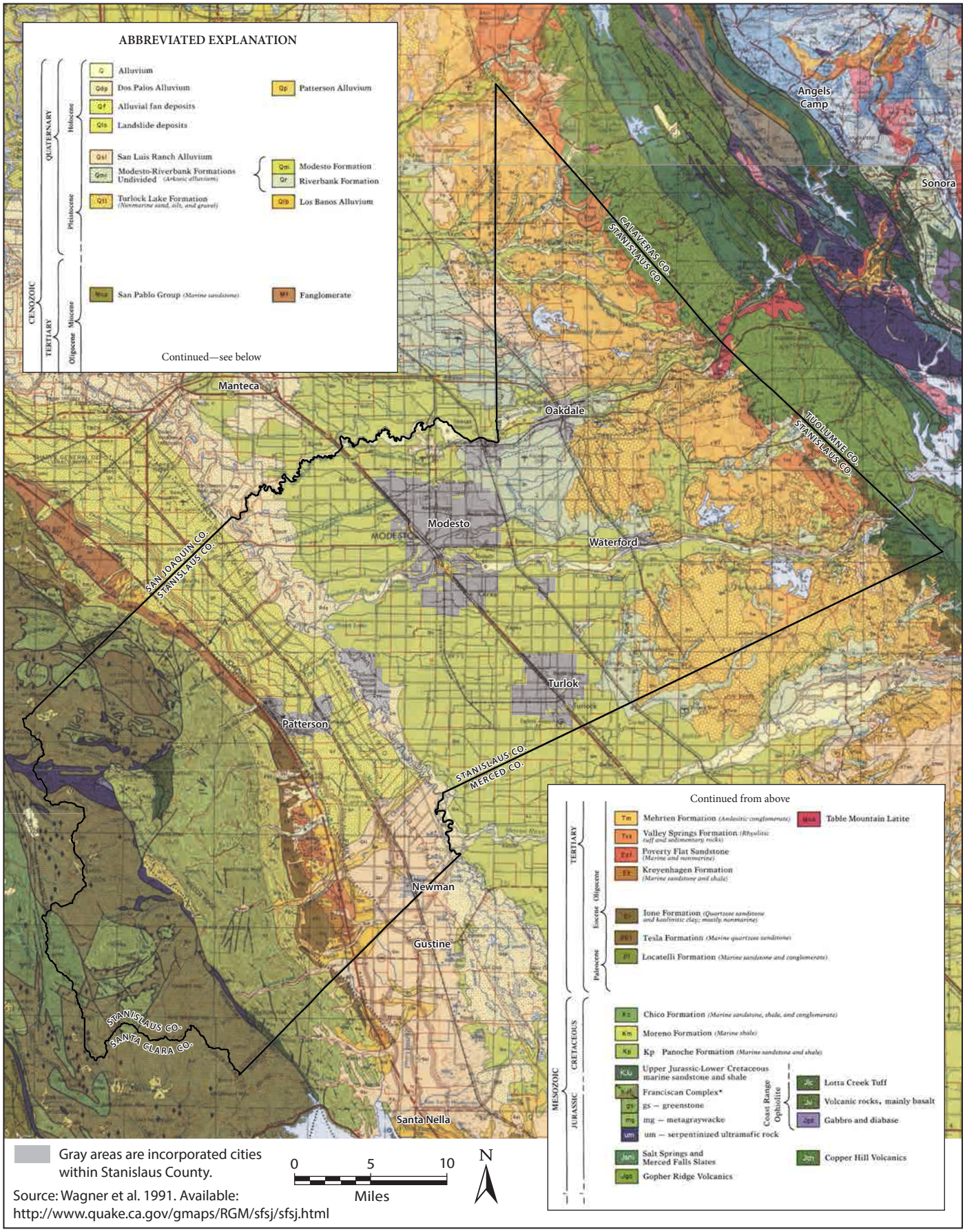

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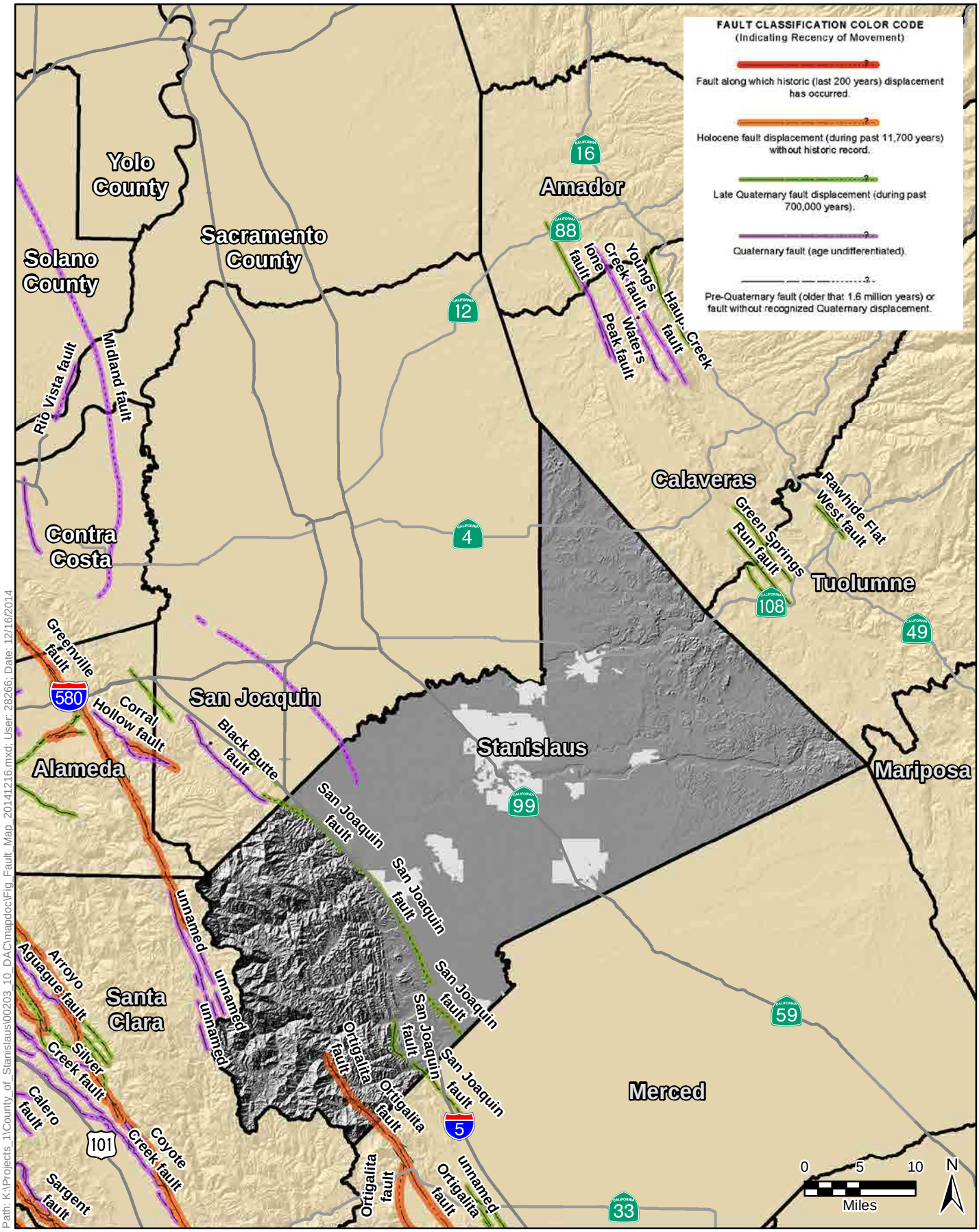
Figure 3.6-1
Geology Map



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3.6-2
Stanislaus General Plan Update
Fault Map

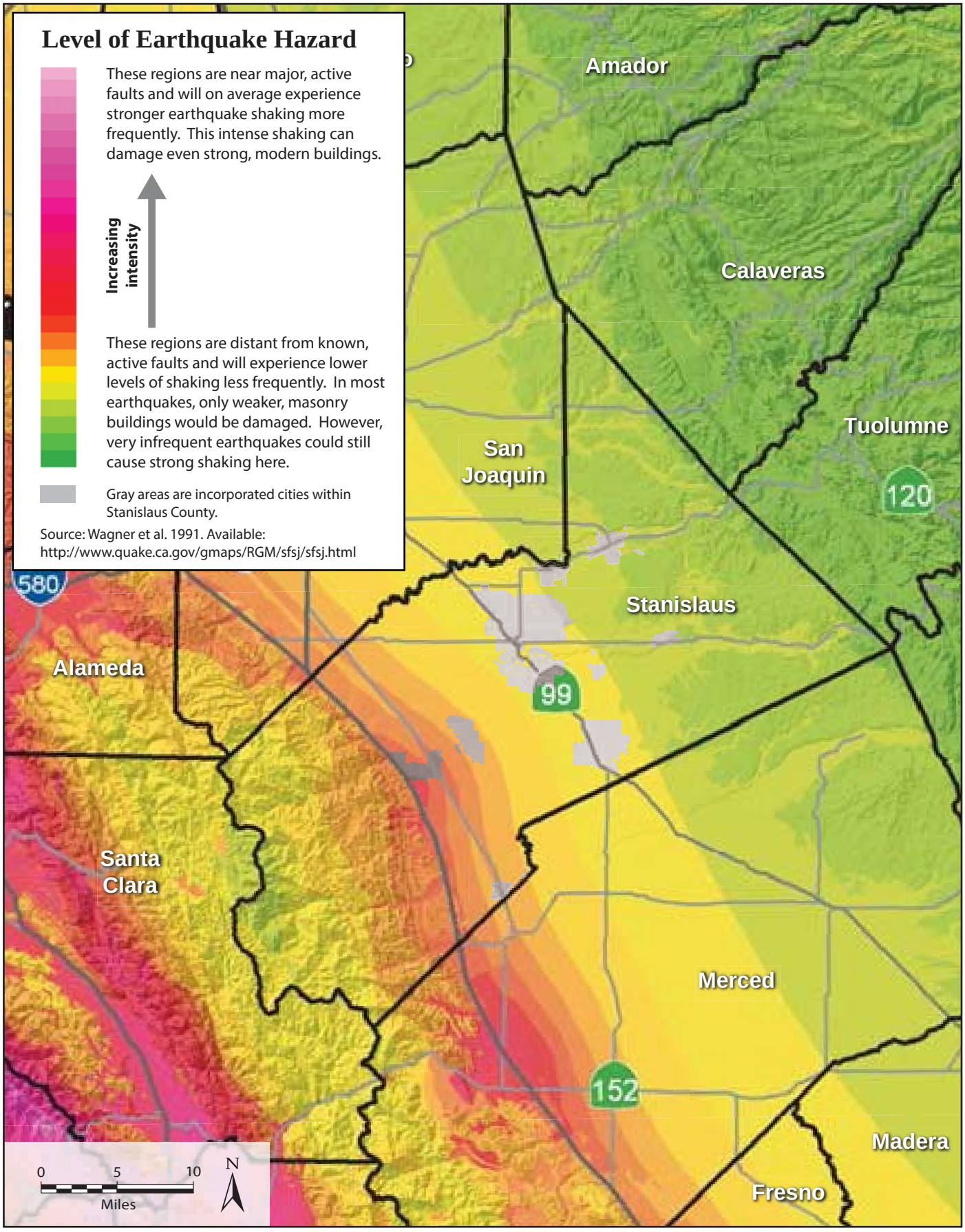

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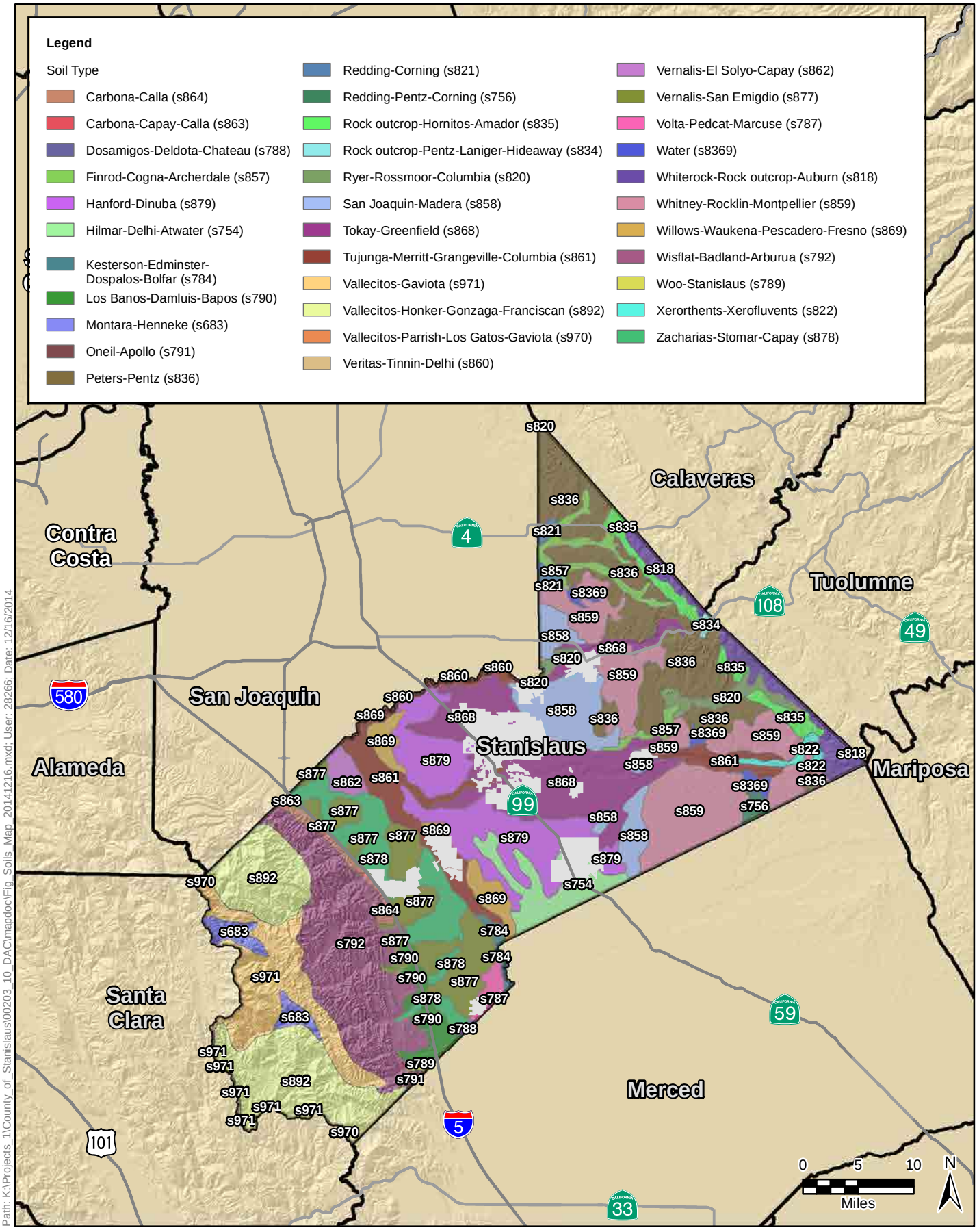
Figure 3.6-3
Ground Shaking Potential



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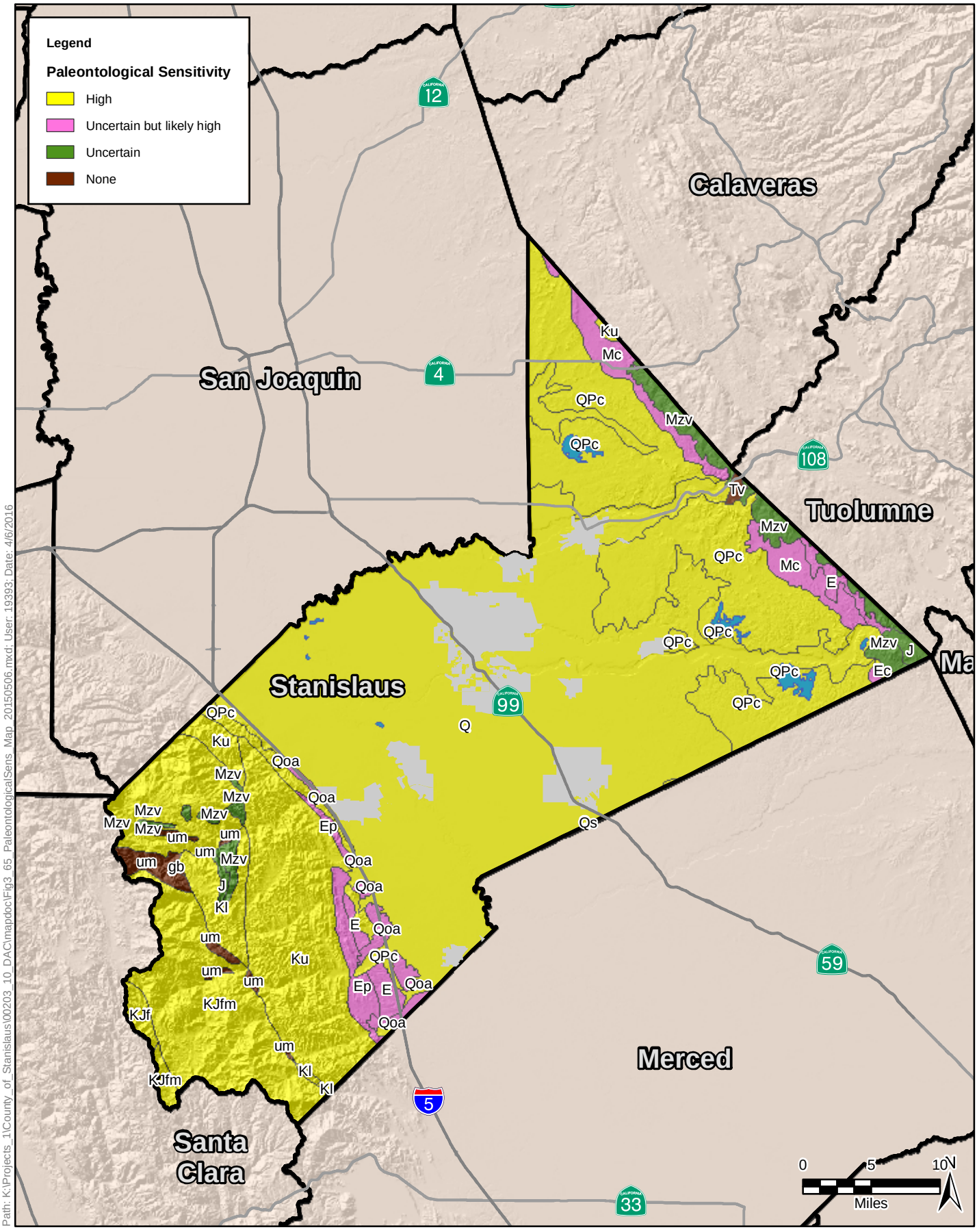
Source: STATSGO; ESRI USA Imagery (2010)

3.6-4
Stanislaus General Plan Update
Soils Map



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Source: California Geological Survey 2010

Figure 3.6-5
General Paleontological Sensitivity Map of Stanislaus County

3.7 Greenhouse Gas Emissions and Energy

3.7.1 Introduction

This section discusses the impacts of the plan updates with respect to greenhouse gas emissions and energy. It lists the thresholds of significance that form the basis of the environmental analysis, describes the greenhouse gas emissions and energy study area and major sources used in the analysis, provides environmental setting information that is relevant to greenhouse gas emissions and energy, and assesses whether the plan updates would result in significant impacts with respect to these resources.

The phenomenon known as the greenhouse effect keeps the atmosphere near the Earth's surface warm enough for the successful habitation of humans and other life forms. Present in the Earth's lower atmosphere, greenhouse gases (GHGs) play a critical role in maintaining the Earth's temperature; GHGs trap some of the long-wave infrared radiation emitted from the Earth's surface that would otherwise escape to space. According to Assembly Bill (AB) 32, California's Global Warming Solutions Act, GHGs include the following gases: carbon dioxide (CO_2), methane (CH_4), nitrogen dioxide (N_2O), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and hydrofluorocarbons (HFCs). State CEQA Guidelines Section 15364.5 also identifies these six gases as GHGs.

Sunlight passes through the atmosphere as infrared, visible, and ultraviolet light. Some of the sunlight striking the Earth is absorbed and converted to heat, which warms the surface. The surface emits infrared radiation to the atmosphere, where some of it is absorbed by GHGs and re-emitted toward the surface; some of the heat is not trapped by GHGs and escapes into space. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and amplifying the warming of the Earth. (Center for Climate and Energy Solutions 2011.)

Increases in fossil fuel combustion and deforestation have exponentially increased concentrations of GHGs in the atmosphere since the Industrial Revolution. Rising atmospheric concentrations of GHGs in excess of natural levels enhance the greenhouse effect, which contributes to global warming of the Earth's lower atmosphere and induces large-scale changes in ocean circulation patterns, precipitation patterns, global ice cover, biological distributions, and other changes to the Earth system that are collectively referred to as *climate change*.

The Intergovernmental Panel on Climate Change (IPCC) has been established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical, and socioeconomic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation. The IPCC estimates that the average global temperature rise between the years 2000 and 2100 could range from 1.1° Celsius, with no increase in GHG emissions above year 2000 levels, to 6.4° Celsius, with substantial increase in GHG emissions (Intergovernmental Panel on Climate Change 2007a:97–115). Large increases in global temperatures could have substantial adverse effects on the natural and human environments on the planet and in California.

Study Area

The greenhouse gas emissions and energy impact study area for the project is defined as Stanislaus County.

3.7.2 Environmental Setting

This section describes the federal, state, and local regulations and policies that are applicable to the plan updates, and the existing conditions pertaining to greenhouse gas emissions and energy in the study area. The existing conditions will constitute the baseline for analyses.

Regulatory Setting

This section describes the federal, state, and local regulations and policies pertaining to greenhouse gas emissions and energy that would apply to the plan updates.

Greenhouse Gas Emissions

Federal

Mandatory Greenhouse Gas Reporting Rule (2009)

On September 22, 2009, the U.S. Environmental Protection Agency (EPA) released its final Greenhouse Gas Reporting Rule (Reporting Rule). The Reporting Rule is a response to the fiscal year 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110-161), which required EPA to develop "mandatory reporting of greenhouse gases above appropriate thresholds in all sectors of the economy…." The Reporting Rule applies to most entities that emit 25,000 metric tons of carbon dioxide equivalent (CO_2e) or more per year. Starting in 2010, facility owners are required to submit an annual GHG emissions report with detailed calculations of facility GHG emissions. The Reporting Rule also mandates recordkeeping and administrative requirements in order for EPA to verify annual GHG emissions reports.

Update to Corporate Average Fuel Economy Standards (2009)

The new Corporate Average Fuel Economy (CAFE) standards incorporate stricter fuel economy standards promulgated by the State of California into one uniform standard. Additionally, automakers are required to cut GHG emissions in new vehicles by roughly 25% by 2016. EPA, the National Highway Traffic Safety Administration (NHTSA), and the California Air Resources Board (ARB) are currently working together on a joint rulemaking to establish GHG emissions standards for 2017 to 2025 model year passenger vehicles, which require an industry-wide average of 54.5 miles per gallon in 2025 (U.S. Environmental Protection Agency et al. 2011a). The official proposal was released by both EPA and NHTSA on December 1, 2011. On August 28, 2012, EPA and NHTSA issued a joint Final Rulemaking to extend the national program of harmonized greenhouse gas and fuel economy standards to model year 2017 through 2025 passenger vehicles.

Environmental Protection Agency Endangerment and Cause and Contribute Findings (2009)

On December 7, 2009, EPA signed the Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the federal Clean Air Act. Under the Endangerment Finding, EPA finds that the current and projected concentrations of the six key well-mixed GHGs—CO_2, CH_4, N_2O, PFCs, SF_6, and HFCs—in the atmosphere threaten the public health and welfare of current and

future generations. Under the Cause or Contribute Finding, EPA finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action is a prerequisite to finalizing EPA's proposed new CAFE standards for light-duty vehicles, which EPA proposed in a joint proposal including the Department of Transportation's proposed CAFE standards.

State

Executive Order S-3-05 (2005)

Signed by Governor Arnold Schwarzenegger on June 1, 2005, Executive Order (EO) S-3-05 asserts that California is vulnerable to the effects of climate change. To combat this concern, EO S-3-05 established the following GHG emissions reduction targets for state agencies.

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80% below 1990 levels.

Executive orders are binding only on state agencies. Accordingly, EO S-03-05 will guide state agencies' efforts to control and regulate GHG emissions but will have no direct binding effect on local government or private actions. The Secretary of the California Environmental Protection Agency is required to report to the Governor and state legislature biannually on the impacts of global warming on California, mitigation and adaptation plans, and progress made toward reducing GHG emissions to meet the targets established in this executive order.

Assembly Bill 32, California Global Warming Solutions Act (2006)

In September 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. AB 32 establishes a cap on statewide GHG emissions and sets forth the regulatory framework to achieve the corresponding reduction in statewide emission levels. Under AB 32, ARB is required to take the following actions.

- Adopt early action measures to reduce GHGs.
- Establish a statewide GHG emissions cap for 2020 based on 1990 emissions.
- Adopt mandatory reporting rules for significant GHG sources.
- Adopt a scoping plan indicating how emission reductions would be achieved through regulations, market mechanisms, and other actions.
- Adopt regulations needed to achieve the maximum technologically feasible and cost-effective reductions in GHGs.

Climate Change Scoping Plan (2012)

On December 11, 2008, pursuant to AB 32, ARB adopted the Climate Change Scoping Plan. This plan outlines how emissions reductions from significant sources of GHGs will be achieved via regulations, market mechanisms, and other actions. Six key elements are identified to achieve emissions reduction targets.

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards.
- Achieving a statewide renewable energy mix of 33%.
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system.
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS).
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation.

The Climate Change Scoping Plan also describes recommended measures that were developed to reduce GHG emissions from key sources and activities while improving public health, promoting a cleaner environment, preserving our natural resources, and ensuring that the impacts of the reductions are equitable and do not disproportionately affect low-income and minority communities. These measures put the state on a path to meet the long-term 2050 goal of reducing California's GHG emissions to 80% below 1990 levels.

In March 2011, a San Francisco Superior Court enjoined the implementation of ARB's Scoping Plan, finding the alternatives analysis and public review process violated both CEQA and ARB's certified regulatory program (*Association of Irritated Residents, et al. v. California Air Resources Board*). In response to this litigation, ARB adopted a *Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document* on August 24, 2011. ARB staff re-evaluated the statewide GHG baseline in light of the economic downturn and updated the projected 2020 emissions to 507 million metric tons CO_2e. Two reduction measures (Pavley I and the Renewable Portfolio Standard), not previously included in the 2008 Scoping Plan baseline, were incorporated into the updated baseline. According to the *Final Supplement*, the majority of additional measures in the Climate Change Scoping Plan have been adopted (as of 2012) and are currently in place (California Air Resources Board 2011).

Senate Bill 97 (2007)

Senate Bill (SB) 97 required the California Office of Planning and Research to develop, and the Natural Resources Agency to adopt, amendments to the State CEQA Guidelines addressing the analysis and mitigation of GHG emissions. These amendments were enacted in 2010.

Senate Bill 375—Sustainable Communities Strategy (2008)

SB 375 provides for a new planning process that coordinates land use planning, regional transportation plans, and funding priorities in order to help California meet the GHG reduction goals established in AB 32. SB 375 requires regional transportation plans, developed by metropolitan planning organizations (MPOs) to incorporate a "sustainable communities strategy" (SCS) in their Regional Transportation Plans (RTPs). The goal of the SCS is to reduce regional vehicle miles traveled (VMT) through land use planning and consequent transportation patterns. ARB released the regional targets in September 2010, and Stanislaus Area Council of Governments' (StanCOG's) regional

reduction targets are a 5% per capita reduction in GHG emissions by 2020 and 10% reduction by 2035. StanCOG is the MPO for Stanislaus County.

STANCOG adopted its SB 375-compliant *2014 Regional Transportation Plan/Sustainable Communities Strategy* in June 2014. StanCOG's 2014 RTP/SCS indicates they will exceed their 5% 2020 reduction target and 10% 2035 reduction target, achieving a 26% reduction in 2020 and 22% reduction in 2030 (Stanislaus Area Council of Governments 2014). The "Moderate Change" scenario that makes up the SCS largely reflects the land uses identified in the County General Plan for its unincorporated areas, with development at higher density and intensity than in the city general plans proposed for portions of the cities.

SB 375 also includes provisions for streamlined CEQA review for some infill projects such as transit-oriented development. However, there are no areas within unincorporated Stanislaus County with high quality transit service to qualify for transit-oriented development streamlining. Therefore, this aspect of the statute does not apply to the County.

State CEQA Guidelines

The State CEQA Guidelines require lead agencies to describe, calculate, or estimate the amount of GHG emissions that would result from a project. Moreover, the State CEQA Guidelines emphasize the necessity to determine potential climate change effects of the project and propose mitigation as necessary. The State CEQA Guidelines confirm the discretion of lead agencies to determine appropriate significance thresholds, but require the preparation of an EIR if "there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with adopted regulations or requirements" (Section 15064.4).

State CEQA Guidelines Section 15126.4 includes considerations for lead agencies related to feasible mitigation measures to reduce GHG emissions, which may include, among others, measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision; implementation of project features, project design, or other measures that are incorporated into the project to substantially reduce energy consumption or GHG emissions; offsite measures, including offsets that are not otherwise required, to mitigate a project's emissions; and measures that sequester carbon or carbon-equivalent emissions.

Pertinent Case Law

The California Supreme Court has held that the Scoping Plan's statewide goal of reducing GHG emissions by 29% from business as usual in order to meet AB 32's target can be used as a threshold of significance for GHG emissions (Center for Biological Diversity v. Department of Fish and Wildlife (2015) __ Cal.4th __) (hereafter Newhall Ranch). However, if applied to a local project, the EIR must provide supporting evidence that the project emissions relate to the Scoping Plan. The Court stated, in overturning the application of the Scoping Plan goal to an individual project:

> At bottom, the EIR's deficiency stems from taking a quantitative comparison method developed by the Scoping Plan as a measure of the greenhouse gas emissions reduction effort required by the state as a whole, and attempting to use that method, without consideration of any changes or adjustments, for a purpose very different from its original design: To measure the efficiency and conservation measures incorporated in a specific land use development proposed for a specific location.

California Energy Efficiency Standards for Residential and Nonresidential Buildings—Green Building Code (2011), Title 24 Update (2014)

California has adopted aggressive energy efficiency standards for new buildings and has been continually updating them for many years. In 2008, the California Building Standards Commission adopted the nation's first green building standards, which include standards for many other built environment aspects apart from energy efficiency. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code (24 California Code of Regulations [CCR]). Part 11 establishes voluntary standards that became mandatory in the 2010 edition of the code, including planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The current energy efficiency standards were last adopted in 2013 and took effect on January 1, 2014.

Executive Order B-30-15 (2015)

EO B-30-15 established a medium-term goal for 2030 of reducing GHG emissions by 40% below 1990 levels and requires ARB to update its current AB 32 Scoping Plan to identify the measures to meet the 2030 target. The executive order supports EO S-03-05, described above, but is currently only binding on state agencies. However, there are current (2015/2016) proposals (Senate Bill [SB] 32) at the state legislature to establish a statutory target for 2030.

Senate Bill 350—De Leon (Clean Energy and Pollution Reduction Act of 2015 – Ch. 547, Stats. of 2015)

Senate Bill 350 was approved by the California legislature in September 2015 and signed by Governor Brown in October 2015. Its key provisions are to require the following by 2030: (1) a renewables portfolio standard of 50% and (2) a doubling of energy efficiency (electrical and natural gas) by 2030, including improvements to the efficiency of existing buildings. These mandates will be implemented by future actions of the Public Utilities Commission and California Energy Commission.

Energy

Federal

Energy Policy Act of 2005

The Energy Policy Act of 2005 (EP Act) was intended to establish a comprehensive, long-term energy policy and is implemented by the U.S. Department of Energy (U.S. DOE). The EP Act addresses energy production in the United States, including oil, gas, coal, and alternative forms of energy and energy efficiency and tax incentives. Energy efficiency and tax incentive programs include credits for the construction of new energy efficient homes, production or purchase of energy efficient appliances, and loan guarantees for entities that develop or use innovative technologies that avoid the production of greenhouse gases.

State

California Environmental Quality Act, Appendix F, Energy Conservation

CEQA requires EIRs to include a discussion of potential energy impacts and energy conservation measures. Appendix F, *Energy Conservation*, of the State CEQA Guidelines outlines energy impact

possibilities and potential conservation measures designed to assist in the evaluation of potential energy impacts of proposed projects. Appendix F places "particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy," and further indicates this may result in an unavoidable adverse effect on energy conservation. Moreover, the State CEQA Guidelines state that significant energy impacts should be "considered in an EIR to the extent relevant and applicable to the project." Mitigation for potential significant energy impacts could include implementing a variety of strategies, such as measures to reduce wasteful energy consumption and altering project siting to reduce energy consumption.

California Building Standards Code (Title 24, California Code of Regulations), including Energy Code (Title 24, Part 6) and Green Building Standards Code (Title 24, Part 11)

California first adopted the California Buildings Standards Code in 1979, which constituted the nation's first comprehensive energy conservation requirements for construction. Since this time, the standards have been continually revised and strengthened. In particular, the California Building Standards Commission adopted the mandatory Green Building Standards Code (CALGreen [California Code of Regulations, Title 24, Part 11]) in January 2010. CALGreen applies to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure.

California Code of Regulations, Title 24, Part 6 (also known as the California Energy Code) and associated regulations in CALGreen were revised again in 2013 by the California Energy Commission (CEC). The 2013 Building Energy Efficiency Standards are 25% more efficient than previous standards for residential construction. Part 11 also establishes voluntary standards that became mandatory in the 2010 edition of the code, including planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The standards offer builders better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses. The next update to the Title 24 energy efficiency standards will occur in 2016 and take effect in 2017. Senate Bill 350, described above, will require future updates to include tighter energy conservation standards.

Senate Bills 1078/107 and Senate Bill 2—Renewables Portfolio Standard

SB 1078 and SB 107, California's Renewables Portfolio Standard (RPS), obligated investor-owned utilities (IOUs), energy service providers (ESPs), and Community Choice Aggregations (CCAs) to procure an additional 1% of retail sales per year from eligible renewable sources until 20% is reached, no later than 2010. The California Public Utilities Commission (CPUC) and CEC are jointly responsible for implementing the program. SB 2 (2011) set forth a longer range target of procuring 33% of retail sales by 2020. Implementation of the RPS will conserve nonrenewable fossil fuel resources by generated a greater percentages of statewide electricity from renewable resources, such as wind, solar, and hydropower.

Assembly Bill 1881 (Ch. 559, Stats. of 2006)

Water conservation reduces energy use by reducing the energy cost of moving water from its source to its user. AB 1881 (Chapter 559, Statutes of 2006) required the Department of Water Resources (DWR) to adopt an Updated Model Water Efficient Landscape Ordinance (MWELO) and local agencies to adopt DWR's MWELO or a local water efficient landscape ordinance by January 1, 2010, and notify DWR of their adoption (Government Code Section 65595). If a jurisdiction does not adopt a MWELO

or local water efficient landscape ordinance, the standards defer to the California Model Water Ordinance, which was updated in September 2015.

Senate Bill X7-7 (Ch. 4, Stats. of 2009)

SB X7-7, the Water Conservation Act of 2009, establishes an overall goal of reducing statewide per capita urban water use by 20% by December 31, 2020 (with an interim goal of at least 10% by December 31, 2015). Reducing water use results in a reduction in energy demand that would otherwise be used to transport and treat water before delivery to the consumer. This statute applies to the following water districts located within Stanislaus County: Central California Irrigation District, Del Puerto Water District, Eastin Water District, Eastside Water District, El Solyo Water District, Modesto Irrigation District, Oak Flat Water District, Oakdale Irrigation District, Patterson Irrigation District, Rock Creek Water District, Turlock Irrigation District, and West Stanislaus Irrigation District, Western Hills Water District.

Assembly Bill 2076, Reducing Dependence on Petroleum

The CEC and ARB are directed by AB 2076 (passed in 2000) to develop and adopt recommendations for reducing dependence on petroleum. A performance-based goal is to reduce petroleum demand to 15% less than 2003 demand by 2020.

Assembly Bill 1493—Pavley Rules (2002, Amendments 2009, 2012 rule-making)

AB 1493 required ARB to adopt vehicle standards that will improve the efficiency of light duty autos and lower GHG emissions to the maximum extent feasible beginning in 2009. Additional strengthening of the Pavley standards (referred to previously as "Pavley II," now referred to as the "Advanced Clean Cars" measure) has been proposed for vehicle model years 2017–2025. Together, the two standards are expected to increase average fuel economy to roughly 54.5 miles per gallon by 2025. The improved energy efficiency of light duty autos will reduce statewide fuel consumption in the transportation sector.

Senate Bill 350 (Ch. 547, Stats. of 2015)

The "Clean Energy and Pollution Reduction Act of 2015" is summarized above.

Local

Stanislaus County Code

16.65.010 California Energy Code and Appendices adopted. The California Energy Code, as published by the International Code Council, 2013 Edition, and Appendix 1-A is adopted by reference and incorporated in this chapter as if fully set forth herein, and shall be referred to as the Energy Code of the county.

16.80.010 California Green Building Standards Code adopted (see discussion above under *Greenhouse Gas Emissions*).

16.70.010 California Residential Code and Appendices adopted. Except as hereafter changed or modified, the California Residential Code, as published by the International Code Council, 2013 Edition, Chapter 1, Division II Administration Sections R105.2 and Section R109.1 through R109.1.6.2 except R109.1.2, Appendix "H" "Patio Covers" are adopted by reference and incorporated in this Chapter 16.70 as if fully set forth herein, and shall be referred to as the California Residential Code of the county.

Stanislaus County General Plan Chapter 1 – Land Use Element

GOAL THREE. Foster stable economic growth through appropriate land use policies.

POLICY SEVENTEEN. Promote diversification and growth of the local economy.

IMPLEMENTATION MEASURE

4. Encourage the development of new industries and the retention of existing industries that help the community reduce, recycle, and/or reuse waste that would otherwise require disposal.

GOAL FOUR. Ensure that an effective level of public service is provided in unincorporated areas.

POLICY TWENTY-TWO. Future growth shall not exceed the capabilities/capacity of the provider of services such as sewer, water, public safety, solid waste management, road systems, schools, health care facilities, etc.

IMPLEMENTATION MEASURE

7. Only development requests which have recognized and mitigated any significant impacts on solid waste reduction, recycling, disposal, reuse, collection, handling, and removal shall be approved.

POLICY TWENTY-THREE. New development shall pay its fair share of the cost of cumulative impacts on circulation and transit systems.

IMPLEMENTATION MEASURES

2. Traffic impacts shall be identified and impact mitigation fees shall be paid by the subdivider and/or developer
3. The level of service (LOS) for all roadways and intersections shall be at least a "C" level, unless they are located within the sphere of influence of a city that has adopted a lower level of service.

Denair Community Plan

Like the general County policies, the Denair Community Plan Area portion of the Land Use Element contains several goals and policies pertaining indirectly to air quality. The following policies directly pertain to air quality resources in Denair.

GOAL THREE. Provide for the non-motorized transportation needs of the Denair Community

POLICY ONE. Provide safe and convenient pedestrian and bicycle facilities to various destinations throughout the Community of Denair.

POLICY TWO. Provide pedestrian and bicycle facilities that link community residents to schools, parks, civic facilities and the community's downtown core in accordance with the Denair Community Plan diagram.

POLICY THREE. The Community pedestrian and bicycle facilities shall connect to regional pedestrian and bicycle facilities.

Keyes Community Plan

Like the countywide policies, the Keyes Community Plan Area portion of the Land Use Element contains goals and policies that indirectly relate to air quality. The following policies directly pertain to air quality resources in Keyes.

GOAL THREE (Community of Keyes). Encourage attractive and orderly development which preserves a small town atmosphere.

POLICY SIX. Provide convenient and accessible neighborhood commercial areas within the community to minimize vehicular trips needed for frequently used retail services.

GOAL SIX (Community of Keyes). Provide for the non-motorized transportation needs of the Keyes Community

POLICY ONE. Provide safe and convenient pedestrian and bicycle facilities to various destinations throughout the Community of Keyes.

POLICY TWO. Provide pedestrian and bicycle facilities that link community residents to schools, parks, civic facilities and the community's retail centers in accordance with the Keyes Community Plan diagram.

POLICY THREE. Community bicycle facilities shall connect to regional bicycle facilities.

Stanislaus County General Plan Chapter 3 – Conservation/Open Space Element

GOAL SEVEN. Support efforts to minimize the disposal of solid waste through source reduction, reuse, recycling, composting and transformation activities.

POLICY TWENTY-TWO. The County will support the solid waste management hierarchy established by the California Public Resources Code, Section 40051, and actively promote the goals and objectives specified in the Countywide Integrated Waste Management Plan.

POLICY TWENTY-THREE. The County will protect existing solid waste management facilities, including the waste-to-energy plant and the Fink Road landfill, against encroachment by land uses that would adversely affect their operation or their ability to expand.

GOAL ELEVEN. Conserve resources through promotion of waste reduction, reuse, recycling, composting, ride-share programs and alternative energy sources such as mini-hydroelectric plants, gas and oil exploration, and transformation facilities such as waste-to-energy plants.

POLICY THIRTY-ONE. The County shall provide zoning mechanisms for locating material recovery facilities, recycling facilities, composting facilities, and new energy producers when the proposed location does not conflict with surrounding land uses.

POLICY THIRTY-TWO. New construction by the County shall meet or exceed code requirement for energy conservation.

Stanislaus County General Plan Chapter 6 – 2009-2014 Housing Element

GOAL ONE. Encourage the provision of adequate, affordable housing, including units for rent and for ownership for residents of all income groups, including extremely-low, very low-, low- and moderate-income households.

POLICY ONE D. The County shall encourage energy conservation in existing homes and new housing developments.

Existing Conditions

Greenhouse Gases of Concern

The primary GHGs of concern are CO_2, CH_4, N_2O, HFCs, and SF_6. Each of these gases is discussed in detail below.

To simplify reporting and analysis, methods have been set forth to describe emissions of GHGs in terms of a single gas. The global warming potential (GWP) methodology defined in the IPCC reference documents (Intergovernmental Panel on Climate Change 1996, 2001:241–280) is the most commonly accepted method to compare GHG emissions. The IPCC defines the GWP of various GHG emissions on

a normalized scale that recasts all GHG emissions in terms of CO_2e, which compares the gas in question to that of the same mass of CO_2 (CO_2 has a GWP of 1 by definition).

Table 3.7-1 lists the GWP of CO_2, CH_4, N_2O, HCFs, and SF_6; their lifetimes; and abundances in the atmosphere.

Table 3.7-1. Abundances, Lifetimes, and Global Warming Potentials of Primary Greenhouse Gases

Greenhouse Gas	Current Atmospheric Abundance	Lifetime (years)	Global Warming Potential (100 years)
CO_2 (ppm)	394	50–200	1
CH_4 (ppb)	1,893	9-15	28
N_2O (ppb)	326	121	265
HFC-23 (ppt)	18	222	12,400
HFC-134a (ppt)	75	13.4	1,300
HFC-152a (ppt)	3.9	1.5	138
SF_6 (ppt)	7.8	3,200	23,500

Sources: Myhre et al. 2013; Blasing 2014; National Oceanic and Atmospheric Administration 2014.
ppm = parts per million.
ppb = parts per billion.
ppt = parts per trillion.

Carbon Dioxide

CO_2 is the most important anthropogenic GHG, accounting for more than 75% of all GHG emissions caused by humans. Its atmospheric lifetime of 50–200 years ensures that atmospheric concentrations of CO_2 will remain elevated for decades even after mitigation efforts to reduce GHG concentrations are promulgated (Intergovernmental Panel on Climate Change 2007a). The primary sources of anthropogenic CO_2 in the atmosphere are the burning of fossil fuels (including motor vehicles), gas flaring, cement production, and land use changes (e.g., deforestation, oxidation of elemental carbon). CO_2 can also be removed from the atmosphere by photosynthetic organisms.

Atmospheric CO_2 has increased from a pre-industrial age concentration of 280 parts per million (ppm) to 394 ppm in 2014 (Intergovernmental Panel on Climate Change 2007b; National Oceanic and Atmospheric Administration 2014).

Methane

CH_4, the main component of natural gas, is the second most abundant GHG (Intergovernmental Panel on Climate Change 1996). Sources of anthropogenic emissions of CH_4 include growing rice, raising cattle, using natural gas, landfill outgassing, and mining coal (National Oceanic and Atmospheric Administration 2005). Certain land uses also function as a both a source of CH_4 and sink (i.e., they remove CH_4 from the atmosphere). For example, the primary terrestrial source of CH_4 is wetlands; however, when undisturbed, aerobic soil acts as a CH_4 sink.

Atmospheric CH_4 has increased from a pre-industrial concentration of 715 parts per billion (ppb) to 1,893 ppb in 2014 (Intergovernmental Panel on Climate Change 2007b; Blasing 2014).

Nitrous Oxide

N_2O is a powerful GHG, with a GWP of 310 (Intergovernmental Panel on Climate Change 1996). Anthropogenic sources of N_2O include agricultural processes (e.g., fertilizer application), nylon production, fuel-fired power plants, nitric acid production, and vehicle emissions. N_2O also is used in rocket engines, racecars, and as an aerosol spray propellant. Natural processes, such as nitrification and denitrification, can also produce N_2O, which can be released to the atmosphere by diffusion. In the United States more than 70% of N_2O emissions are related to agricultural soil management practices, particularly fertilizer application.

N_2O concentrations in the atmosphere have increased 18% from pre-industrial levels of 270 ppb to 326 ppb in 2014 (Intergovernmental Panel on Climate Change 2007b; Blasing 2014).

Hydrofluorocarbons

HFCs are anthropogenic chemicals used in commercial, industrial, and consumer products and have high GWPs (U.S. Environmental Protection Agency 2015). HFCs are generally used as substitutes for ozone-depleting substances (ODS) in automobile air conditioners and refrigerants. Within the transportation sector, HFCs from leaking air conditioning units represent about 3% of total onroad emissions (United States Environmental Protection Agency 2007). As seen in Table 3.7-1, the most abundant HFCs, in descending order, are HFC-134a, HFC-23, and HFC-152a.

As of December 2013, HCF concentrations in the atmosphere have risen from 0 parts per trillion (ppt) to over 75 (ppt) (HFC-134a) since pre-industrial times (Intergovernmental Panel on Climate Change 2007b; Carbon Dioxide Information Analysis Center 2014).

Sulfur Hexafluoride

SF_6, a human-made chemical, is used as an electrical insulating fluid for power distribution equipment, in the magnesium industry, in semiconductor manufacturing, and also as a tracer chemical for the study of oceanic and atmospheric processes (U.S. Environmental Protection Agency 2015). In 2014, atmospheric concentrations of SF_6 were 7.8 ppt and steadily increasing in the atmosphere (Blasing 2014). SF_6 is the most powerful of all GHGs listed in IPCC studies, with a GWP of 23,500 (Myhre et al. 2013).

Greenhouse Gas Emissions Inventories

A GHG inventory is a quantification of all GHG emissions and sinks within a selected physical and/or economic boundary. GHG inventories can be performed on a large scale (i.e., for global and national entities) or on a small scale (i.e., for a particular building or person). Although many processes are difficult to evaluate, several agencies have developed tools to quantify emissions from certain sources.

The Stanislaus Regional GHG Inventory Project was completed by ICF International as part of the *Stanislaus County Regional Sustainability Toolbox (RST)*, a group of initiatives funded through the State of California Strategic Growth Council (SGC). The proposal was submitted collaboratively by Stanislaus County (lead jurisdiction), and the Cities of Ceres, Hughson, Modesto, Newman, Oakdale, Patterson, Riverbank, Turlock and Waterford. This report provides the quantification (in terms of carbon dioxide equivalent [CO_2e]) of GHG community emissions for the county as a whole for the year 2005, and is included as Appendix D (ICF International 2013).

Table 3.7-2 outlines the most recent global, national, statewide, and local GHG inventories to help contextualize the magnitude of potential project-related emissions.

Table 3.7-2. Global, National, State, and Local GHG Emissions Inventories

Emissions Inventory	CO_2e (metric tons)
2004 IPCC Global GHG Emissions Inventory	49,000,000,000
2012 EPA National GHG Emissions Inventory	6,526,000,000
2012 ARB State GHG Emissions Inventory	458,680,000
2005 Stanislaus Countywide Regional Community GHG Emissions Inventory	6,044,113

Sources: Intergovernmental Panel on Climate Change 2007a; U.S. Environmental Protection Agency 2014a; California Air Resources Board 2014a; ICF International 2013.

Energy

California has a diverse portfolio of energy resources. Excluding offshore areas, the state ranked third in the nation in crude oil production in 2013, producing more than 16,950 barrels (equivalent to 1,143.8 trillion British thermal units [BTU]). The state also ranked fourth in the nation in conventional hydroelectric generation and second in the nation for net electricity generation from renewable resources, including geothermal, solar, and wind. Other energy sources in the state include natural gas, nuclear, and biofuels (U.S. Energy Information Administration 2014).

Energy efficiency efforts have dramatically reduced statewide per capita energy consumption relative to historical averages. According to the U.S. Energy Information Administration (2014), California consumed approximately 7,612 trillion BTUs of energy in 2012. Per capita energy consumption (i.e., total energy consumption divided by the population) in California is among the lowest in the country, with 201 million BTU in 2012, which ranked 49th among all states in the country. Natural gas accounted for the majority of energy consumption (32%), followed by motor gasoline (22%), distillate and jet fuel (14%), interstate electricity (11%), nuclear and hydroelectric power (6%), and a variety of other sources (U.S. Energy Information Administration 2014). The transportation sector consumed the highest quantity of energy (38.5%), followed by the industrial and commercial sectors.

Per capita energy consumption, in general, is declining due to improvements in energy efficiency and design. However, despite this reduction in per capita energy use, the state's total overall energy consumption (i.e., non–per capita energy consumption) is expected to increase over the next several decades due to growth in population, jobs, and demand for vehicle travel. Electricity usage is anticipated to grow about 26% over the next two decades, and diesel fuel consumption may increase by 35 to 42% over the same time period. Gasoline usage, however, is expected to decrease by 8.5 to 11.3%. This decrease would largely be a result of high fuel prices, efficiency gains, and competing fuel technologies (U.S. Energy Information Administration 2013).

Stanislaus County is served by three energy providers: Pacific Gas and Electric (PG&E), Modesto Irrigation District, and Turlock Irrigation District. Regionally, PG&E has a diverse power production portfolio, which is comprised of a variety of renewable (such as wind, solar, and hydroelectric) and non-renewable (such as natural gas) sources. On a smaller scale, Modesto Irrigation District, and Turlock Irrigation District also rely on a diverse portfolio of energy sources to serve their customers. Energy production typically varies by season and by year depending on hydrologic conditions. Regional electricity loads also tend to be higher in the summer because the higher summer temperatures drive increased demand for air-conditioning. In contrast, natural gas loads are higher in the winter because the colder temperatures drive increased demand for natural gas heating.

At the local level, Stanislaus County consumes a small amount of energy relative to the state. Electricity and natural gas usage is approximately 1.7 and 1.4% of the statewide total, respectively (California Energy Commission 2014). Gasoline is about 1.2% of statewide usage (California Department of Transportation 2009). For reference, Stanislaus County is home to about 1.4% of California residents. See Section 3.10, *Land Use and Planning*, for additional information on Stanislaus County. Building electricity and natural gas usage accounts for 23 and 16% of total CO_2e emissions for Stanislaus County, respectively (ICF International 2013).

3.7.3 Impact Analysis

This section discusses the approach and methodology used to assess the impacts of the plan updates; discusses the individual impacts relative to the thresholds of significance; discusses mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for significant impacts; and indicates the overall significance of the impact with mitigation incorporated.

Major Sources Used in Analysis

The major sources used in this analysis are listed below.

- San Joaquin Valley Air Pollution Control District (SJVAPCD) plans
- ARB Scoping Plan
- Stanislaus County and cities GHG emissions inventories
- Stanislaus County Council of Governments RTP/SCS EIR

Approach and Methodology

Because implementation of the General Plan and Airport Land Use Compatibility Plan Update would not include any development projects, the impacts on greenhouse gases and energy are examined at a general level in this analysis. Note that although the greenhouse gas analysis relies in part on traffic data, an increase in traffic congestion does not necessarily result in a significant increase in GHG emissions. Forecasted increases in overall vehicle miles travelled is one factor in the GHG emissions analysis.

Thresholds of Significance

Greenhouse Gas Emissions

Based on State CEQA Guidelines Appendix G, the plan updates would have a significant impact with respect to greenhouse gas emissions if they would result in any of the following.

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The State CEQA Guidelines do not indicate what amount of GHG emissions would constitute a significant impact on the environment. Instead, they authorize the lead agency to consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial

evidence (State CEQA Guidelines Sections 15064.4(a) and 15064.7(c)). SJVAPCD has produced GHG guidance to assist lead agencies in determining the level of significance of operational-related GHG emissions, pursuant to CEQA (San Joaquin Valley Air Pollution Control District 2009a). SVJAPCD's GHG guidance is intended to streamline CEQA review by pre-quantifying emissions reductions that would be achieved through the implementation of best performance standards (BPS). Projects are considered to have a less-than-significant cumulative impact on climate change if any of the following conditions are met.

1. Comply with an approved GHG reduction plan;
2. Achieve a score of at least 29[1] using any combination of approved operational BPS.
3. Reduce operational GHG emissions by at least 29% over business-as-usual (BAU) conditions (demonstrated quantitatively).

SJVAPCD guidance recommends quantification of GHG emissions for all projects in which an EIR is required, regardless of whether BPS achieve a score of 29 (San Joaquin Valley Air Pollution Control District 2009b). SJVAPCD does not have an adopted significance threshold for construction-related GHG emissions. However, lead agencies should quantify and disclose GHG emissions that would occur during construction, and make a determination on the significance of these construction-generated GHG emission impacts in relation to meeting AB 32 GHG reduction goals (San Joaquin Valley Air Pollution Control District 2009b).

There is currently no adopted GHG reduction plan for Stanislaus County. Accordingly, option 1 from the SVJAPCD GHG guidance—comply with an approved GHG reduction plan—cannot be used to evaluate project significance. Options 2 and 3 require projects to achieve GHG reductions consistent with the goal of AB 32, which is to reduce statewide GHG emissions to 1990 levels by 2020 (equivalent to a 29% reduction over BAU conditions). As discussed in Section 3.7.2, the California Supreme Court's *Newhall Ranch* decision upheld the use of performance reductions based on AB 32. However, the Court stated that applying statewide BAU targets, which consider both existing and new development, to project-level analyses without any adjustments to isolate new development emissions or consider unique geographic conditions could be misleading and therefore require further justification. Neither SJVAPCD's GHG guidance nor other performance-based targets adopted by expert agencies have disaggregated new development emissions on a percentage basis to satisfy this new requirement imposed by the Court. The primary value of a performance-based target, as indicated in the *Newhall Ranch* decision, is that it can provide a scenario by which to evaluate the effectiveness of a project's efficiency and conservation measures to reduce GHG emissions.

The *Newhall Ranch* decision confirmed that there are multiple potential pathways for evaluating project-level GHG emissions consistent with CEQA, depending on the circumstances of a given project. These potential pathways include reliance on the BAU model,[2] numeric thresholds, and compliance with regulatory requirements. As noted above, reliance on SJVAPCD's BAU threshold without adjustments for local land use conditions does not meet the criteria identified in the *Newhall Ranch* decision needed to appropriately analyze project-level GHG emissions. Similarly, there are no drafted,

[1] A score of 29 represents a 29% reduction in GHG emissions relative to unmitigated conditions (1 point = 1%). This goal is consistent with the reduction targets established by AB 32 and the Scoping Plan.

[2] Only if "an examination of the data behind the Scoping Plan's business-as-usual model allowed the lead agency to determine what level of reduction from business as usual a new land use development at the proposed location must contribute in order to comply with statewide goals."

adopted, or recommended numeric thresholds within the SJVAPCD that would be appropriate to the proposed project.

Accordingly, based on the available threshold concepts for the region and the approach authorized by the Court, the following assessment analyzes project emissions in light of adopted state and local GHG regulatory programs. Consistent with recent judicial action[3] and the generally recognized scientific understanding[4] that there will be a need for deeper reductions in GHG emissions in the post-2020 period, the EIR evaluates long-term GHG emissions under full build (2035) conditions.

In accordance with scientific consensus regarding the cumulative nature of GHGs, the analysis provides a cumulative evaluation of GHG emissions. Unlike traditional cumulative impact assessments, this analysis is still project-specific in that it only evaluates direct emissions generated by the project; given the global nature of climate change, the analysis does not include emissions from past, present, and reasonably foreseeable projects in the Plan Area.

Energy

Based on State CEQA Guidelines Appendix F, the plan updates would have a significant impact with respect to greenhouse gases based on the following.

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project, including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
- The effects of the project on local and regional energy supplies and on requirements for additional capacity.
- The effects of the project on peak- and base-period demands for electricity and other forms of energy.
- The degree to which the project complies with existing energy standards.
- The effects of the project on energy resources.
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

The State CEQA Guidelines recommend that the discussion of applicable energy impacts focuses on whether the project would result in the wasteful, inefficient, or unnecessary consumption of energy, as this may constitute an unavoidable adverse effect on energy resources. Efficiency projects that incorporate conservation measures to avoid wasteful energy usage facilitate long-term energy planning and avoid the need for unplanned or additional energy capacity. Accordingly, based on the criteria outlined in the CEQA Guidelines Appendix F, the proposed project would cause significant impacts related to energy if it would lead to a wasteful, inefficient, and unnecessary usage of direct or indirect energy. As discussed in Section 3.7.2, under *Regulatory Setting*, energy legislation, policies, and standards adopted by California and local governments were enacted and promulgated for the purpose of reducing energy consumption and improving efficiency (i.e., reducing wasteful and inefficient use of energy). Therefore, for the purposes of this plan-level analysis, *wasteful* and

[3] See the California Appellate Court, 4th District ruling in *Sierra Club vs. County of San Diego* (2014) 231 Cal.App.4th 1152.

[4] See the Association of Environmental Professionals Climate Change Committee's *Beyond 2020: The Challenge of Greenhouse Gas Reduction Planning by Local Governments in California* white paper.

inefficient are defined as circumstances in which the project would conflict with applicable state or local energy legislation, policies, and standards. Accordingly, if the project conflicts with legislation, policies, or standards designed to avoid wasteful and inefficient energy usage, it would result in a significant impact related to energy resources and conservation

Impacts and Mitigation Measures

Impact GHG-1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (less than significant)

As indicated in Chapter 2, *Project Description*, the plan updates would include changes to the text of the land use designations of the general plan, but do not propose any changes to the land use map or the existing boundaries of the land use designations. Consequently, it is not anticipated that plan implementation would directly result in construction activities or emissions. It is currently unknown what level of construction activities would occur with implementation of the plan updates. Consequently, emissions from construction activities associated with buildout of the project cannot be quantified and are evaluated qualitatively for purposes of this analysis.

Because the plan updates would not cause any changes to land use or physical changes to the roadway network, no changes in operational emissions (either direct or indirect) would occur, and impacts would be less than significant. While no changes in projected operational emissions would occur with project implementation, operational mobile source emissions were evaluated using daily VMT traffic data provided by the project traffic engineers, Fehr & Peers, and the CT-EMFAC (version 5.0) emissions model. Table 3.7-3 presents a summary of emissions by analysis year for each study scenario evaluated. “Combined” refers to the condition for the entire county, including the cities and unincorporated areas. Emissions and VMT under the “conformity” scenario do not include GHG emissions reductions attributable to the 2014 RTP/SCS, whereas emissions and VMT under the “SB 375” scenario do.

Table 3.7-3. Summary of Emissions by Analysis Year and Study Scenario

Study Scenario	VMT	CO_2	CO_2 (Pavley I + LCFS)
2014 Conditions			
2014 Combined – Conformity	3,593,175,801	1,830,307.4	1,699,271.6
2014 Combined – SB 375	1,932,814,771	961,864.5	893,812.4
2014 Unincorporated – Conformity	2,094,556,247	1,075,057.6	997,709.7
2014 Unincorporated – SB 375	442,310,504	217,027.9	201,733.3
2014 Incorporated – Conformity	3,380,471,790	1,724,789.5	1,601,230.2
2014 Incorporated – SB 375	1,490,504,353	744,836.6	692,079.1
2035 Conditions			
2035 Combined – Conformity	5,058,910,967	2,598,853.0	1,863,260.4
2035 Combined – SB 375	2,715,426,962	1,075,373.0	775,471.4
2035 Unincorporated – Conformity	3,377,402,790	1,729,172.1	1,239,475.5
2035 Unincorporated – SB 375	923,102,308	456,877.8	328,875.3
2035 Incorporated – Conformity	4,499,699,057	2,313,657.2	1,658,327.8
2035 Incorporated – SB 375	1,792,324,789	905,810.8	650,818.0
2035 NP Combined – Conformity	4,930,462,671	2,540,551.4	1,820,910.7
2035 NP Combined – SB 375	2,596,718,470	1,304,965.4	938,020.5
2035 NP Unincorporated – Conformity	3,271,124,265	1,681,307.2	1,204,654.4
2035 NP Unincorporated – SB 375	853,305,294	423,293.0	304,608.6

NP = No Project.
Combined = Emissions and VMT for the entire county, including the cities and unincorporated areas.
Conformity = Emissions and VMT without implementation of StanCOG's 2014 RTP/SCS
SB 375 = Emissions and VMT with implementation of StanCOG's 2014 RTP/SCS

Although no operational emissions associated with the plan updates would occur, Table 3.7-3 indicates that StanCOG's 2014 RTP/SCS ("SB 375" condition) would result in less VMT and GHG emissions than without the implementation of 2014 RTP/SCS ("conformity" condition). Accordingly, implementation of the General Plan would result in a net reduction in mobile source GHG emissions within the unincorporated county. This is consistent with adopted goals to reduce GHG emissions identified in AB 32, as well as the trajectory of statewide GHG legislation (as identified in EO B-30-15 and EO S-03-05). The GHG reductions achieved by the project would also facilitate implementation of StanCOG's 2014 RTP/SCS, including meeting the 2020 and 2035 reduction targets mandated by SB 375. Accordingly, this impact would be less than significant.

Proposed General Plan Goals and Policies that Reduce the Impact

In addition to the adopted General Plan goals and policies listed above. The following goals and policies from the plan updates will help to reduce GHG emissions in the County.

Land Use Element

GOAL SIX. Promote and protect healthy living environments

POLICY TWENTY-NINE. Support the development of a built environment that is responsive to decreasing air and water pollution, reducing the consumption of natural resources and energy, increasing the reliability of local water supplies, and reduces vehicle miles traveled by facilitating alternative modes of transportation, and promoting active living (integration of physical activities, such as biking and walking, into everyday routines) opportunities.

IMPLEMENTATION MEASURES

1. County development standards shall be evaluated and revised, as necessary, to facilitate development incorporating the following (or similar) design features:
    - Alternative modes of transportation such as bicycle lanes, pedestrian paths, and facilities for public transit;
    - Alternative modes of storm water management (that mimic the functions of nature); and
    - Pedestrian friendly environments through appropriate setback, landscape, and wall/fencing standards.

POLICY THIRTY. New development shall be designed to facilitate the efficient extension of public transportation systems.

Circulation Element

GOAL ONE. Provide and maintain a transportation system ~~of roads and roads~~ throughout the County for the movement of people and goods that also meets land use and safety needs for all modes of transportation.

POLICY SIX. The County shall strive to reduce motor vehicle emissions and vehicle miles traveled (VMT) ~~trips~~ by encouraging the use of alternatives to ~~the~~ single occupant vehicles.

POLICY SEVEN. Bikeways and pedestrian facilities shall be designed to provide safe and reasonable access from residential areas to major bicycle and pedestrian traffic destinations such as schools, recreation and transportation facilities, centers of employment, and shopping areas.

GOAL ~~THREE~~TWO. Maintain a safe, balanced and efficient transportation system that facilitates inter-city and interregional travel and goods movement.

POLICY NINE. The County shall promote the development of safe inter-city and interregional transportation facilities that more efficiently moves goods and freight within and through the region.

GOAL THREE. Provide and manage parking to accommodate vehicle usage while minimizing the impacts of excessive parking supply.

POLICY ELEVEN. Seek to implement more flexible parking requirements to reduce the amount of land devoted to parking and to make alternative modes of transportation more accessible.

Significance without Mitigation: Less than significant (no mitigation required)

Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (less than significant)

As indicated in Chapter 2, *Project Description*, and discussed under Impact GHG-1, the plan updates would include changes to the text of the land use designations of the general plan, but do not propose any changes to the land use map or the existing boundaries of the land use designations. Consequently, the plan updates would not cause any changes to land use or physical changes to the roadway network, and would not result in any changes in operational emissions (either direct or indirect). The project's general plan amendments include amendments to the Land Use and Circulation Elements incorporating principles from the 2014 RTP/SCS. Further, the land use designations identified in the General Plan's land use map form the basis for the land use pattern established in the 2014 RTP/SCS.

Land Use Element

GOAL FOUR. Ensure that an effective level of public service is provided in unincorporated areas.

POLICY TWENTY-FIVE. New development shall pay its fair share of the cost of cumulative impacts on circulation and transit systems.

GOAL FIVE. Complement the general plans of cities within the County.

POLICY TWENTY-SIX. Development, other than agricultural uses and churches, which requires discretionary approval and is within the sphere of influence of cities or in areas of specific designation created by agreement (e.g., Sperry Avenue and East Las Palmas Corridors), shall not be approved unless first approved by the city within whose sphere of influence it lies or by the city for which areas of specific designation were agreed. Development requests within the spheres of influence or areas of specific designation of any incorporated city shall not be approved unless the development is consistent with agreements with the cities which are in effect at the time of project consideration. Such development must meet the applicable development standards of the affected city as well as any public facilities fee collection agreement in effect at the time of project consideration. (Comment: This policy refers to those development standards that are transferable, such as street improvement standards, landscaping, or setbacks. It does not always apply to standards that require connection to a sanitary sewer system, for example, as that is not always feasible.).

Circulation Element

GOAL ONE. Provide and maintain a transportation system ~~of roads and roads~~ throughout the County for the movement of people and goods that also meets land use and safety needs for all modes of transportation.

POLICY TWO. The Circulation systems shall be designed and maintained to promote safety by combining multiple modes of transportation into a single, cohesive system.~~ and minimize traffic congestion.~~

POLICY EIGHT. Promote public transit as a viable transportation choice.

Further, Table 3.7-3 also indicates that StanCOG's 2014 RTP/SCS ("SB 375" condition) would result in less VMT and GHG emissions than without the implementation of 2014 RTP/SCS ("conformity" condition). Therefore, the plan updates would be consistent with and would not impede StanCOG's 2014 RTP/SCS from meeting the 5% 2020 reduction target and 10% 2035 reduction target mandated by SB 375 for emissions from land use, automobiles, and light trucks. Consequently, this impact is considered less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact EGY-1: Result in the inefficient, wasteful, and unnecessary consumption of energy, including transportation energy use (less than significant)

As indicated in Chapter 2, *Project Description*, and discussed under Impact GHG-1, the plan updates would include changes to the text of the land use designations of the general plan, but do not propose any changes to the land use map or the existing boundaries of the land use designations. Consequently, the plan updates would not cause any changes to land use or physical changes to the roadway network, and would not result in any changes in operational emissions (either direct or indirect). In addition, the policy amendments included in the project would encourage compact development patterns (Land Use Policies Twenty-Five and Twenty-Six) and complete streets (Circulation Policies Six, Eight, and Eleven), thereby providing expanded opportunities for transportation modes other than single-occupancy vehicles. Reducing automobile use will reduce fuel consumption and provide for a more energy efficient transportation system.

Because transportation-related CO_2 emissions directly correlate with the volume of diesel and gasoline combusted,[5] reducing onroad CO_2 emissions by a certain percentage would roughly reduce fuel consumption by similar proportions. Because the plan updates would be consistent with and not impede StanCOG's 2014 RTP/SCS from meeting the 5% 2020 reduction target and 10% 2035 reduction target mandated by SB 375, the plan updates would be consistent with state and local energy policies and would not result in a wasteful, inefficient, and unnecessary usage of energy. This impact would be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

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[5] GHG emissions are directly related to vehicle fuel consumption, where 19.4 pounds of CO_2 are emitted per gallon of combusted gasoline and 22.2 pounds of CO_2 are emitted per gallon of combusted diesel (Climate Registry 2014).

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3.8 Hazards and Hazardous Materials

3.8.1 Introduction

This section discusses the impacts of the plan updates with respect to hazards and hazardous materials. It lists the thresholds of significance that form the basis of the environmental analysis, describes the hazards and hazardous materials study area and major sources used in the analysis, provides environmental setting information that is relevant to hazards and hazardous materials, and assesses whether the plan updates would result in significant impacts.

Study Area

The hazards and hazardous materials impact study area for the project is defined as Stanislaus County.

3.8.2 Environmental Setting

This section describes the federal, state, and local regulations and policies that are applicable to the plan updates, and the existing conditions pertaining to hazards and hazardous materials in the study area. The existing conditions will constitute the baseline for analysis.

Regulatory Setting

This section describes the federal, state, regional, and local regulations related to hazards and hazardous materials that would apply to the plan updates.

Federal

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, is a federal act establishing a national trust for hazardous waste-related industries to be able to fund and coordinate large cleanup activities for hazardous waste spills and accidents and to clean up older abandoned waste sites. Amended in 1986, the act establishes two primary actions: (1) to coordinate short-term removal of hazardous materials and (2) to coordinate and manage the long-term removal of hazardous materials identified on the EPA's National Priorities List (NPL). The NPL is a record of known or threatened releases of hazardous substances, pollutants, or contaminants. A national database and management system, known as the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), is used by EPA to track activities at hazardous waste sites considered for cleanup under CERCLA. CERCLA also maintains provisions and guidelines dealing with closed and abandoned waste sites and tracks amounts of liquid and solid media treated at sites on the NPL or sites that are under consideration for the NPL.

Resource Conservation and Recovery Act of 1976 (United States Code, Title 42, Sections 6901–6987)

The Resource Conservation and Recovery Act of 1976 (RCRA), including the Hazardous and Solid Waste Amendments of 1984, protects human health and the environment, and imposes regulations on hazardous waste generators, transporters, and operators of treatment, storage, and disposal facilities (TSDFs). The amendments also require EPA to establish a comprehensive regulatory program for underground storage tanks. The corresponding regulations in 40 CFR 260–299 provide the general framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste.

Toxic Release Inventory

The Emergency Planning and Community Right-to-Know Act of 1986 and the Pollution Prevention Act of 1990 established a publicly available database that has information on toxic chemical releases and other waste management activities called the Toxic Release Inventory. It is updated annually and lists chemical releases by industry groups and federal facilities managed by EPA.

Risk Management Plan

Under the authority of Section 112(r) of the Clean Air Act, the Chemical Accident Prevention Provisions require facilities that produce, handle, process, distribute, or store certain chemicals to develop a Risk Management Program, prepare a Risk Management Plan (RMP), and submit the RMP to EPA.

State

California Accidental Release Prevention Program

As specified in 19 CCR 2, Chapter 4.5, Articles 1 through 11, all businesses that handle specific quantities of hazardous materials are required to prepare a California Accidental Release Prevention Program Risk Management Plan (CalARP RMP). The CalARP RMP is the state equivalent of the federal RMP. CalARP RMPs include the preparation of an offsite consequence analysis of worst-case release of the stored chemicals and the preparation of emergency response plans, including coordination with local emergency response agencies. CalARP RMPs are required to be updated at least every 5 years, and when there are significant changes to the stored chemicals.

Hazardous Materials Release Response Plans and Inventory Act

The Hazardous Materials Release Response Plans and Inventory Act (also known as the Business Plan Act) requires a business using hazardous materials to prepare a business plan describing the facility, inventory, emergency response plans, and training programs. The owner or operator of any business that has specified amounts of liquid and solid hazardous materials, compressed gases, extremely hazardous substances, or underground storage sites on site, or that generates or treats hazardous waste is required to develop and submit a business plan to the local Certified Unified Program Agency (CUPA), which, for the proposed project, is the Hazardous Materials Division of Stanislaus County Department of Environmental Management.

Hazardous Waste Control Act

The state equivalent of RCRA is the Hazardous Waste Control Act, which created the State Hazardous Waste Management Program, which is similar to the RCRA program but generally more stringent. The Hazardous Waste Control Act establishes requirements for the proper management of hazardous substances and wastes with regard to criteria for (1) identification and classification of hazardous wastes; (2) generation and transportation of hazardous wastes; (3) design and permitting of facilities that recycle, treat, store, and dispose of hazardous wastes; (4) treatment standards; (5) operation of facilities; (6) staff training; (7) closure of facilities; and (8) liability requirements.

Emergency Services Act

Under the California Emergency Services Act, the State developed an emergency response plan to coordinate emergency services provided by all governmental agencies. The plan is administered by the California Office of Emergency Services (OES). OES coordinates the responses of other agencies, including EPA, the Federal Emergency Management Agency, the California Highway Patrol, RWQCBs, air quality management districts, and county disaster response offices. Local emergency response teams, including fire, police, and sheriff's departments, provide most of the services to protect public health.

California Health and Safety Codes

The California Environmental Protection Agency (Cal-EPA) has been granted primary responsibility by EPA for administering and enforcing hazardous materials management plans within California. Cal-EPA defines a hazardous material more generally than EPA as a material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released (26 CCR 25501).

State regulations include detailed planning and management requirements to ensure that hazardous materials are properly handled, stored, and disposed of to reduce human health risks. In particular, the State has acted to regulate the transfer and disposal of hazardous waste. Hazardous waste haulers are required to comply with regulations that establish numerous standards, including criteria for handling, documenting, and labeling the shipment of hazardous waste (26 CCR 25160 et seq.). Hazardous waste TSDFs are also highly regulated and must meet standard criteria for processing, containment, and disposal of hazardous materials (26 CCR 25220).

"Cortese" List

Cal-EPA maintains the Hazardous Wastes and Substances Site (Cortese) List, a planning document used by state and local agencies and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. The list must be updated at least once per year, per Government Code Section 65962.5. The California Department of Toxic Substances Control, SWRCB, and California Department of Resources Recycling and Recovery all contribute to the site listings.

Public School Siting Requirements

The California Department of Education has developed a School Site Selection and Approval Guide to help school districts (1) select school sites that provide both a safe and a supportive environment for the instructional program and the learning process; and (2) gain state approval for the selected

sites. Safety is the first consideration in the selection of school sites. Safety factors considered include the following: (1) proximity to airports; (2) proximity to high-voltage power transmission lines; (3) presence of toxic and hazardous substances; (4) hazardous air emissions and facilities within a half mile; (5) other health hazards; (6) proximity to railroads; (7) proximity to high-pressure natural gas lines, gasoline lines, pressurized sewer lines, or high-pressure water pipelines; (8) proximity to propane tanks; (9) noise; (10) proximity to major roadways; (11) results of geological studies and soils analyses; (12) condition of traffic and school bus safety; (13) safe routes to school; and (14) safety issues for joint-use projects.

The presence of potentially toxic or hazardous substances on or in the vicinity of a prospective school site is a concern relating to the safety of students, staff, and the public. The school district must submit materials documenting compliance with the toxic and hazardous substances requirements before submitting the balance of the site approval package documents required by the California Department of Education.

California Public Resources Code – State Responsibility Area

The California PRC requires the designation of State Responsibility Areas (SRAs), which are identified based on cover, beneficial water uses, probable erosion damage and fire risks, and hazards. The financial responsibility of preventing and suppressing fires in an SRA is primarily the responsibility of the State. Fire protection in areas outside an SRA are the responsibilities of local or federal jurisdictions and are referred to as local responsibility areas and federal responsibility areas, respectively. Stanislaus County includes SRAs on its western and eastern sides, but has no local responsibility areas. (CalFire 2015)

Very High Fire Hazard Severity Zones

Government Code Section 51178 requires the Department of Forestry and Fire Protection to identify very high fire hazard severity zones in the state. Government Code Section 51179 requires a local agency to designate, by ordinance, very high fire hazard severity zones in its jurisdiction.

Local

Stanislaus County General Plan

The Land Use Element and Safety Element of the Stanislaus County General Plan address goals and policies related to services critical to human health and safety. The following goals and policies are identified with respect to hazards and hazardous materials.

Land Use Element

GOAL ONE. Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.

POLICY FOUR. Urban development shall be discouraged in areas with growth-limiting factors such as high water table or poor soil percolation, and prohibited in geological fault and hazard areas, flood plains, riparian areas, and airport hazard areas unless measures to mitigate the problems are included as part of the application.

Safety Element

GOAL ONE. Prevent loss of life and reduce property damage as a result of natural disasters.

POLICY ONE. The County will adopt (and implement as necessary) plans inclusive of the Multi-Jurisdictional Hazard Mitigation Plan, to minimize the impacts of a natural and man-made disasters.

POLICY TWO. Development should not be allowed in areas that are within the designated floodway.

POLICY THREE. Development should not be allowed in areas that are particularly susceptible to seismic hazard.

POLICY FOUR. Development west of I-5 in areas susceptible to landslides (as identified in this element) shall be permitted only when a geological report is presented with (a) documented evidence that no such potential exists on the site, or (b) identifying the extent of the problem and the mitigation measures necessary to correct the identified problem.

POLICY FIVE. Stanislaus County shall support efforts to identify and rehabilitate structures that are not earthquake resistant.

GOAL TWO. Minimize the effects of hazardous conditions that might cause loss of life and property.

POLICY SIX. All new development shall be designed to reduce safety and health hazards.

POLICY SEVEN. Adequate fire and sheriff protection shall be provided.

POLICY EIGHT. Roads shall be maintained for the safety of travelers.

POLICY NINE. The County shall support the formation of improvement districts (including flood control districts) to eliminate safety hazards.

POLICY TEN. The County shall limit the siting of air strips.

POLICY ELEVEN. Restrict large communications–antennas–within the agricultural area with respect to maximum height, markings (lights) and location to provide maximum safety levels.

POLICY TWELVE. The Airport Land Use Commission Plan and County Airport Regulations (Chapter 17 of the County Code) shall be updated as necessary, maintained and enforced.

POLICY THIRTEEN. The Department of Environmental Resources shall continue to coordinate efforts to identify locations of hazardous materials and prepare and implement plans for management of spilled hazardous materials as required.

POLICY FOURTEEN. The County will continue to enforce state-mandated structural Health and Safety Codes, including but not limited to the Uniform Building Code, the Uniform Housing Code, the Uniform Fire Code, the Uniform Plumbing Code, the National Electric Code, and Title 24.

POLICY FIFTEEN. The County will support the Federal Emergency Management Agency (FEMA) Flood Insurance Program so that residents who qualify may purchase such protection.

(Note: If Stanislaus County adopts a flood hazard reduction ordinance that meets FEMA standards, property owners whose property is located within certain areas identified by FEMA as flood hazard areas may purchase insurance against flood damage. Chapter 16.40 of the Stanislaus County Code meets the FEMA standards.)

Stanislaus County Certified Unified Program Agency

Cal EPA can delegate responsibility for hazardous materials oversight, permitting, and regulation to local agencies through the CUPA program. The local CUPA is responsible for writing and updating a Hazardous Materials Area Plan (for the public safety response in the jurisdiction) and providing

guidelines for the Hazardous Materials Business Plan (for local businesses designated as handlers of hazardous materials).

The Stanislaus County Hazardous Material Division of the Department of Environmental Resources is the CUPA. The programs for which the Hazardous Materials Division is responsible are: the Hazardous Waste Management Plan, Underground Storage Tank Program, Above Ground Storage Tank Program, California Accidental Release Prevention Program, Household Hazardous Waste Collection Program, Medical Waste Program, Hazardous Materials Disclosure Program (including Hazardous Materials Business Plans), Conditionally Exempt Small Quantity Generator Program, and the Tiered Permitting Program. The Hazardous Materials Business Plan is used to keep track of the use of hazardous materials by businesses in accordance with both state and federal laws. (City of Ceres 2011).

Existing Conditions

Hazardous Material Release Sites

There are a number of federal and state databases that provide information regarding the facilities or sites identified as meeting the Cortese List requirements and which list the past and present businesses that have had or are currently experiencing a hazardous materials release within the County. These include CERCLIS, GeoTracker (the leaking underground storage tank database), EnviroStor, the Toxic Release Inventory, and the List of Active Cease and Desist Orders and Cleanup and Abatement Orders.

There are 18 CERCLA sites within Stanislaus County (U.S. Environmental Protection Agency 2014). There are 174 open cleanup sites listed on GeoTracker (State Water Resources Control Board 2014). There are six active sites listed on the California Department of Toxic Substances Control EnviroStor Database (Department of Toxic Substances Control 2014). There are 22 sites in Stanislaus County on the list of Cease and Desist Orders and Cleanup and Abatement Orders (U.S. Environmental Protection Agency 2014). Examples of these sites from each database include leaking underground storage tanks, dry cleaning facilities, landfills, and methamphetamine labs.

Household and Business Hazardous Waste

Hazardous materials may be stored in aboveground storage tanks (ASTs), underground storage tanks (USTs), drums, and other types of containers. Typically, USTs are used by businesses, such as gasoline stations. Many households store heating fuel such as propane in ASTs. There are 213 permitted USTs facilities, 614 permitted USTs, and 199 AST facilities in Stanislaus County (Stanislaus County Hazardous Materials Division 2015).

Airport-Related Hazards

There are three airports located in Stanislaus County: the Modesto City-County Airport, the Oakdale Municipal Airport, and the former Crows Landing Air Facility. With the exception of Crows Landing, these airports are located in urban areas. Additionally, there are approximately 19 private airports in the county (Stanislaus County 2014a). Approach and take-off patterns may cause safety problems for both airplanes and occupants on the ground.

The Stanislaus County ALUCP ensures compatibility between these airports and the land uses surrounding them to the extent that these areas have not already been devoted to incompatible

uses. The plan specifies height and various other land use restrictions to prevent creation of physical, visual, or electronic hazards to flight within the airspace required for operation of aircraft to and from the airports. (Stanislaus County 2014b).

Asbestos-Related Hazards

Asbestos is a naturally occurring fibrous mineral that is a human health hazard when airborne. Asbestos is classified as a known human carcinogen by state and federal agencies and was identified as a toxic air contaminant by the California Air Resources Board. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining. Surfacing materials (i.e., gravel for roads) are required to contain less than 0.25% asbestos. See Section 3.3, *Air Quality*, for further discussion of asbestos hazards in Stanislaus County.

Fire-Related Hazards

Urban fires are generally human-caused fires that can be mitigated through proper building code requirements, such as the California Building Code, California Fire Code, and zoning or subdivision ordinance requirements.

Wildland fires are generally limited to the foothills on either side of the county. Fire hazard severity in the foothills is very high in the western portion of the county and high along the eastern edge (Department of Forestry and Fire Protection 2007). Although there is less of a hazard to structures and people, controlling such fires is more difficult because of their inaccessibility. These fires are mitigated through application of the California Public Resources code and specific Ranger Unit Fire Plans.

Natural Disaster-Related Hazards

Flooding

The major flooding in Stanislaus County occurs along the San Joaquin River and isolated stretches of the Tuolumne River. Creeks such as the Salado, Sand, and Orestimba also experience flooding. Portions of the Stanislaus River still flood to the extent that there can be crop damage, but the U.S. Army Corps of Engineers has purchased flowage easements so that they have the "right" to flood this area.

Seismic

Several known faults exist within Stanislaus County. They are located in the extreme eastern part of the county and in the Diablo Range west of I-5. These faults could cause ground shaking of an intensity approaching “X” (ten) on the Modified Mercalli Scale, which would result in very serious damage to most structures. The existence of unreinforced masonry buildings could cause severe loss of life and economic dislocation in an earthquake.

The area west of I-5 (Diablo Range) is noted for unstable geologic formations that are susceptible to landslide. A portion of the southern part of this area includes the Ortigalita fault, part of which is designated as an Alquist-Priolo Earthquake Fault Zone. This prohibits most construction without a geologic study (see Section 3.6, *Geology, Soils, and Paleontological Resources*).

Schools-Related Hazards

Hazardous emissions and accidental release or combustion of hazardous materials near existing schools could result in health risks or other dangers to students. There are 36 school districts within the county, as well as the Yosemite College District, with two junior college campuses. The county also has one 4-year California State University campus in Turlock and Chapman University on SR-99. Most districts in the county are experiencing growth and many have added new facilities, are completing construction of new facilities, or are studying the feasibility of adding or replacing facilities within the next few years. (Stanislaus County 2010).

Emergency Response and Evacuations

The Stanislaus County Multi-Hazard Functional Emergency Operations Plan provides coordinated disaster response and programs to assist the public in emergency preparedness and response procedures (Stanislaus County 2010). The plan is a comprehensive resource document that serves many purposes, including: enhancing public awareness and understanding, creating a decision tool for management, promoting compliance with State and Federal program requirements, enhancing local policies for hazard mitigation capability, and providing inter-jurisdictional coordination.

The Emergency Medical Services system in Stanislaus County is typical of systems statewide. The county has five primary dispatch centers called Public Safety Answer Points, or PSAPs. The county has seven emergency transport providers, including two air ambulance services and five ground ambulance agencies. Some of the ground services are public entities, while others are privately owned. Like most California counties, Stanislaus is thus served by multiple dispatch centers, multiple fire agencies, and a mixture of public and private ambulance providers and hospitals. (California State University, Stanislaus 1999).

3.8.3 Impact Analysis

This section discusses the approach and methodology used to assess the impacts of the plan updates; the individual impacts relative to the thresholds of significance; mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for significant impacts; and the overall significance of the impact with mitigation incorporated.

Major Sources Used in Analysis

The major sources used in this analysis are listed below:

- The California Department of Forestry and Fire Protection and Fire Resource Assessment Program (see http://frap.fire.ca.gov/) and Fire Hazard Severity Zone Map for Stanislaus County (http://www.fire.ca.gov/fire_prevention/fhsz_maps_stanislaus.php)
- Stanislaus County Certified Unified Program Agency for hazardous materials (http://www.stancounty.com/er/hazardous-materials.shtm)
- Stanislaus County Multi-Jurisdictional Hazard Mitigation Plan (http://www.stanoes.com/mjhmp.shtm)

Approach and Methodology

The baseline for hazards and hazardous materials includes the hazards and hazardous materials that currently exist in the area and that are identified in the Stanislaus County General Plan and other sources cited above in *Environmental Setting*. This section provides a qualitative discussion of the potential risks involving hazards and hazardous materials as a result of the proposed project.

Thresholds of Significance

Based on State CEQA Guidelines Appendix G, the plan update would have a significant impact with respect to hazards and hazardous materials if it would result in any of the following.

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-half mile of an existing or proposed school.
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
- Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area.
- Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Impacts and Mitigation Measures

Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (less than significant)

Implementation of the general plan update would lead to urban development and other land use activities that would require the routine transport, use, or disposal of hazardous materials and wastes within Stanislaus County, and that could result in reasonably foreseeable accident conditions involving the release of hazardous materials into the environment. Existing Policy Thirteen of Goal Two of the General Plan Safety Element prescribes the preparation of a Hazardous Waste Management Plan. Stanislaus County has prepared this plan, which serves as the guideline for managing hazardous wastes in the county. This plan governs the maintenance of a hazardous

materials response team to assist police and fire agencies during transportation and industrial accidents involving chemical spills.

State laws were passed in 1985 that require users of hazardous materials to disclose the type and location of such materials so that emergency response teams can be prepared for potential disasters. Routes are being specified to limit transportation of hazardous material such as nuclear waste.

Because general plan policies, and existing State and County regulatory programs are, and would continue to be in place to reduce potential hazards, even with increasing commercial and industrial land uses, this would be a less-than-significant impact.

Significance without Mitigation: Less than significant (no mitigation required)

Impact HAZ-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (less than significant)

Implementation of the general plan update would lead to urban development. Construction equipment typical of many development projects has the potential to release oils, greases, solvents, and other finishing materials through accidental spills. Spill or upset of these materials would have the potential to affect surrounding land uses. However, the consequences of construction-related spills are not as great as other accidental spills and releases because the amount of hazardous material released during a construction-related spill is small—the volume in any single piece of construction equipment is generally less than 50 gallons, and fuel trucks are limited to 10,000 gallons or less. Construction-related spills of hazardous materials are not uncommon, but the enforcement of construction and demolition standards, including a SWPPP and BMPs by appropriate local and state agencies (i.e., fire departments) would minimize the potential for an accidental release of petroleum products and/or hazardous materials during construction. Federal, state, and local controls have been enacted, and are enforced, to reduce the effects of potential hazardous materials spills during construction of program facilities. Therefore, it is not anticipated that use of hazardous materials during construction would result in a reasonably foreseeable upset or accident condition that would cause significant hazard to the public or environment.

Reasonably foreseeable spills under operational conditions would be handled according to the specifications of the County Hazardous Waste Management Plan. This plan governs the preparation and implementation the County's Area Plan for emergency response to chemical spills in the community.

There would be limited potential for a reasonably foreseeable upset or accident under construction and operation due to the quantity and type of hazardous materials used; therefore, it is not anticipated that a significant hazard to the public or the environment would occur. This impact would be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact HAZ-3: Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-half mile of an existing or proposed school (less than significant)

Implementation of the general plan update would lead to urban development and the intensification of land uses that could emit hazardous emissions or result in the handling of hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. The general plan does not explicitly incorporate policies to limit the use of hazardous materials near school sites, and limit the development of proposed schools near existing contamination. However, existing Policy One of Goal One of the General Plan Safety Element prescribes that the County follow the policies included in the adopted County of Stanislaus Multi-Jurisdictional Hazard Mitigation Plan. The County routinely consults with the affected school district prior to discretionary approval of new businesses and industry that use hazardous materials near existing school sites as part of the project review process. Additionally, school siting regulations implemented by the Department of Education prohibit locating proposed schools near existing contamination. Therefore, this impact is less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact HAZ-4: Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment (less than significant with mitigation)

Implementation of the general plan update would lead to urban development and other activities that could be located on a site listed as containing hazardous materials (compiled pursuant to Government Code Section 65962.5) and, as a result, could create a significant hazard to the public or environment. This would be a potentially significant impact.

There are a number of sites identified in Stanislaus County that contain groundwater or soil contamination. They are included on a list (i.e., GeoTracker, EnviroStor, CalRecycle Solid Waste Information System list) of hazardous materials or contaminated sites pursuant to Government Code Section 65962.5. Among these sites, some have a history of contamination due to hazardous materials spills, leakage from underground storage tanks, landfills, or other releases that are subject to federal and state environmental laws and regulations. Many of these sites are undergoing assessment or remediation overseen by the Stanislaus County Division of Environmental Health, CalRecycle (formerly the Integrated Waste Management Board), or the RWQCB.

Other sites, particularly agricultural sites that have a history of former agricultural operations, may also contain chemicals including heavy metals and organic compounds that can persist in the soil and contain residues that could pose health risks to sensitive receptors. As a result, land development allowed under the general plan could create a hazard to the public or the environment if development occurs on contaminated sites. In general contaminated sites are restricted from development until they are cleaned up and remediated, and development applications are required by state law to provide information on whether a proposed development site is listed as a hazardous materials site.

Significance without Mitigation: Less than significant (no mitigation required)

Impact HAZ-5: Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area (less than significant)

Implementation of the general plan update would lead to urban development and other activities that could be within 2 miles of a public airport or public use airport. Development in this vicinity could result in a safety hazard to people on the ground and in the plane during take-off and ascent.

To reduce this impact, Stanislaus County prepared a draft ALUCP in 2014, specifying height and various other land use restrictions to prevent creation of physical, visual, or electronic hazards to flight within the airspace required for operation of aircraft to and from the airports. Therefore, with adoption and implementation of the ALUCP, the impacts would be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact HAZ-6: Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area (less than significant with mitigation)

Similar to Impact HAZ-5, implementation of the general plan update would lead to urban development and other activities that could be within the vicinity of one of the 19 private airstrips in the county. Development in this vicinity could result in a safety hazard to people on the ground and in the plane during take-off and ascent.

Stanislaus County prepared a draft ALUCP in 2014. However, the purpose of the plan is to promote compatibility between the three public airports and the land uses surrounding them. The ALUCP does not cover land use surrounding private airstrips.

The Land Use Element contains policies that discourage development within airport hazard zones. However, these policies do not explicitly discourage development within airstrip hazard zones. This impact is potentially significant. The proposed amendment to Policy Four of Goal One of the General Plan Land Use Element will reduce this impact to a less than significant level.

> **GOAL ONE**. Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.
>
> > **POLICY FOUR**. Urban development shall be discouraged in areas with growth-limiting factors such as high water table or poor soil percolation, and prohibited in geological fault and hazard areas, flood plains, riparian areas, and airport and private airstrip hazard areas unless measures to mitigate the problems are included as part of the application.

Significance without Mitigation: Less than significant (no mitigation required)

Impact HAZ-7: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (less than significant)

Stanislaus County is working to develop evacuation routes to be used in case of a disaster, including dam failure. Implementation of the general plan update would lead to construction activities for development and infrastructure maintenance that could intersect these evacuation routes.

Responsibility for the day-to-day administration of Stanislaus County's disaster preparedness, mitigation, response, and recovery programs has been assigned to the OES. The OES develops and maintains the Stanislaus County Emergency Operations Plan and its associated annexes. It also

coordinates training, planning, and exercises for first responders throughout the Stanislaus Operational Area. (Stanislaus County 2014)

Additionally, Stanislaus County has adopted the 2010 Multi-Jurisdictional Hazard Mitigation Plan. The Stanislaus County Multi-Jurisdictional Hazard Mitigation Plan is a countywide plan that identifies risks posed by disasters, and identifies ways to minimize damage from those disasters. The plan is a comprehensive resource document that serves many purposes, including: enhancing public awareness and understanding, creating a decision tool for management, promoting compliance with State and Federal program requirements, enhancing local policies for hazard mitigation capability, and providing inter-jurisdictional coordination. This Plan includes a risk assessment, vulnerability analysis, and mitigation plan/strategy for earthquake, landslide, dam failure, flood, and wildfire hazards.

Typical transportation infrastructure improvements could include curb, gutter, street re-striping, and road widening to accommodate acceleration and deceleration lanes. Typical construction activities could block roads or constrict traffic due to the placement of stockpiling areas or construction equipment. These activities could potentially interfere with emergency response equipment. To lesson this impact, notification of the proposed projects and construction dates would be sent to all local responders and to the OES. Therefore, impacts would be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact HAZ-8: Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands (less than significant)

Several factors contribute to the susceptibility of wildfire danger in Stanislaus County, including climate, winds, steep terrain, vegetation, subdivision design, and water supply. Most of the fire susceptible areas are in the extreme eastern and western portion of the county. With the exception of the Diablo Grande development southwest of the City of Patterson, these areas have very low development potential. Diablo Grande is a previously approved residential, commercial, and golf course development within an area identified as having high to moderate fire severity risk on CalFire's State Responsibility Area map for Stanislaus County.

Although most development under the general plan update would be expected to occur in urban or urbanizing areas, it could occur in portions of the county within moderate to very high fire severity areas. This could put residents, visitors, or businesses at risk of wildland fires. Stanislaus County's Multi-Jurisdictional Hazard Mitigation Plan, which was updated in 2010, addresses and provides mitigation for the following hazards: earthquakes, landslides, dams, floods, and wildfires; and is mandated by existing Policy One of Goal One of the General Plan Safety Element. In addition, several amended Safety Element policies address the issue of wildland fire to ensure that future development will meet fire safe code requirements.

GOAL TWO. Minimize the effects of hazardous conditions that might cause loss of life and property.

POLICY SIX. All new development shall be designed to reduce safety and health hazards.

IMPLEMENTATION MEASURES

3. Development standards shall be imposed to provide street lighting, storm drainage, <u>adequate</u> setbacks, fire walls <u>and fire safe standards for defensible space</u>.

4. All building permits shall be reviewed to ensure compliance with the ~~Uniform Building Code~~ California Code of Regulation, Title 24, California Building Codes.

POLICY SEVEN. Adequate fire and sheriff protection shall be provided.

IMPLEMENTATION MEASURES

2. All discretionary projects in the County shall be referred to the ~~Fire Safety Department and to the appropriate fire district~~ Office of Emergency Services / Fire Warden, and the Local Fire Agency having jurisdiction for comment. The comments of these agencies will be used to condition or recommend modifications of the project as it relates to fire safety and rescue issues. All projects in State Responsibility Areas or Very High Fire Hazard Severity Zone shall be routed to CALFire for comments.

3. The County ~~Fire Safety Department~~ Fire Warden and the Local Fire Agency having jurisdiction shall work with the California Department of Forestry and Fire Protection and with local fire ~~districts~~ agencies to minimize the danger from wildfire by establishing adequate fire suppression and setbacks. All building permits and discretionary projects located within State Responsibility Areas and Very High Fire Hazard Severity Zones, the Strategic Fire Plans of the local and adjoining jurisdictions CalFire units shall be followed.

5. New development~~, other than agricultural,~~ shall have ~~adequate~~ water to meet the fire flow standards established in ~~Appendix 5-A~~ the current adopted fire code, and the current California Public Resources Code 4290, and when located within the State Responsibility Area and Very High Fire Hazard Severity Zones, the National Fire Protection Association 1142 Standard on Water Supplies for Suburban and Rural Fire Fighting.

7. All building permits and discretionary projects within the State Responsibility Areas and Very High Fire Hazard Severity Zones, as identified by the current California Department of Forestry and Fire Protection Fire Hazard Severity Zone maps, shall meet the minimum State development standards, ~~included in Article 1-5, Subchapter 2 SRA Fire Safe Regulations, Chapter 7 – Fire Protection, Division 1.5 – Department of Forestry, Title 14 – Natural Resources,~~ including the current chapters of the California Fire Code regarding requirements for wild land – urban interface fire areas, the California Building Code and Residential Code Materials and Construction Methods for Exterior Wildfire Exposure, and California Public Resources Code Section 4290 and 4291, or more stringent specific standards as may be adopted by the Board of Supervisors for this County.

Compliance with and implementation of the plan would reduce this impact to less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

3.8.4 References Cited

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3.9 Hydrology and Water Quality

3.9.1 Introduction

This section discusses the impacts of the plan updates with respect to hydrology and water quality. It lists the thresholds of significance that form the basis of the environmental analysis, describes the hydrology and water quality study area and major sources used in the analysis, provides environmental setting information that is relevant to hydrology and water quality, and assesses whether the plan updates would result in significant impacts with respect to hydrology and water quality.

Study Area

The hydrology and water quality study area for this EIR is defined as Stanislaus County.

3.9.2 Environmental Setting

This section describes the federal, state, regional, and local regulations and policies that are applicable to the plan updates, and the existing conditions pertaining to hydrology and water quality in the study area. The existing conditions will constitute the baseline for environmental analysis.

Regulatory Setting

This section describes the federal, state, regional, and local regulations related to hydrology and water quality that would apply to the plan updates.

Federal

Clean Water Act

The CWA provides for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. The CWA emphasizes technology-based (end-of-pipe) control strategies and requires discharge permits to allow use of public resources for waste discharge. The CWA also limits the amount of pollutants that may be discharged and requires wastewater to be treated with the best treatment technology economically achievable regardless of receiving water conditions. The control of pollutant discharges is established through NPDES permits that contain effluent limitations and standards. EPA has delegated responsibility for implementation of portions of the CWA, such as Sections 303, 401, and 402 (discussed below), to the SWRCB and the associated nine RWQCBs. The proposed project site is located within the jurisdiction of the Central Valley RWQCB.

Section 303(d) and Total Maximum Daily Loads

The State of California adopts water quality standards to protect beneficial uses of waters of the state as required by Section 303(d) of the CWA and the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act). Section 303(d) of the CWA established the total maximum daily load (TMDL) process to guide the application of state water quality standards (see the discussion below).

To identify candidate water bodies for TMDL analysis, a list of water quality–impaired segments is generated by the SWRCB. These stream or river segments are impaired by the presence of pollutants such as sediment and are more sensitive to disturbance because of this impairment.

In addition to the impaired water body list required by CWA Section 303(d), CWA Section 305(b) requires states to develop a report assessing statewide surface water quality. Both CWA requirements are being addressed through the development of a 303(d)/305(b) integrated report, which will address both an update to the 303(d) list and a 305(b) assessment of statewide water quality. The SWRCB developed California's statewide *2010 Integrated Report* based on the integrated reports from each of the nine RWQCBs. The *2010 Integrated Report* was approved by the SWRCB on August 4, 2010, and approved by EPA on November 12, 2010, and the *2012 Integrated Report* with 303(d) listings is currently under development.

Section 401—Water Quality Certification

Section 401 of the CWA requires that an applicant pursuing a federal permit to conduct an activity that may result in a discharge of a pollutant obtain a Water Quality Certification (or waiver). A Water Quality Certification requires the evaluation of water quality considerations associated with dredging or placement of fill materials into waters of the United States. Water Quality Certifications are issued by one of the nine geographically separated RWQCBs in California. Under the CWA, the RWQCB must issue or waive a Section 401 Water Quality Certification for a project to be permitted under CWA Section 404.

Section 402—National Pollutant Discharge Elimination System

The 1972 amendments to the federal Water Pollution Control Act established the NPDES permit program to control discharges of pollutants from point sources (Section 402). The 1987 amendments to the CWA created a new section of the CWA devoted to stormwater permitting (Section 402[p]). EPA has granted the State of California (the SWRCB and RWQCBs) primacy in administering and enforcing the provisions of the CWA and NPDES. NPDES is the primary federal program that regulates point-source and nonpoint-source discharges to waters of the United States.

NPDES General Permit for Construction Activities

The *General NPDES Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ)* (Construction General Permit) regulates stormwater discharges for construction activities (CWA Section 402). Dischargers whose projects disturb one or more acres of soil, or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the Construction General Permit. The Construction General Permit requires the development and implementation of a SWPPP.

Best management practices (BMPs) included in the SWPPP may include measures such as the following.

1. Providing permeable surfaces where feasible.
2. Retaining and treating stormwater onsite using catch basins and filtering wet basins.
3. Minimizing the contact of construction materials, equipment, and maintenance supplies with stormwater.

4. Reducing erosion through soil stabilization, watering for dust control, installing perimeter silt fences, placing rice straw bales, and installing sediment basins. In order to minimize potential impacts on wildlife, no monofilament plastic mesh or line will be used for erosion control.
5. Maintaining water quality by using infiltration systems, detention systems, retention systems, constructed wetland systems, filtration systems, biofiltration/bioretention systems, grass buffer strips, ponding areas, organic mulch layers, planting soil beds, sand beds, and vegetated systems such as swales and grass filter strips that are designed to convey and treat either fallow flow (swales) or sheetflow (filter strips) runoff.

In addition, a procedure for spill prevention and control is typically developed to minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during all construction activities. If a spill should occur during construction that causes a release of a hazardous material, including oil and radioactive materials, the proper agencies are typically notified and an Emergency Release Follow-up Notice Reporting Form is submitted no more than 30 days following the release.

NPDES General Municipal Stormwater Permit

CWA Section 402 mandates programmatic permits for municipalities to address stormwater discharges, which are regulated under the *NPDES General Permit for Municipal Separate Storm Sewer Systems* (MS4) (MS4 Permit). Phase I MS4 regulations cover municipalities with populations greater than 100,000, certain industrial processes, or construction activities disturbing an area of 5 acres or more. Phase II (Small MS4) regulations require that stormwater management plans be developed by municipalities with populations smaller than 100,000 and construction activities disturbing 1 or more acres of land area.

The SWRCB is advancing Low Impact Development (LID) in California as a means of complying with municipal stormwater permits. LID incorporates site design, including among other things the use of vegetated swales and retention basins and minimizing impermeable surfaces, to manage stormwater to maintain a site's predevelopment runoff rates and volumes.

Waste Discharge Requirements for Dewatering and Other Low Threat Discharges to Surface Waters

CWA Section 402 also includes Waste Discharge Requirements (WDRs) for dewatering activities. Although small amounts of construction-related dewatering are covered under the Construction General Permit, the Central Valley Water Board has regulations specific to dewatering activities that typically involve reporting and monitoring requirements.

If dewatering is required as part of a proposed project, then the project applicant will need to comply with the Central Valley RWQCB dewatering requirements. The Construction General Permit typically covers uncontaminated dewatering activities, which are considered in the permit to be authorized non-stormwater discharges. As part of the Construction General Permit, all dewatering discharges are required to be filtered or treated, using appropriate technology, from sedimentation basins. Authorized non-stormwater dewatering discharges may require a permit because some RWQCBs have adopted General Permits for dewatering discharges. The Central Valley RWQCB has adopted an NPDES Low Threat Discharge and Dewatering General Permit. Therefore, the project applicant or the project applicant's contractor would also need to obtain coverage under this permit, which will require the dewatering discharge to be treated prior to discharge to any local water way.

If dewatering activities lead to discharges to the storm drain system or other water bodies, water treatment measures may be designed and implemented as necessary so that water quality objectives are met prior to discharge to waters of the State. As a performance standard, these measures would be selected to achieve the maximum removal of any contaminant found in the groundwater and would represent the best available technology (BAT) that is economically feasible. Implemented measures may include using infiltration areas and retaining dewatering effluent until particulate matter has settled before the water is discharged. The contractor should perform and document routine inspections of the construction area to verify that the water quality control measures are properly implemented and maintained; the contractor would also conduct and document observations of the water (e.g., check for odors, discoloration, or an oily sheen on groundwater). Other pre-discharge sampling and reporting activities required by the Central Valley RWQCB are typically conducted as necessary. The final selection of water quality control measures would be subject to review by the Central Valley RWQCB, if necessary. If the groundwater is found to not meet water quality standards and treatment measures are not effective, the water may need to be hauled offsite for treatment and disposal at an appropriate waste treatment facility.

Section 404—Dredge/Fill Permitting

The discharge of dredged or fill material into waters of the United States is subject to permitting specified under Title IV (Permits and Licenses) of the CWA and specifically under Section 404 (Discharges of Dredge or Fill Material) of the CWA. Section 404 regulates placement of fill materials into the waters of the United States. Section 404 permits are administered by the U.S. Army Corps of Engineers (USACE).

National Flood Insurance Program

In response to increasing costs of disaster relief, Congress passed the National Flood Insurance Act (NFIP) of 1968 and the Flood Disaster Protection Act of 1973. The purpose of these acts was to reduce the need for large, publicly funded flood control structures and disaster relief by restricting development on floodplains. The Federal Emergency Management Agency (FEMA) administers the NFIP to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA issues flood insurance rate maps (FIRMs) for communities participating in the NFIP. A FIRM is the official map of a community prepared by FEMA to delineate both the special flood hazard areas and the flood risk premium zones applicable to the community.

State

California Water Plan

The California Water Plan is the State's long-term strategic plan for guiding the management and development of water resources under emerging conditions and expectations, and in the face of a uncertainties. The most recent update to the plan, released in 2013, provides a strategic vision and roadmap for California's water future rather than specifying mandates, prioritizing actions, or allocating funding. Volume II of the plan contains regional reports, including one pertaining to the San Joaquin River Hydrological Region and a regional water management strategic vision.

Groundwater Planning Legislation Passed in 2014

Assembly Bill (AB) 1739

AB 1739 requires sustainable groundwater management in all groundwater subbasins determined by the California Department of Water Resources (DWR) to be at medium to high risk of significant economic, social, and environmental impacts due to an unsustainable and chronic pattern of groundwater extractions exceeding the ability of the surface water supplies to replenish the subbasin. Most pertinent to this program, AB 1739 requires, prior to the adoption or any substantial amendment of a general plan, the planning agency to review and consider a groundwater sustainability plan, groundwater management plan, groundwater management court order, judgment, or decree, adjudication of water rights, or a certain order or interim plan by the SWRCB. This bill requires the planning agency to refer a proposed action to adopt or substantially amend a general plan to any groundwater sustainability agency that has adopted a groundwater sustainability plan or local agency that otherwise manages groundwater and to the SWRCB if it has adopted an interim plan that includes territory within the planning area.

Senate Bill (SB) 1168

SB 1168 enacts the Sustainable Groundwater Management Act (SGMA) and states as the intent of the Legislature that, among other things, all groundwater basins and subbasins must be managed sustainably by local entities pursuant to an adopted sustainable groundwater management plan. SB 1168 requires that for all groundwater basins designated as high- or medium-priority basins by DWR agencies must develop and implement a groundwater sustainability plan to be developed and implemented to meet the sustainability goal, established as prescribed, and would require the plan to include prescribed components. This bill encourages and authorizes basins designated as low- or very low priority basins to be managed under groundwater sustainability plans. At this time, no regional management agency has been established.

Table 3.9-1 shows the California Department of Water Resources list of high and medium priority groundwater basins (California Department of Water Resources 2015) within Stanislaus County. They are also shown in Figure 3.9-2.

Table 3.9-1. California Department of Water Resources List of Priority Groundwater Basins within Stanislaus County

Subbasin Name	Subbasin Number	Overall Basin Priority; Status
Modesto	5-22.02	High; monitored
Turlock	5-22.03	High; monitored
Eastern San Joaquin	5-22.01	High; partially unmonitored
Delta-Mendota	5-22.07	High; monitored

Source: California Department of Water Resources 2014.

Senate Bill 5: 200-Year Flood Criteria

Senate Bill 5 (Florez, Wolk, Steinberg, and Laird), implemented in October 2007, required the California Department of Water Resources (DWR) to develop preliminary maps for the 100- and 200-year floodplains in the Sacramento–San Joaquin Valley Watershed by July 1, 2008. The maps provide the best available information on flood protection to cities and counties, showing areas

protected by state and federal project levees and areas outside the protection of project levees. DWR has prepared preliminary 100- and 200-year maps for 32 counties within the Sacramento–San Joaquin Valley Watershed, including Stanislaus County.

Senate Bill 1319

SB 1319 additionally authorizes SWRCB to designate certain high- and medium-priority basins as probationary if, after January 31, 2025, prescribed criteria are met, including that SWRCB determines that the basin is in a condition where groundwater extractions result in significant depletions of interconnected surface waters. This bill adds to the prescribed determinations that would prevent SWRCB from designating the basin as a probationary basin for a specified time period and requires that SWRCB exclude from probationary status any portion of a basin for which a groundwater sustainability agency demonstrates compliance with the sustainability goal.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act authorizes the state to implement the provisions of the CWA and establishes a regulatory program to protect the water quality of the state and the beneficial uses of state waters.

The act requires projects that are discharging, or proposing to discharge, wastes that could affect the quality of the state's water to file a report of waste discharge with the appropriate RWQCB. The Porter-Cologne Act also requires that SWRCB or a RWQCB adopt basin plans for the protection of water quality. Basin plans are updated and reviewed every 3 years and provide the technical basis for determining WDRs, taking enforcement actions, and evaluating clean water grant proposals. A basin plan must include the following sections.

- A statement of beneficial water uses that the RWQCB will protect.
- Water quality objectives needed to protect the designated beneficial water uses.
- Strategies and time schedules for achieving the water quality objectives.

As noted above, the proposed program lies within the jurisdiction of the Central Valley RWQCB, which is responsible for the protection of beneficial uses of water resources in the Central Valley region. The *Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board Central Valley Region* (4th edition) was last updated in 2011.

RWQCBs designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect these uses. Consequently, the specific water quality objectives developed for particular water segments are based on the designated use. The Central Valley Water Board Basin Plan specifies region-wide and water body–specific beneficial uses and has set numeric and narrative water quality objectives for several substances and parameters for numerous surface waters in its region. Specific objectives for concentrations of chemical constituents are applied to bodies of water based on their designated beneficial uses. In addition, SWRCB identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with CWA Section 303(d). If it is determined that waters of the State are impaired for one or more constituents and the standards cannot be met through point-source or nonpoint-source point controls (NPDES permits or WDRs), the CWA requires the establishment of TMDLs.

California Department of Fish and Game 1602 Streambed Alteration Agreement

Under Chapter 6 of the California Fish and Game Code, the California Department of Fish and Wildlife (CDFW) is responsible for the protection and conservation of the state's fish and wildlife resources. Section 1602 et seq. of the code defines the responsibilities of CDFW and requires that public and private applicants obtain an agreement to "divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake designated by the CDFW in which there is at any time an existing fish or wildlife resource or from which those resources derive benefit, or will use material from the streambeds designated by the department." A streambed alteration agreement is required under Section 1602 of the California Fish and Game Code for all activities that involve temporary or permanent activities within state jurisdictional waters.

Regional

Central Valley Flood Protection Plan

SB 5 required DWR and the Central Valley Flood Protection Board (CVFPB) to prepare and adopt a Central Valley Flood Protection Plan (CVFPP) and establish flood protection requirements for local land use decisions consistent with the CVFPP. The public draft was circulated in December 2011. The CVFPP serves as the guiding document for managing flood risk along the Sacramento and San Joaquin river systems. The CVFPP proposes a system-wide investment approach for sustainable, integrated flood management in areas currently protected by facilities of the State Plan of Flood Control. The CVFPP is to be updated every 5 years, with each update providing support for subsequent policy, program, and project implementation. In addition to the development of the CVFPP, SB 5 requires that the 100- and 200-year floodplains maps be developed using the best information available.

Local

Stanislaus Groundwater Management Action Plan

Polices in the County Groundwater Management Action Plan related to hydrology and water quality that apply to the proposed program are as follows.

Governance (G-1) Participate in the development and adoption of a Groundwater Sustainability Plans for all groundwater basins in Stanislaus County, consistent with SGMA.

Governance (G-2) Adopt General Plan (cities and County) changes to protect groundwater recharge areas and to manage or mitigate land use that has an impact on groundwater use and quality.

Governance (G-3) Evaluate existing IRWMP's [Integrated Regional Water Management Plan] with regard to their relevance to sustainable groundwater management activities that enhance water supply and protects water quality.

Governance (G-4) Discuss and develop alternate institutional mechanisms for integrated groundwater management strategies with the existing groundwater management planning agencies and associations in conformance with SGMA and the creation of Groundwater Sustainability Agencies.

Governance (G-5) Systematically evaluate and integrate existing Urban Water Management Plans, Agricultural Water Management Plans, and Groundwater Management Plans into a single, integrated, county-wide water management plan focused on sustainable groundwater management programs, practices and projects and which includes robust performance metrics and implementation schedule.

Stanislaus County General Plan

The Conservation/Open Space Element and the Safety Element of the Stanislaus County General Plan provides goals and policies related to hydrology and water quality.

Land Use Element

GOAL ONE. Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.

POLICY FOUR. Urban development shall be discouraged in areas with growth-limiting factors such as high water table or poor soil percolation, and prohibited in geological fault and hazard areas, flood plains, riparian areas, and airport hazard areas unless measures to mitigate the problems are included as part of the application.

POLICY EIGHT. The County will continue to provide proper ordinances to ensure that flood insurance can be made available to qualified property owners through state and federal programs.

Conservation/Open Space Element

GOAL TWO. Conserve water resources and protect water quality in the County.

POLICY FIVE. Protect groundwater aquifers and recharge areas, particularly those critical for the replenishment of reservoirs and aquifers.

POLICY SIX. Preserve vegetation to protect waterways from bank erosion and siltation.

POLICY SEVEN. New development that does not derive domestic water from pre-existing domestic and public water supply systems shall be required to have a documented water supply that does not adversely impact Stanislaus County water resources.

POLICY EIGHT. The County shall continue and, if necessary, expand the water monitoring program of the Stanislaus County Department of Environmental Resources.

POLICY NINE. The County will investigate additional sources of water for domestic use.

Safety Element

GOAL ONE. Prevent loss of life and reduce property damage as a result of natural disasters.

POLICY TWO. Development should not be allowed in areas that are within the designated floodway.

GOAL TWO. Minimize the effects of hazardous conditions that might cause loss of life and property.

POLICY NINE. The County shall support the formation of improvement districts (including flood control districts) to eliminate safety hazards.

POLICY FIFTEEN. The County will support the Federal Emergency Management Agency (FEMA) Flood Insurance Program so that residents who qualify may purchase such protection.

Agricultural Element

GOAL THREE. Protect the natural resources that sustain our agricultural industry.

OBJECTIVE 3.2. Water Resources.

POLICY 3.4. The County shall encourage the conservation of water for both agricultural and urban uses.

Existing Conditions

Climate and Topography

Stanislaus County is located within the northern portion of the San Joaquin Valley, in the southern portion of the Central Valley. San Joaquin Valley is bordered on the west by the Coast Range and to the east by the Sierra Nevada foothills. The climate of the region is Mediterranean with hot, dry summers and cool, wet winters. Average annual precipitation in the county is 13 inches (California Department of Water Resources 2003).

Surface Water

DWR has divided the state into ten hydrologic regions, corresponding to the state's major water drainage basins. The proposed program is entirely within the San Joaquin River Hydrologic Region (California Department of Conservation 2007). The San Joaquin River Hydrologic Region covers approximately 9.7million acres (15,200 square miles) and includes all of Calaveras, Tuolumne, Mariposa, Madera, San Joaquin, and Stanislaus counties; most of Merced and Amador counties; and parts of Alpine, Fresno, Alameda, Contra Costa, Sacramento, El Dorado, and San Benito counties. The basin includes all watersheds tributary to the San Joaquin River and the Delta south of the Sacramento River and south of the American River watershed. (California Department of Water Resources 2003.)

The San Joaquin River is the principal river of the region and all other streams are tributary to it. Its larger tributaries include the Cosumnes, Mokelumne, Calaveras, Stanislaus, Tuolumne, Merced, Chowchilla, and Fresno rivers. Of these surface water features, major features that cross Stanislaus County include the San Joaquin, Stanislaus, and Tuolumne rivers, all of which originate in the Sierra Nevada Mountains. The Stanislaus and Tuolumne rivers eventually discharge into the San Joaquin River, which extends to the San Francisco Bay-Delta estuary. See Figure 3.9-1 for an overview of surface water resources in Stanislaus County.

Major reservoirs and lakes in the basin include the Pardee, New Hogan, Millerton, McClure, Don Pedro, and New Melones. However, none of these lakes or reservoirs lie within county boundaries. Smaller reservoirs in the basin that do lie within county lines include the Woodward, Turlock, La Grande, and Modesto reservoirs.

The California Aqueduct, Hetch Hetchy Aqueduct, and the Delta Mendota Canal also cross the county along its western edge (California Department of Water Resources 2003).

According to the EPA, Stanislaus County crosses portions of ten watersheds or U.S. Geological Survey (USGS) Hydrologic Units (U.S. Environmental Protection Agency 2014).

- USGS Hydrologic Unit Code [HUC] #18040001 Middle San Joaquin-Lower Chowchilla; state(s): CA
- USGS HUC #18040002 Middle San Joaquin-Lower Merced-Lower Stan; state(s): CA
- USGS HUC #18040004 Lower Calaveras-Mormon Slough; state(s): CA
- USGS HUC #18040008 Upper Merced; state(s): CA
- USGS HUC #18040009 Upper Tuolumne; state(s): CA
- USGS HUC #18040010 Upper Stanislaus; state(s): CA

- USGS HUC #18040014 Panoche-San Luis Reservoir; state(s): CA
- USGS HUC #18050003 Coyote; state(s): CA
- USGS HUC #18050004 San Francisco Bay; state(s): CA
- USGS HUC #18060002 Pajaro; state(s): CA

Groundwater

Groundwater resources in the San Joaquin River Hydrologic Region include both alluvial and fractured rock aquifers. Alluvial aquifers consist of sand and gravel or finer grained sediments, with groundwater stored within the pore space between the alluvial sediments. Fractured-rock aquifers are composed of impermeable granitic, metamorphic, volcanic, and hard sedimentary rocks, with groundwater stored between cracks, fractures, or other void spaces.

In the San Joaquin River Hydrologic Region, there are 11 alluvial groundwater basins and subbasins recognized under Bulletin 118 Update 2003 by the DWR. Stanislaus County is located within the San Joaquin Valley Basin and overlies portions of the Modesto, Turlock, Eastern San Joaquin, and Delta-Mendota subbasins.

The Modesto Subbasin (Basin Number 5-22.02) has a total surface area of 247,000 acres (385 square miles). It lies between the Stanislaus River to the north and Tuolumne River to the south and between the San Joaquin River on the west and crystalline basement rock of the Sierra Nevada foothills on the east. The northern, western, and southern boundaries are shared with the Eastern San Joaquin Valley, Delta-Mendota, and Turlock Groundwater subbasins, respectively. Groundwater flow is primarily to the southwest, following the regional dip of basement rock and sedimentary units. The lower to middle reaches of the Stanislaus and Tuolumne rivers in the subbasin appear to be gaining streams with groundwater flow into both, especially the Tuolumne River (California Department of Water Resources 2004).

The Turlock Subbasin (Basin Number 5-22.03) has a total surface area of 347,000 acres (542 square miles). It lies between the Tuolumne and Merced rivers and is bounded on the west by the San Joaquin River and on the east by crystalline basement rock of the Sierra Nevada foothills. The northern, western, and southern boundaries are shared with the Modesto, Delta-Mendota, and Merced Groundwater subbasins, respectively. Similar to the Modesto Subbasin, groundwater flow is primarily to the southwest, following the regional dip of basement rock and sedimentary units. Based on recent groundwater measurements, a paired groundwater mound and depression appear beneath the city of Turlock and to its east, respectively. (California Department of Water Resources 2006a).

The Eastern San Joaquin Subbasin (Basin Number 5-22.01) has a total surface area of 707,000 acres (1,105 square miles). The subbasin is by the Mokelumne River on the north and northwest; San Joaquin River on the west; Stanislaus River on the south; and consolidated bedrock on the east. The Eastern San Joaquin Subbasin is bounded on the south, southwest, and west by the Modesto, Delta-Mendota, and Tracy subbasins, respectively, and on the northwest and north by the Solano, South American, and Cosumnes subbasins. The subbasin is drained by the San Joaquin River and its major tributaries, the Stanislaus, and Calaveras, and Mokelumne rivers. The San Joaquin River flows northward into the Sacramento and San Joaquin Delta and discharges into the San Francisco Bay. Due to the continued overdraft of groundwater within the subbasin, significant groundwater

depressions are present below the City of Stockton, east of Stockton, and east of Lodi (California Department of Water Resources 2006b).

The Delta-Mendota Subbasin (Basin Number 5-22.07) has a total surface area of 747,000 acres (1,170 square miles). The Delta-Mendota subbasin is bounded on the west by the Coast Ranges, on the north by the Stanislaus/San Joaquin county line, on the east by the San Joaquin River and the Chowchilla Bypass, and on the south along the Fresno Slough (California Department of Water Resources 2006c).

Water Quality

Surface Water

Surface water quality for the three major Stanislaus County rivers[1] is excellent at their sources in the Sierra Nevada Mountains. However, as each river flows through the San Joaquin Valley water quality declines by each successive use. Agricultural and domestic use-and-return both contribute to water quality degradation. During dry summer months, the concentration of pollutants increase, particularly in the San Joaquin River, which drains domestic and industrial wastewater for the entire San Joaquin Valley. Water quality in the Stanislaus and Tuolumne rivers declines significantly by the time they discharge into the San Joaquin River. Comparatively, water quality declines more in the Tuolumne River than the Stanislaus River from agricultural wastewater returns and gas well wastes. (County of Stanislaus General Plan.)

The EPA's 2010 303(d) list of impaired water bodies lists the San Joaquin, Stanislaus, and Tuolumne rivers as impaired from various pollutants/stressors (see Table 3.9-2).

Table 3.9-2. Impaired Water Bodies in the Project Area

River	Pollutant/Stressor	Source	TMDL Completion Date
Stanislaus River	Chlorpyrifos	Agriculture	Estimated 2021
	Diazinon	Agriculture	2008
	Group A Pesticides	Agriculture	2011
	Mercury	Resource Extraction	Estimated 2020
	Temperature	Unknown	Estimated 2021
	Unknown Toxicity	Unknown	2019
Tuolumne River	Chlorpyrifos	Agriculture	Estimated 2021
	Diazinon	Agriculture	2008
	Group A Pesticides	Agriculture	2011
	Mercury	Resource Extraction	Estimated 2020
	Temperature	Unknown	Estimated 2021
	Unknown Toxicity	Unknown	2019
San Joaquin River	Boron	Agriculture	Estimated 2019
	Chlorpyrifos	Agriculture	2007
	DDT (dichlorodiphenyltrichloroethane)	Agriculture	2011
	Diazinon	Agriculture	2010
	Electrical Conductivity	Agriculture	Estimated 2021

[1] San Joaquin, Stanislaus, and Tuolumne rivers.

River	Pollutant/Stressor	Source	TMDL Completion Date
	Group A Pesticides	Agriculture	2011
	Mercury	Resource Extraction	2012
	Alpha-BHC	Unknown	Estimated 2022
	DDE (dichlorodiphenyldichloroethylene)	Agriculture	2011
	Temperature	Unknown	Estimated 2021
	Unknown Toxicity	Unknown	2019

Source: California Environmental Protection Agency (2010).

Groundwater

Groundwater quality throughout the San Joaquin Valley region is suitable for most urban and agricultural uses. However, there are areas of localized problematic areas with the following primary constituents of concern: high total dissolved solids (TDS)), nitrates, boron, chloride, arsenic, selenium, dibromochloropropane (DBCP), and radon (U.S. Bureau of Reclamation 2011).

Groundwater quality declines along the west side of the San Joaquin Valley and in the trough of the valley. Groundwater in the west side of the San Joaquin Valley in general has a high TDS content due to recharge of streamflow originating from marine sediments in the Coast Range. High TDS content in the trough of the valley is the result of the concentration of salts from agricultural practices due to evaporation and poor drainage. (California Department of Water Resources 2003)

The major human sources of nitrates are disposal of human and animal waste products and fertilizers. Nitrates may also occur naturally. High concentrations of boron and chloride are likely a result of concentration from evaporation near the valley trough. Contamination from organic compounds comes from agricultural and industrial sources. Agricultural pesticides and herbicides have been detected in groundwater throughout the region. A major contaminant of concern is dibromochloropropane, a now-banned soil fumigant and known carcinogen once used extensively on grapes and cotton. Industrial contaminants including trichloroethylene, dichloroethylene, and other solvents have been found in groundwater near airports, industrial areas, and landfills. (California Department of Water Resources 2003)

The Eastern San Joaquin Subbasin has experienced substantial groundwater quality degradation. As a result of declining water levels, poor quality water has been moving east along a 16-mile front on the east side of the Delta. The degradation was especially evident in the Stockton area where the saline front was moving eastward at a rate of 140 to 150 feet per year. Data from 1980 and 1996 indicate that the saline front has continued to migrate eastward up to about 1 mile beyond its 1963 extent. Large areas of elevated nitrate in groundwater exist within the subbasin located southeast of Lodi and south of Stockton and east of Manteca extending towards the San Joaquin–Stanislaus County line. (California Department of Water Resources 2006a)

Flooding

Flood risks in the Sacramento–San Joaquin Valley are among the highest in the nation. This risk endangers approximately 1,000,000 people and $70 billion in infrastructure, homes, and businesses. To reduce this risk, the Central Valley Flood Protection Act (CVFPA) of 2008 directed DWR to prepare the CVFPP for Central Valley Flood Protection Board adoption. The CVFPP provides conceptual guidance to reduce the risk of flooding with a goal of providing 200-year (1 chance in

200 of flooding in any year) protection to urban areas, and reducing flood risks to small communities and rural agricultural lands (Central Valley Flood Protection Board 2012). Figure 3.9-1 shows the areas located in 200-year floodplains.

The Central Valley Flood Protection Board maintains jurisdiction over four regulated streams, including: Dry Creek from the Tuolumne River to the Atchison, Topeka and Santa Fe Railway, Laird Slough, Stanislaus River, and Tuolumne River. In Stanislaus County, existing dams on the Tuolumne and Stanislaus rivers substantially reduce the risk of flooding on surrounding lands. However, major flooding tends to occur along the San Joaquin River and isolated stretches of the Tuolumne River, as well as on Orestimba, Salado, and Sand creeks. Portions of the Stanislaus River still flood to the extent that there can be crop damage, but the USACE has purchased flowage easements so that they have the "right" to flood this area.

Widespread flooding also can result from dam failure. The most common cause of dam failure is prolonged rainfall that produces flooding, although other causes include natural events such as earthquakes or landslides. In the event of dam failure, inundation could affect the cities of Waterford, Hughson, Oakdale, Riverbank, and Modesto.

In the Modesto, Turlock, and Woodward Reservoirs, an earthquake of sufficient magnitude could cause a seiche, or standing wave, in which case people using a reservoir for recreation would be at risk. However, personnel at the reservoirs are trained to handle water-related emergencies, and no privately owned residences are located along the shores. As an inland region separated from the Pacific Ocean by the Coast Range, Stanislaus County is at no risk of tsunamis. (Stanislaus County General Plan Safety Element)

3.9.3 Impact Analysis

This section discusses the approach and methodology used to assess the impacts of the plan updates; the individual impacts relative to the thresholds of significance; mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for significant impacts; and the overall significance of the impact with mitigation incorporated.

Major Sources Used in Analysis

The major sources used in this analysis are listed below:

- California Water Plan (http://www.waterplan.water.ca.gov/cwpu2013/final/).
- Central Valley Regional Water Quality Control Board (http://www.waterboards.ca.gov/centralvalley/).
- SWRCB's list of impaired water bodies (http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml).
- DWR's "best available maps" of 200-year flood zones (http://gis.bam.water.ca.gov/bam/).
- DWR's Levee Flood Protection Zone maps (http://www.water.ca.gov/floodmgmt/lrafmo/fmb/docs/SanJoaquinRiver_LFPZ_Map.pdf).

Approach and Methodology

Impacts related to hydrology, water quality, and water resources were assessed based on technical reports prepared for the proposed project, other available data (e.g., maps, soil surveys), and professional judgment.

Potential impacts resulting from implementing the proposed project were analyzed by comparing existing conditions, as described in the *Environmental Setting*, to conditions during construction and/or operation and maintenance of the program. The analysis assesses the direct, indirect, short-term, and long-term impacts related to surface hydrology, flood hazards, groundwater recharge, and surface and groundwater quality as described below.

- **Surface Water Hydrology:** The surface water hydrology impact analysis considered potential changes in the physical characteristics of water bodies, impervious surfaces, and drainage patterns throughout the project area as a result of project implementation.
- **Flood Hazards:** The impact analysis for flood risk was conducted using FEMA NFIP maps to determine whether the project area overlaps with existing designated 100-year and 200-year floodplains.
- **Groundwater Recharge:** Impacts on groundwater recharge were assessed by comparing existing sources of recharge versus recharge capabilities following project implementation. Recharge is determined by the ability of water to infiltrate into the soil. Although the extent of the groundwater aquifer is unknown within the project area due to lack of data from DWR, this analysis assumes that groundwater exists within the entire project area.
- **Surface and Groundwater Quality:** Impacts of the proposed project on surface water and groundwater quality were analyzed using existing information on existing water quality conditions (i.e., 303[d] listed water bodies). These conditions were then compared to conditions under the proposed project for potential project-related sources of water contaminants generated or inadvertently released during project construction (e.g., sediments, fuel, oil, concrete) and operation. The potential for water quality objectives to be exceeded and beneficial uses to be compromised as a result of the proposed project was also considered.

Thresholds of Significance

Based on State CEQA Guidelines Appendix G, the plan update would have a significant impact with respect to hydrology and water quality if it would result in any of the following.

- Violate any water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite.

- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Contribute to inundation by seiche, tsunami, or mudflow.

Impacts and Mitigation Measures

Impact HYD-1: Violate any water quality standards or waste discharge requirements (less than significant)

Construction

Implementation of the general plan, including the new policies in the general plan update, would result in additional construction within Stanislaus County. Typical construction-related earth-disturbing activities would introduce the potential for increased erosion, runoff, and sedimentation, with subsequent effects on water quality and storm drain capacity. During site grading, trenching, and other construction activities, areas of bare soil are exposed to erosive forces during rainfall events. Bare soils are much more likely to erode than vegetated areas because of the lack of dispersion, infiltration, and retention properties created by covering vegetation. The extent of the impacts is dependent on soil erosion potential, type of construction practice, extent of disturbed area, timing of precipitation events, and topography and proximity to drainage channels. In addition, construction equipment and activities would have the potential to leak hazardous materials, such as oil and gasoline, and potentially affect surface water or groundwater quality. Improper use or accidental spills of fuels, oils, and other construction-related hazardous materials such as pipe sealant, solvents, and paints could also pose a threat to the water quality of local water bodies. These potential leaks or spills, if not contained, would be considered a significant impact on groundwater and surface water quality. If precautions were not taken to contain or capture sediments and/or accidental hazardous spills, construction activities could produce substantial pollutants in stormwater runoff and result in a significant impact on the existing surface water quality.

Projects that would disturb more than 1 acre of land are required to prepare a SWPPP as part of compliance with the NPDES Construction General Permit. The purpose of a SWPPP is to reduce the amount of construction-related pollutants that are transported by stormwater runoff to surface waters. The SWPPP will emphasize standard temporary erosion control measures to reduce sedimentation and turbidity of surface runoff from disturbed areas within the project area.

In addition to compliance with the latest NPDES and other water quality requirements (i.e., Construction General Permit, Small MS4 Permit, and the General Dewatering Permit) construction projects would also comply with other federal and state regulations, County plan standards, and other local ordinances, as noted in the *Regulatory Setting* above.

Construction dewatering in areas of shallow groundwater may be required during excavation for some construction projects. In the event groundwater is encountered during construction, dewatering would be conducted locally, and according to the dewatering permit obtained by the Central Valley RWQCB, as described in the *Regulatory Setting* above. In areas where groundwater is shallow and there is potential to affect riparian habitat, features would be installed using the vibration method, which minimizes subsurface disruption.

Therefore, potential water quality impacts, such as violations of water quality objectives or WDRs from construction activities, would be less than significant. No mitigation is required.

Operations

Urban stormwater runoff from existing and future development, as well as discharges of waters from storm drains into natural water bodies, can contain a variety of pollutants, including household chemicals, landscape chemicals, heavy metals, and other substances. Agricultural and animal confinement operations, industrial activities, and mining and dredging operations that would continue under the general plan update have the potential to release nutrients, chemical pollutants, and excess sediment into nearby waterways, degrading surface and groundwater quality over the long term.

Several general plan update changes are pertinent to this impact.

Conservation/Open Space Element

GOAL TWO. Conserve water resources and protect water quality in the County.

POLICY EIGHT. The County shall support ~~continue and, if necessary, expand the water monitoring program of the~~ efforts ~~of the Stanislaus County Department of Environmental Resources~~ to develop and implement water management strategies.

IMPLEMENTATION MEASURES

1. The County ~~will consider applying for Community Development Block Grant Funds and other~~ will pursue state and federal ~~various grants~~ funding options to improve water management resources ~~quality~~ in the County.
2. The Department of Environmental Resources should continue to monitor groundwater quality by reviewing well water chemical and bacterial analysis results for public water systems under the department's supervision and by overseeing investigations involving soil and groundwater contamination.
3. The County will coordinate with water purveyors, private landowners and other water resource agencies in the region on data collection of groundwater conditions and in the development of a groundwater usage tracking system, including well location/construction mapping (within the extent that prevailing law allows) and groundwater level monitoring, to guide future policy development.
4. The County shall promote efforts to increase reliability of groundwater supplies through water resource management tools ranging from surface water protection programs, demand management programs (conservation), continued public education programs, and expanded opportunities for conjunctive use of groundwater, surface water, and appropriately treated wastewater and stormwater reuse opportunities.
5. The County will support and where appropriate help facilitate the formation of an integrated and comprehensive county-wide, and where appropriate regional, water resources management plan which incorporates existing water management plans and identifies and plans for management within the gaps between existing water management plans.

6. The County will cooperate with other pertinent agencies, including cities and water districts, in the preparation and adoption of a groundwater sustainability plan pursuant to the Sustainable Groundwater Management Act (SGMA) and any subsequent legislation. The County will use its regulatory authority, as appropriate, to implement the requirements of the groundwater sustainability plan.

7. The County will obtain the technical information, and develop the planning and policy needs to improve groundwater recharge opportunities and groundwater conditions in the County.

8. As information becomes available, the County will adopt General Plan changes to protect recharge areas and manage land use changes that have an impact on groundwater use and quality.

Agricultural Element

GOAL THREE. Protect the natural resources that sustain our agricultural industry.

OBJECTIVE 3.2. Water Resources.

POLICY 3.6. The County will continue to protect local groundwater for agricultural, rural domestic, and urban use in Stanislaus County.

Development of these management efforts as proposed in the general plan update's goals and policies would minimize the potential for the release of pollutants and violation of water quality standards. Furthermore, additional regional, state, and federal regulations would also reduce the potential for violation of water quality standards.

Water quality protection measures are enforced by the Central Valley RWQCB under various NPDES programs for municipal separate storm sewer systems, construction sites greater than 1 acre, and industrial operations. These programs are either in the process of being, or recently have been, upgraded to include more rigorous standards, WDRs, and methods for meeting water quality objectives based on current data and understanding. Stanislaus County has implemented their Storm Water Management Program under the NPDES Phase II MS4 General Permit that includes programs to eliminate illicit discharges, control construction site stormwater runoff, and meet post-construction stormwater runoff goals to improve water quality protection.

Adherence with the stormwater management plan and the various municipal, industrial, and construction NPDES program requirements would ensure that pollutants are not released to nearby surface water bodies or groundwater during short-term construction efforts, or long-term operation of industrial or agricultural facilities. Therefore, this impact would be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact HYD-2: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted) (significant and unavoidable)

Groundwater overdraft from pumping and drought conditions is a recurring problem in parts of Stanislaus County. Increases in population and corresponding increases in groundwater use have resulted in a lower groundwater table in some areas of the Modesto Subbasin and may have contributed to groundwater degradation, especially within the boundaries of the City of Modesto. In response to this degradation, six agencies covering the Modesto Groundwater Subbasin formed the

Stanislaus and Tuolumne Rivers Groundwater Basin Association to provide a forum for coordinated planning and management of the subbasin (Stanislaus and Tuolumne Rivers Groundwater Basin Association 2005). This association developed the Integrated Regional Groundwater Management Plan to coordinate planning to make the best use of groundwater.

Development under the general plan update in urban areas could result in increased reliance on groundwater to supplement supply from surface water. Furthermore, increased urban development could potentially reduce localized groundwater recharge due to increased impervious surfaces and the redirection of stormwater runoff. A potential decrease in aquifer volumes could adversely affect existing users or habitat needs.

Impacts on groundwater from future development would be reduced by implementation of the general plan update. Implementation of Goal Two and the proposed amendments to Policy Eight of the Conservation/Open Space Element and the related amended and new Implementation Measures (see Impact HYD-1) would result in the development of a groundwater usage tracking system, including well location/construction mapping (within the extent that prevailing law allows) and additional groundwater level monitoring, to guide future policy development. This tracking system would minimize the potential for overdraft that could result in subsidence and groundwater quality issues. With Policy Eight, the Department of Environmental Resources would continue to monitor groundwater quality by reviewing well water chemical and bacterial analysis results for public water systems under the department's supervision and by overseeing investigations involving soil and groundwater contamination. Goal Three, Policy 3.4 of the Agricultural Element would further reduce groundwater impacts.

GOAL THREE. Protect the natural resources that sustain our agricultural industry.

OBJECTIVE 3.2. Water Resources.

POLICY 3.4. The County shall encourage the conservation of water for both agricultural, rural domestic, and urban uses.

IMPLEMENTATION MEASURE

5. The County shall encourage the development and use of appropriately treated water (reclaimed wastewater and stormwater) for both agricultural and urban irrigation.

Furthermore, in addition to policies in the general plan update, statewide groundwater management legislation was passed in 2014 with a long-term goal of reducing overdraft (AB 1739 and SB 1168). As per this legislation, Stanislaus County will cooperate with other agencies in preparation of a groundwater sustainability plan complying with the content requirements established in Water Code Section 10727.2 and 10727.4. The groundwater management plan will include specific actions to avoid overdraft throughout each of the subbasins within Stanislaus County within 20 years of adoption of the plan. (Water Code Section 10727.2, subsections (b) and [d]) Proposed Implementation Measures 6 through 8 under Policy Eight under Goal Two of the Conservation/Open Space Element (Impact HYD-1) would commit the County to regional cooperation and the dissemination of groundwater information to guide future planning activities.

Impacts would be less than significant in the long term, once the groundwater sustainability plan takes effect and is implemented. However, the impact would be significant and unavoidable within the general plan's 2035 planning horizon because of the severity of the problem and the delay inherent in organizing and preparing the groundwater sustainability plan. This impact would be significant during the interim period before adoption and full implementation of the groundwater sustainability plan.

There is no feasible mitigation for the interim period before adoption and implementation of the groundwater sustainability plan.

Significance without Mitigation: Significant and unavoidable

Impact HYD-3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite (less than significant)

Within Stanislaus County, many natural drainage and stream networks have been modified, diverted, or controlled in an effort to contain floodwaters and provide for agricultural irrigation. In many cases, this modification has led to increased erosion and siltation through removal of riparian vegetation or hydrologic changes that result in increased velocities. Implementation of the General plan update could lead to continued development that could further alter natural drainages or streams, resulting in localized flooding or accelerated erosion and increased sediment loading downstream from increased, concentrated, or redirected runoff.

Goal Two, Policy Six of the Conservation/Open Space Element would minimize this impact.

GOAL TWO. Conserve water resources and protect water quality in the County.

POLICY SIX. Preserve natural vegetation to protect waterways from bank erosion and siltation."

Preservation of natural vegetation would help protect waterways from bank erosion and siltation. Implementation measures of Policy Six would require development proposals and mining activities including or in the vicinity of waterways and/or wetlands to be closely reviewed to ensure that destruction of riparian habitat and vegetation is minimized. Through implementation of this review in combination with other state and federal regulations such as the NPDES Construction General Permit and the MS4 Permit, this impact would be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact HYD-4: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite (less than significant)

Development of project components under the general plan update such as roads and houses would alter surface drainage by adding impermeable surfaces, directly altering flow patterns, or placing structures in a flood-prone area, all of which could yield increased amounts of stormwater runoff. Proposed project activities that convert permeable surfaces or install permanent structures would require stormwater drainage management measures to avoid flooding impacts.

Safety Element

GOAL TWO. Minimize the effects of hazardous conditions that might cause loss of life and property.

POLICY EIGHT. Roads shall be maintained for the safety of travelers.

MINIMIZATION MEASURE

1. New urban development shall provide street lighting, storm drainage, setbacks, ~~fire walls,~~ and other safety features as the specific case may require for all modes of travel (automobile, pedestrian, bicycle, etc.).

This measure would minimize the impact. As per the 2014 Stanislaus County Standards & Specifications Update, these drainage systems would be designed using a 100-year, 24-hour storm with a rainfall intensity of 2.88 inches (Stanislaus County 2014). This specification ensures stormwater detention or retention facilities onsite attenuate peak stormwater runoff to a level that does not affect downstream facilities. In addition, the County's existing MS4 Permit requires the implementation of its 2015 Post Construction Standards Plan to control the volume, rate, and duration of runoff to avoid upstream and downstream flooding. With the incorporation of the strategies described above, and adherence to the requirements of the County Standards and Specifications and the County's existing MS4 Permit, this impact would be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact HYD-5: Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff (less than significant)

As with Impact HYD-4, development of project components under the general plan update such as roads and houses would alter surface drainage by adding impermeable surfaces; this could yield increased amounts of stormwater runoff polluted by urban and rural land uses. Goal Two, Policy Eight of the Conservation/Open Space Element (Impact HYD-1) and existing regulations would minimize this impact.

The goals of programs would be to minimize the potential for the release of pollutants and violation of water quality standards. The County would follow its 2015 Comprehensive Storm Water Education and Outreach Plan. Preventive components of this plan would include local outreach to promote management practices that reduce polluted runoff. Existing regulations would require the attenuation of peak stormwater volume and rate, which would reduce the collection and spread of pollutants. Furthermore, existing regulations would require the implementation of best management practices during activities likely to cause stormwater pollution such as construction. Impacts would be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact HYD-6: Otherwise substantially degrade water quality (less than significant)

In contrast to Impact HYD-1, which discusses impacts involving violations of water quality objectives and standards, this impact addresses "other" water quality impacts, such as those that can result from wetland dredge and fill. Goal Two, Policy Six of the Conservation/Open Space Element addresses the preservation of wetlands.

GOAL TWO. Conserve water resources and protect water quality in the County.

POLICY SIX. Preserve <u>natural</u> vegetation to protect waterways from bank erosion and siltation."

MINIMIZATION MEAUSURE

1. Development proposals <u>and mining activities</u> including or in the vicinity of waterways and/or wetlands shall be closely reviewed to ensure that destruction of riparian habitat and vegetation is minimized. This shall include referral to the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, ~~and the~~ State Department of Fish and ~~Game~~ <u>Wildlife, and the State Department of Conservation</u>.

The rigorous review required for developments in or within the vicinity of wetlands in addition to the implementation of 2014 Standards and Specifications would minimize impacts on wetlands. 2014 Standards and Specifications requires that best management practices be implemented to ensure that wetlands are not negatively impacted from construction activities. Impacts would be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact HYD-7: Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map (less than significant)

The best available maps, as provided by the DWR, show 100- and 200- year flood plains are located along the banks of the Tuolumne and San Joaquin Rivers (see Figure 3.9-3). This affects a relatively small portion of the unincorporated area south and east of the Modesto Airport along the Tuolumne River that is available for potential development. Notably, substantial areas of the cities of Ceres and Modesto lie within the same 200-year floodplain. (Department of Water Resources 2015) Development under the general plan update could lead to urban or other development that could be inconsistent with state flood control programs and regulations in areas subject to a 200-year flood event.

Legislation adopted by the State of California, and flood planning required by the legislation, is strengthening flood protection oversight and requirements within the San Joaquin Valley, including within Stanislaus County. Two state agencies, DWR and the Central Valley Flood Protection Board adopted the CVFPP in 2012. The CVFPP and key legislation under the 2008 CVFPA set a higher standard for a 200-year level of flood protection. Key requirements of the CVFPP are that local governments within the San Joaquin Valley, including Stanislaus County, modify their general plans and zoning codes to be consistent with state flood management requirements.

The general plan update incorporates the essential requirements of this legislation

Safety Element

GOAL ONE. Prevent loss of life and reduce property damage as a result of natural disasters.

POLICY TWO. Development should not be allowed in areas that are within the designated floodway or any areas that are known to be susceptible to being inundated by water from any source.

IMPLEMENTATION MEASURE

3. The County shall amend its Zoning Ordinance, as needed, for compliance with the Central Valley Flood Protection Act of 2008 (and any subsequent amendments).

Implementation Measure 3 will require the County amend its zoning ordinance to comply with the Central Valley Flood Protection Act of 2008 and any subsequent amendments. Therefore, the impact is less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact HYD-8: Place within a 100-year flood hazard area structures that would impede or redirect flood flows (less than significant)

As shown in Figure 3.9-3 100- and 200-year flood plains are mostly located along the banks of the Stanislaus and San Joaquin rivers. Under the proposed Goal One, Policy Two of the Safety Element, development is not allowed in areas that are within the designated floodway (Impact HYD-1). Under the general plan update, this policy would continue to be implemented. Therefore, impacts would be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact HYD-9: Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam (less than significant)

Dam failure is the collapse or failure of an impoundment that causes significant downstream flooding. Flooding of the area below the dam may occur as the result of structural failure or overtopping of the dam. A severe storm, earthquake, or erosion of the embankment and foundation leakage may cause the collapse and structural failure of dams in or adjacent to Stanislaus County. Three major dams have a direct effect on Stanislaus County: LaGrange, Don Pedro, and New Melones. Levee failure and ensuing inundation also poses a risk to the project area, because there is a system of levees along the San Joaquin River.

Future development under the general plan update could result in an increase in the number of persons and property potentially at risk from flooding due to a catastrophic levee or dam failure. However, compliance with the requirements of existing emergency management plans and the CVFPA, coupled with implementation of the general plan update Safety Element policies associated with Goal One ("Prevent loss of life and reduce property damage as a result of natural disasters"), and as described above, would reduce this potential effect to less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact HYD-10: Contribute to inundation by seiche, tsunami, or mudflow (less than significant)

The county is not at risk due to inundation from a tsunami because of its distance from the ocean. However, there is a risk of seiche from major bodies of water such as the Woodward, Turlock, and Modesto reservoirs. However, given the relatively small size of these reservoirs, potential impacts would remain localized to recreational users on these reservoirs. Depending on the season and time of day, this could affect very few users. The county also possesses a geologic and climate setting not particularly prone to mud flows. Accordingly, impacts would be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

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Figure 3.9-1
Hydrological Features within the Project Vicinity

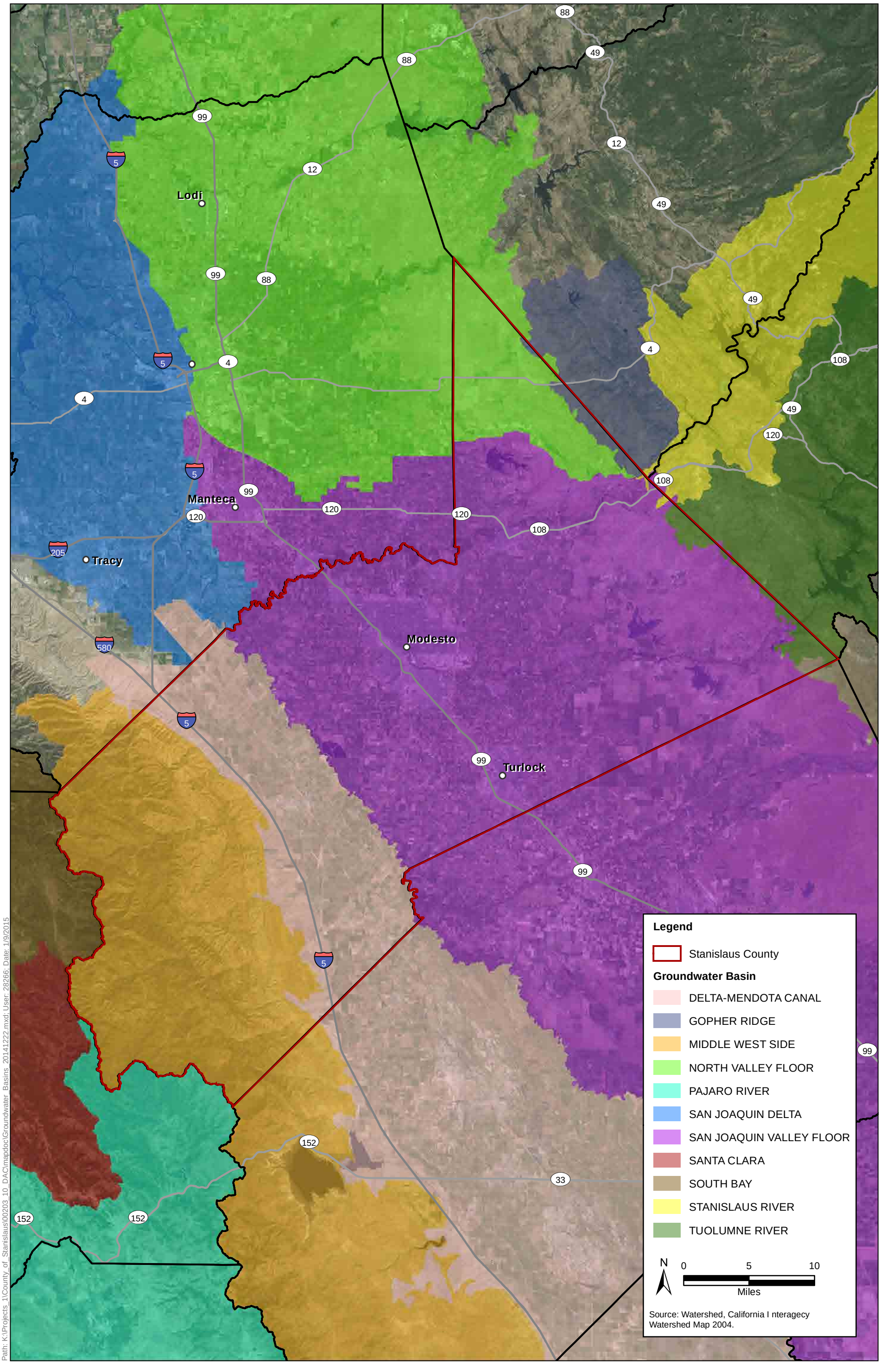

Figure 3.9-2
Groundwater Basins within the Project Area

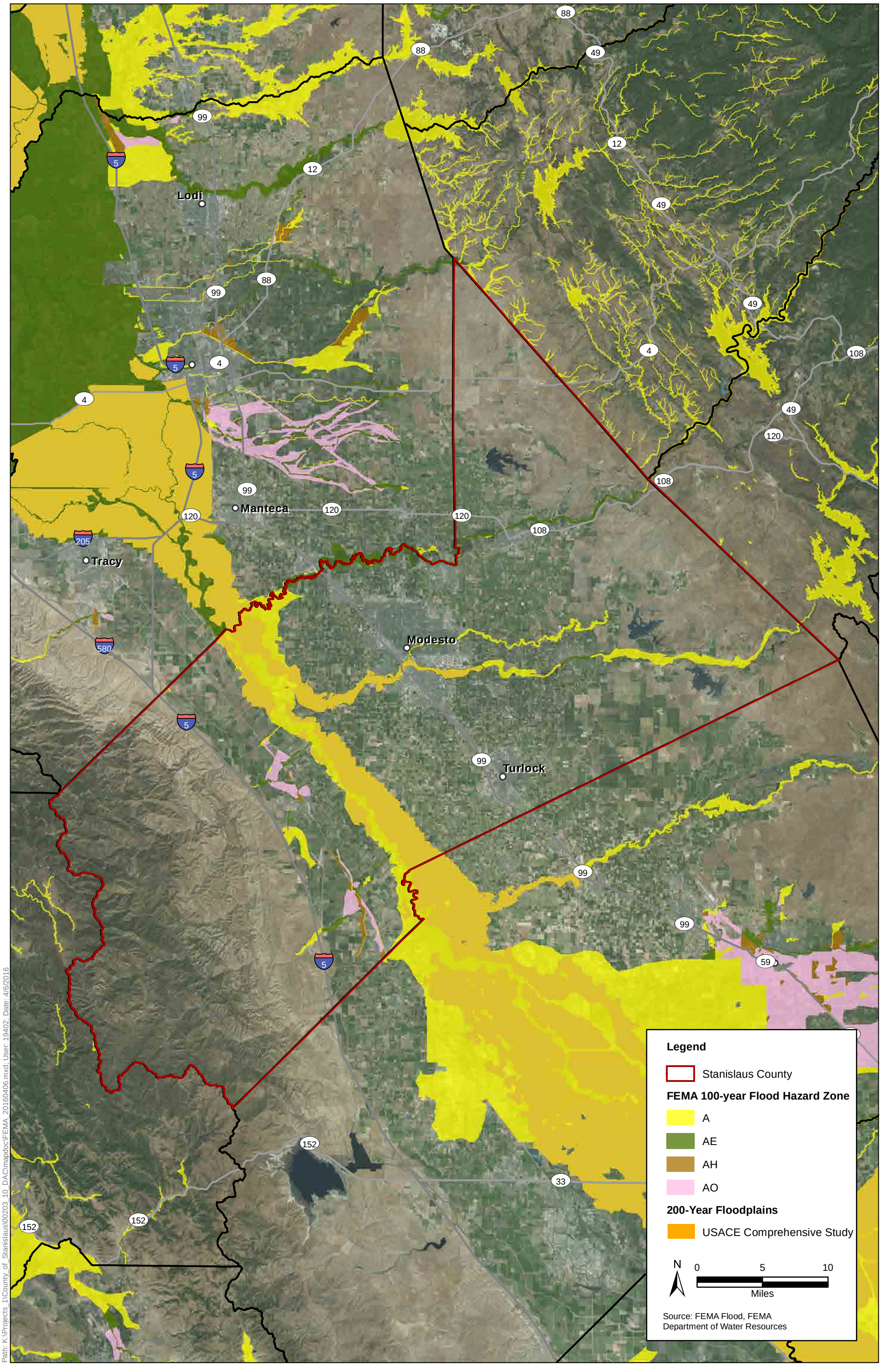

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Figure 3.9-3
FEMA Flood Zones within the Project Area

3.10 Land Use and Planning

3.10.1 Introduction

This section discusses the impacts of the plan updates with respect to land use and planning. It lists the thresholds of significance that form the basis of the environmental analysis, describes the land use and planning study area and major sources used in the analysis, provides environmental setting information that is relevant to land use and planning, and assesses whether the plan updates would result in significant impacts with respect to land use and planning.

Study Area

The land use and planning study area for the EIR is defined as Stanislaus County.

3.10.2 Environmental Setting

This section describes the state, regional, and local regulations and policies that are applicable to the plan updates and the existing conditions pertaining to land use and planning in the study area. The existing conditions will constitute the baseline for this analysis.

Regulatory Setting

The following describes state, regional, and local regulations that apply to the project. There are currently no federal regulations that pertain to land use.

State

Planning and Zoning Law

Government Code Section 65300 requires Stanislaus County and all other cities and counties in the state to "adopt a comprehensive, long-term general plan for the physical development of the county." The general plan is considered to be the county's "constitution," in that it contains development and conservation policies that address land use, housing, circulation, open space, conservation, noise, and public safety issues as well as other issues that face the county.

Senate Bill (SB) 375, the Sustainable Communities and Climate Protection Act of 2008, was passed to support the state's climate action goals related to reducing greenhouse gas (GHG) emissions. Under the act, the California Air Resources Board (ARB) sets regional emission reduction targets. Furthermore, each of California's Metropolitan Planning Organizations (MPOs) must prepare a Sustainable Communities Strategy (SCS) as an integral part of its Regional Transportation Plan (RTP) (California Environmental Protection Agency 2014). The Stanislaus Council of Governments (StanCOG) adopted its RTP/SCS Plan in June 2014 (discussed in detail under "Regional," below).

SB 375 requires consistency between regional transportation planning processes and housing planning processes. Each region's SCS must be consistent with the Regional Housing Needs Allocation (RHNA), a process established under the State Housing Element law that requires cities in California to plan for the future development of new housing units to meet their share of their regional housing needs. The State of California requires the Department of Housing and Community

Development (HCD) to use population projection and household growth projections to identify housing needs. Each Council of Government (COG) must distribute the RHNA to each jurisdiction within the COG's region (Stanislaus Council of Governments 2014a). StanCOG's RNHA allocation is discussed below and in Section 3.13, *Population and Housing.*

Regional

StanCOG RTP/SCS

StanCOG, which is responsible for preparing the region's RTP/SCS, adopted the RTP/SCS in June 2014. The RTP/SCS strengthens the link between land use and transportation planning and contains a strategy to accommodate significant expected growth in the region (Stanislaus Council of Governments 2014b).

The RTP/SCS Plan addresses various requirements, including those of SB 375, and federal mandates under MAP-21. As noted above, SB 375 calls for reductions in GHG emissions from the transportation sector. MAP-21 emphasizes a performance-based planning approach. The RTP/SCS matches transportation investment priorities with the desired land use. The RTP/SCS itself does not control land use within the county or exert power over county land use decisions. Rather, the RTP/SCS is a steering document for StanCOG's vision for a cohesive, sustainable region with multimodal transportation options available for all users (Stanislaus Council of Governments 2014b).

Regional Housing Needs Allocation

As noted above, the RHNA is a process established under the State Housing Element law. It requires cities in California to plan for the development of housing units to accommodate population growth and meet their share of their region's housing needs. HCD is responsible for determining housing needs in a region and coordinating with the COGs, which allocate shares of housing development to cities within their jurisdictions.

Table 3.10-1. StanCOG Regional Housing Need Allocation for 2014–2023

Income Level	Unincorporated Stanislaus County Need	Stanislaus County Need
Very Low	538	5,225
Low	345	3,350
Moderate	391	3,670
Subtotal of Affordable Units	1,274	12,245
Above Moderate	967	9,085
Total	2,241	21,330

Sources: Stanislaus Council of Governments 2014c; Draft Regional Housing Needs Plan for Stanislaus County: 2014–2023. Adopted January 2014.

StanCOG is responsible for determining the share of regional housing needs to be met by each city in Stanislaus County. Four housing affordability categories have been established, which are based on Department of Finance (DOF) population projections and regional population forecasts. As shown above in Table 3.10-1, Stanislaus County's final RHNA determination is 21,330 housing units for the planning period of January 1, 2014, to September 30, 2023. Unincorporated Stanislaus County's share is 2,241 housing units (Stanislaus Council of Governments 2014a).

Local

Stanislaus County General Plan

The Stanislaus County General Plan is composed of mandatory elements and one optional element, the Agricultural Element. The county has combined the required Open Space and Conservation Elements because of their interrelated content. The last broad-based update to the general plan was adopted in 1994 (Stanislaus County 1994).

The Stanislaus County General Plan applies to unincorporated areas of the county. It does not apply to the incorporated cities, which have their own general plans, nor to state, tribal, or federal lands. The general plan outlines the county's land use goals, policies, and implementation measures. Overarching goals include providing for diverse land use needs, ensuring compatibility between land uses, fostering stable economic growth through appropriate land use policies, ensuring that an effective level of public service is provided in unincorporated areas, complementing the general plans of cities within the county, and providing direct citizen participation in land use decisions involving the expansion of residential uses into agriculture and open space areas. Figure 3.10-1 illustrates the pattern of future land uses established by the General Plan.

Airport Land Use Compatibility Plan

The California State Aeronautics Act (California Public Utilities Code Sections 21670–21679.5) requires, with limited exceptions, the creation of an Airport Land Use Commission in each county that has a public-use or military airport. The commission is required to prepare an Airport Land Use Compatibility Plan (ALUCP) for each public-use and military airport. An ALUCP must reflect anticipated growth at an airport for at least 20 years based on a long-range master plan or airport layout plan. Each ALUCP includes policies to prevent conflicts between planned airport development and proposed land uses within the Airport Influence Area (AIA) identified in the compatibility plan.

The Stanislaus County ALUC is responsible for the preparation of ALUCPs for public-use airports in Stanislaus County. The proposed ALUCP would replace the current Airport Land Use Commission Plan that was originally adopted on August 3, 1978, and amended on May 20, 2004. Since 2004 the number of public-use airports in the County has changed, the long-range plans associated with the remaining airports have been revised, and the *Airport Land Use Planning Handbook* set forth by the Caltrans Division of Aeronautics, which is used to prepare ALUCPs, has been revised. The County prepared the proposed 2015 ALUCP to address these changes in facilities, planning and guidance.

The purpose of the ALUCP is to promote compatibility between each public-use airport and the land uses in its vicinity to the extent that these areas have not already been devoted to incompatible uses. To accomplish this, the ALUCP establishes a set of compatibility criteria that the ALUC will use to evaluate the compatibility of land use proposals within an Airport Influence Area as well as the Airport's long-range development plans (see Figures 3.10-2 and 3.10-3). The County of Stanislaus and jurisdictions with land use authority over areas within the AIA are expected to incorporate certain criteria and procedural policies from the proposed ALUCP into their general plan and zoning ordinances in an effort to ensure that future land use development will be compatible with long-term airport operations. Each agency or jurisdiction also has the option of overruling the ALUC in accordance with the steps defined by state law and summarized in the ALUCP.

Stanislaus County Zoning Ordinance

The Stanislaus County Zoning Ordinance regulates land use. The county has several designated zoning districts (e.g., agriculture, residential, planned development, industrial, historic site, highway frontage, commercial, and specific plan). In addition, the county also has a Salida Community Plan district. California planning and development law requires zoning in all counties and general law cities to be consistent with their adopted general plans (Governor's Office of Planning and Research 2001).

Stanislaus County Subdivision Ordinance

The Stanislaus County Subdivision Ordinance establishes the procedure by which private land may be divided for sale. Additionally, the ordinance regulates subdivision of property in accordance with California's Subdivision Map Act. Stanislaus County is responsible for regulation and control of subdivision design and improvement, including proper grading and erosion control.

Stanislaus County Measure E

Stanislaus County voters passed Measure E in November 2007. Under Measure E, land that is designated as agricultural or open space in the Land Use Element cannot be amended to residential or rezoned to residential without the approval of a majority of county voters. Because Measure E amended the county general plan, it affects unincorporated lands that are under the county's jurisdiction. Under California law, a general plan amendment that is adopted by voter-approved initiative can be changed only by approval of another initiative.

Measure E is intended to direct residential growth into the incorporated cities, which are more capable of serving such growth, and limit the potential for residential growth to convert agricultural land within the unincorporated areas. Its immediate effect is to restrict future residential developments within the unincorporated county to those areas that are currently designated and zoned for residential development (e.g., Salida and Diablo Grande). Measure E will remain in effect until December 31, 2036, unless it is otherwise amended by a future initiative (Stanislaus County 2007).

City of Hughson General Plan

The City of Hughson's General Plan was adopted on December 12, 2005. It is effectively consistent with the County General Plan with the following exception. Action LU-2.1 references using Hughson's redevelopment agency to create an industrial recruitment plan (City of Hughson 2005).

> **Action LU-2.1:** Create an industrial recruitment plan. As part of the plan development, target and survey industries to determine inducements required. The Redevelopment Agency and local business groups should be involved in development and implementation of the plan.

City of Riverbank General Plan

The City of Riverbank's General Plan was adopted in 2005. It is effectively consistent with the County General Plan, with the exception of Policy LAND-5.2 addressing infill development.

> **LAND 5.2:** Infill development will be given priority to remaining capacity for water supply and delivery, wastewater treatment and conveyance, stormwater collection and conveyance, and other services and infrastructure currently in place. Development impact fees shall reflect the existing capacity to serve infill development areas. Any urban development of new growth areas shall plan

and finance necessary infrastructure and service expansion to serve those areas (City of Riverbank 2005).

Table 3.10-2. Pertinent General Plan Policies for Jurisdictions within Airport Influence Areas

County of Stanislaus General Plan *Policies that would be affected by the proposed 2015 ALUCP are associated with the following General Plan Elements: Land Use Circulation, Safety, and Noise.*
LAND USE ELEMENT *Policy nos. 4 and 5 of the Stanislaus County Land Use Element and some of its subsequent implementation measures address public use airports.* **POLICY FOUR:** Urban development shall be discouraged in areas with growth-limiting factors such as high water table or poor soil percolation, and prohibited in geological fault and hazard areas, flood plains, riparian areas, and airport hazard areas unless measures to mitigate the problems are included as part of the application. **Implementation Measures** 2. Applications for development in areas with growth-limiting factors such as high water table, poor soil percolation, geological fault areas, flood plains, and airport hazard areas shall include measures to mitigate the problems. **Responsible Departments:** Public Works, Environmental Resources, Planning Department, Planning Commission, Board of Supervisors 4. The County will continue to enforce the height limiting ordinance near airports. **Responsible Departments**: Planning Department, Board of Supervisors **POLICY FIVE.** Residential densities as defined in the General Plan shall be the maximum based upon environmental constraints, the availability of public services, and acceptable service levels. The densities reflected may not always be achievable and shall not be approved unless there is proper site planning and provision of suitable open space and recreational areas consistent with the supportive goals and policies of the General Plan. **Implementation Measure** 1. Residential development shall not be approved at the maximum density if: (1) it threatens riparian habitat; (2) growth-limiting factors such as high water table, poor soil percolation, geological fault areas, and airport hazard areas exist; (3) development is in a designated floodway or does not meet the requirements of Chapter 16.40 of the County Code; (4) it does not comply with airport height limiting ordinance restrictions; (5) there is lack of, or inadequate, sanitary sewer or public water service; or (6) environmental impacts, including traffic, cannot be mitigated. **Responsible Departments:** Planning Department, Environmental Resources, Public Works, Planning Commission, Board of Supervisors
CIRCULATION ELEMENT *The Circulation Element recognizes the role of aviation in transporting people and goods. Policy No. 10 and its implementation measure specifically address the ALUCP.* **POLICY TEN.** The Airport Land Use Commission Plan and County Airport Regulations (Chapter 17 of the County Code) shall be updated as necessary, maintained and enforced.
SAFETY ELEMENT *The Safety Element identifies airports under the category of "Other Hazards," and states that "Airports located in urban areas or areas with dwellings in the approach or take-off pattern may cause safety problems for both the airplanes and occupants on the ground." Goal Two, Policy Twelve, and its implementing measures specifically address aviation, airports, and the ALUCP*. **GOAL TWO** Minimize the effects of hazardous conditions that might cause loss of life and property.

POLICY TWELVE

The Airport Land Use Commission Plan and County Airport Regulations (Chapter 17 of the County Code) shall be updated as necessary, maintained and enforced.

IMPLEMENTATION MEASURES

1. Development within areas protected by the Airport Land Use Commission Plan shall only be approved if they meet the requirements of the Plan.
   Responsible Departments: Planning, Airport Land Use Commission, Planning Commission, Board of Supervisors

2. The Airport Land Use Plan shall be updated to conform to current state law when funds are budgeted for the project.
   Responsible Departments: Planning Department, Airport Land Use Planning Commission

3. All amendments to a land use designation, zoning district, or zoning regulation affecting land within the Airport Land Use Plan boundary shall be referred to the Airport Land Use Commission for comment. If that commission recommends denial, the Board of Supervisors may overrule that recommendation only by a two-thirds majority vote.
   Responsible Departments: Planning Department, Airport Land Use Commission, Board of Supervisors

4. The height and exterior materials of new structures in the Airport Zone of the Modesto, Oakdale, Patterson or Turlock airports as defined in the Stanislaus County Airport Regulations, shall be reviewed to determine whether they conform to those regulations.

Responsible Departments: Planning Department, Board of Supervisors

NOISE ELEMENT

1.1 AUTHORITY

GOAL ONE

Prevent the encroachment of incompatible land uses near known noise producing industries, railroads, airports and other sources to protect the economic base of the County.

GOAL TWO

Protect the citizens of Stanislaus County from the harmful effects of exposure to excessive noise.

Policy Two

It is the policy of Stanislaus County to develop and implement effective measures to abate and avoid excessive noise exposure in the unincorporated areas of the County by requiring that effective noise mitigation measures be incorporated into the design of new noise generating and new noise sensitive land uses.

Implementation Measure

1. New development of noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels to the following levels:
   a. For transportation noise sources such as traffic on public roadways, railroads, and airports, 60 Ldn (or CNEL) or less in outdoor activity areas of single family residences. As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures 65 Ldn (or CNEL) or less in community outdoor space for multi-family residences, and 45 Ldn (or CNEL) or less within noise sensitive interior spaces. Where it is not possible to reduce exterior noise due to these sources to the prescribed level using a practical application of the best available noise-reduction technology, an exterior noise level of up to 65 Ldn (or CNEL) will be allowed. Under no circumstances will interior noise levels be allowed to exceed 45 Ldn (or CNEL) with the windows and doors closed in residential uses.

City of Ceres General Plan

T*he Land Use And Community Design Element and Health and Safety Elements refer to 2004 ALUCP policies; the General Plan policies are identical to ALUCP policies.*

CHAPTER 1, LAND USE AND COMMUNITY DESIGN

Chapter 1 of the City of Ceres General Plan, includes a discussion of Airport Development Area.

GOAL l.H:

To regulate future development near the airport to provide for protection of public health and safety.

POLICIES

l.H.l. The City shall emphasize compatibility of land uses for both urban development and for airport facilities to ensure the availability of local air transportation services and a quality living environment.

l.H.2. The City shall allow new development within Airport Safety Zones (Figure 1-4) according to the standards in Table 1-2. At the discretion of the Ceres Director of Planning and Community Development, an applicant for a permit or other entitlement may be required to submit survey information sufficient to document the location of a property or development site in relation to the various Airport Safety Zones.

l.H.3. The City shall work closely with appropriate agencies, including the Stanislaus County Airport Land Use Commission, to ensure compatibility of land uses with airport facilities and operations. To this end, the City shall encourage the Stanislaus County Airport Land Use Commission to update the Airport Land Use Commission Plan consistent with the requirements of State law, including using the California Division of Aeronautic Airport Planning Handbook as a guideline.

l.H.4. The City shall limit building heights for airspace protection in accordance with Federal Aviation Regulations Part 77.

l.H.5. The City shall require the dedication of overflight easements and/ or deed notices when development is proposed on property within the airport safety zones in Figure 1-4.

IMPLEMENTATION PROGRAMS

1.10 The City shall review, and revise as necessary, the Airport Overlay Zone of the Zoning Ordinance consistent with the standards in this General Plan.

Responsibility: Planning and Community Development Department, City Council
Time Frame: FY 97 -98; 98-99

CHAPTER 7, HEALTH AND SAFETY

Chapter 7 of the City of Ceres General Plan acknowledges the potential risk associated with an air crash, and Section 7 includes policies "to encourage safe development patterns around airports and within flight zones to minimize risk.

GOAL7.E

To minimize the risk of loss of life, injury, damage to property, and economic and social dislocations resulting from airport hazards.

POLICIES

7.E.l. The City shall work with the City of Modesto and Stanislaus County to ensure that new development around airports does not create safety hazards such as lights from direct or reflective surfaces, smoke, electrical interference, hazardous chemicals, or fuel storage in violation of adopted safety standards.

Responsibility: Planning and Community Development Department
City Council
Time Frame: FY 97 -98; 98-99

City of Modesto Final Urban Area General Plan

The adopted General Plan refers to aviation and ALUCP policies in Chapter V, Community Services and Facilities; Chapter VII, Environmental Resources and Open Spaces; and Chapter VIII, General Plan Implementation

The City of Modesto's Final Urban Area General Plan addresses the Modesto City/County Airport and its potential effects on land use in Chapter 5, Community Services and Facilities; Chapter 7, Environmental Resources and Open Space, which addresses noise from Airport operations; and Chapter 8, General Plan Implementation.

Chapter 5, Community Services and Facilities

Chapter 5, Section F, identifies the Modesto City/County Airport as a community facility in Sections F.1 and F.2 as note below.

1. Overview

Section 65302.3 of the Government Code requires the City's General Plan to be consistent with the Airport Land Use Plan for the Modesto City–County Airport. This Airport Land Use Plan was adopted by the Airport Land Commission on August 3, 1978, in accordance with Section 21675 of the Public Utilities Code.

2. Modesto City–County Airport Policies—Baseline Developed Area

Since the Airport is located in the Baseline Developed Area, the following policies apply to the Airport and the area surrounding it:

a. The City encourages aviation services at the Modesto City–County Airport and promotes airline service that meets the present and future needs of the community. The City should pursue greater inter-regional air service to the extent that it is economically viable.

b. Land use around the Modesto City–County Airport will be consistent with the Stanislaus County's Airport Land Use Commission (ALUC) plan adopted in accordance with Section21676 of the Public Utilities Code. The ALUC plan provides for the orderly growth of the Airport and the area surrounding the Airport within the jurisdiction of the Airport Land Use Commission, and will safeguard the general welfare of the inhabitants within the boundary of influence and the public in general.

c. Mitigation measures suggested by the Airport Master Plan and related documents should be considered at the implementation of inter-regional air service, including a voluntary noise reduction program for residential units impacted by noise levels that exceed acceptable state standards.

d. In accordance with Senate Bill 1462 (2004), the City of Modesto shall provide a complete copy of an application for projects located within 1,000 feet of a military installation, low- level flight path, or special use airspace to any branch of the United States Armed Forces. The City of Modesto does not currently have, and is not currently within 1,000 feet of, any military flight paths or military activity. At this time, there is currently no effect on the City of Modesto.

Chapter VII, Environmental Resources and Open Spaces

Section G, Noise, identifies the community's noise goals and policies to reduce noise pollution. Figure VII-2 shows projected traffic noise levels resulting from General Plan growth generated by the traffic, airport and the railroad based aircraft operations identified in the 2002 *Draft Airport Master Plan Paragraph 3 and subparagraph F address aircraft noise contours*

Paragraphs 3d and 3i state the following requirement for new development in baseline or redevelopment areas:

d. The City of Modesto shall use the most recent noise contour map to implement the requirements of Noise Insulation Standards contained in Title 24 of the California Code of Regulations. (Title 24 applies to multi-family housing, not single-family.) Title 24 also specifies minimum values for the sound insulation afforded by interior partitions separating different dwelling units from each other and from interior common space.

i. Airport and aircraft noise analysis will be conducted in accordance with the Modesto City–County Airport's Master Plan mitigation measure in the approved plan and Federal Aviation Regulation (FAR) Part 150. Mitigation will be required for new construction as necessary to meet the noise compatibility standards of the [*Urban Area General Plan*] UAGP. As airport operations increase, mitigation will be provided to existing residential and other sensitive uses, either through operations or direct property improvements, in order to meet Title 14 Code of Federal Regulations Part 150 land use compatibility guidelines.

Chapter VIII, General Plan Implementation

Chapter VII identifies tools that are available to the City of Modesto (City) to help build the city envisioned by the General Plan. Paragraph N identifies the ALUCP as an administrative tool to that will facilitate public and private development activities:

N. STANISLAUS COUNTY AIRPORT LAND USE PLAN

Section 21675(a) of the Public Utilities Code allows for the creation of comprehensive land use plans" that will provide for the orderly growth of each public airport and the area surrounding each public airport within the jurisdiction of the commission..." In formulating a Land Use Plan, the Airport Land Use Commission may develop height restrictions on buildings, specify use of land, and determine building standards, including soundproofing adjacent to airports, within the planning area.

1. Implementation Device Governing the Submittal and Adoption of the Stanislaus County Airport Land Use Plan

The Stanislaus County Airport Land Use Plan was adopted in 1978 in accordance with Section 21670 of the Public Utilities Code; it may be amended from time to time, as allowed by that Code.

City of Oakdale General Plan

Elements of the City's General Plan that address aviation and ALUCP policies include: Land Use, Economic Viability, Mobility Noise, and General Plan Administration.

LAND USE

GOAL LU-6

A mix of governmental, educational, recreational and open space facilities that conveniently support the needs of Oakdale's residents and businesses.

POLICIES

LU-6.5 Airport Secondary Uses. Accommodate uses that support or benefit from Oakdale Municipal Airport operations within and adjacent to the airport property when determined consistent with the City of Oakdale Municipal Airport Master Plan. (RDR, MP)

LU-6.6 Airport Operations. Protect Oakdale Municipal Airport from encroachment by ensuring that all new land uses and developments are compatible with airport operations, the adopted Oakdale Municipal Airport Master Plan and the adopted Airport Land Use Commission Plan. (RDR, MP, M-IP8)

ECONOMIC VIABILITY

BUSINESS RETENTION POLICIES

EV-3.9 Industrial Business Recruitment. Identify and pro-actively recruit a diverse range of new industrial and manufacturing uses capitalizing on the City's proximity to productive agriculture, convenient railroad access, the nearby municipal airport, and future connectivity to the North County Corridor. (EVIP2)

EV-3.11 Oakdale Municipal Airport. Identify and pro-actively recruit commercial, office, industrial, and ancillary service uses that benefit from proximity to the Oakdale Municipal Airport. (MP, EV-IP2)

MOBILITY

M-6: AVIATION

GOAL

M-6. Expanded use of the Oakdale Municipal Airport within the parameters of compatible surrounding uses.

POLICIES

M-6.1 Aviation Services. Encourage a full range of aviation services at the Oakdale Municipal Airport that meets the present and future needs of residents, businesses and the local aviation community. (MP, M-IP2)

M-6.2 Municipal Airport Master Plan. Update and implement the City of Oakdale Municipal Airport Master Plan to ensure that facilities keep pace with increased demand for aviation services. (MP)

M-6.3 Consistency with ALUC Policies. Require that all development is consistent with the policies adopted by the Stanislaus County Airport Land Use Commission. (RDR, M-IP8)

NOISE

The Noise Element of the General Plan specifically addresses airport noise, stating:

The Oakdale Municipal Airport is an "island" extension of the City limits, located over 1 mile to the southeast of the City. Future development under the 2030 General Plan will be consistent with the Airport Land Use Commission Plan (ALUCP) as was being updated by the County at the time of General Plan approval. Based upon information generated for the ALUCP update, no conflicts between airport operations and the City's noise regulations were identified. Existing and future airport noise contours are shown in Figure N-1. It is anticipated that future airport operations will be similar to existing operations and minimal changes in noise contours would occur.

POLICIES

N-1.10 Airport Plans. Regulate development within the 65 dBA CNEL airport noise contour in accordance with plans adopted by the Airport Land Use Commission and the City. (RDR, IGC)

General Plan Administration
The General Plan Administration chapter of the General Plan acknowledges the role of other agencies in implementing its General Plan policies stating:

> Public agencies that the City of Oakdale will commonly need to coordinate with to implement General Plan policies include, but are not limited to:
> - Local agencies such as Stanislaus County; City of Riverbank; City of Modesto; special districts; and school districts
> - Regional agencies such as Stanislaus County Local Agency Formation Commission (LAFCO); San Joaquin Valley Air Pollution Control District; Regional Water Quality Control Board; Stanislaus Council of Governments (StanCOG); and Stanislaus County Airport Land Use Commission
> - State agencies such as Caltrans and Native American Heritage Commission (NAHC)
> - Federal agencies such as U.S. Fish and Wildlife Services (USFWS); U.S. Army Corps of Engineers; and Federal Emergency Management Agency (FEMA)
>
> **IMPLEMENTATION PROGRAMS – Economic Vitality**
>
> **ECONOMIC VITALITY**
> Participate with Stanislaus County in the update to the Airport Land Use Commission Plan.
> **Implements Policy(ies):** LU-6.6 and M-6.3
> **Responsible Department:** Public Works

Sources:

City of Modesto Final Urban Area General Plan. 2008. Department of Community and Economic Development. Ceres, CA. Available at: http://www.modestogov.com/ced/pdf/planning/documents/general-plan/technical/urban%20area%20general%20plan.pdf

City of Ceres General Plan. 1997. Community Development and Housing Division. Ceres, CA. Available at: http://www.ci.ceres.ca.us/GeneralPlan.pdf

Stanislaus County General Plan. 1987. Stanislaus County Department of Planning and Community Development. Modesto, CA. Available at: http://www.stancounty.com/planning/pl/general-plan.shtm

Existing Conditions

Stanislaus County is located in the San Joaquin Valley, in the heart of California's Central Valley. The county is bordered by the Coast Ranges to the west and the Sierra Nevada to the east. It spans nearly 1,500 square miles and has approximately 514,000 residents (U.S. Census Bureau 2010) in its nine cities and unincorporated communities. Two of California's major north/south routes, Interstate 5 and State Route 99, traverse the county, connecting it to employment centers in the San Francisco Bay Area, Stockton, and Sacramento. The county is also home to several lakes and rivers, including the Stanislaus River, Tuolumne River, San Joaquin River, Turlock Lake State Recreation Area, and Modesto Reservoir.

In part because of its proximity to the Bay Area and relative lower cost of living, Stanislaus County is an agricultural county in transition. Prior to 1960, most of the county's population lived on farms; today, the population of the nine incorporated cities is nearly three times that of the unincorporated area of the county. Much of this change is the result of population and economic growth in the Bay Area that has created employment opportunities within commuting distance of the county's largest cities, along with housing prices that are substantially higher than those in Stanislaus County. Unprecedented population growth throughout the 1990s increased pressure to convert productive agricultural lands to non-agricultural uses. As a response to this rapid growth, voters passed the 30-Year Land Use Restriction Initiative (Measure E) in 2008, which requires any redesignation or

rezoning of land in the unincorporated area from agricultural or open space use to a residential use to be approved by a majority vote of county voters at a general or special local election.

3.10.3 Impact Analysis

This section discusses the approach and methodology used to assess the impacts of the plan updates; discusses the individual impacts relative to the thresholds of significance; discusses mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for significant impacts; and indicates the overall significance of the impact with mitigation incorporated.

The following sections describe the changes to the Land Use Element and the ALUCP that are proposed in this draft EIR.

Stanislaus County General Plan Land Use Element

Stanislaus County proposes to update several elements of the general plan. The update includes changes to the text of the land use designations but does not propose any changes to the land use map or the existing boundaries of the land use designations. The update of the general plan incorporates changes that have occurred in terms of legislation, regulatory codes, and local standards. The update also includes some minor revisions to general plan language and some policy improvements. The general plan's 20-year planning horizon will be extended to 2035 by this update. The update integrates the population projections adopted by StanCOG's 2014 RTP/SCS into the general plan.

A number of changes in the Land Use Element that center on unincorporated communities have been proposed, including:

- Updating the language within the Land Use Element to reflect the statutory elimination of redevelopment agencies. The general plan will still utilize the word "redevelopment." However, it will be used in the context of renovations or updates occurring within existing development, not to redevelopment agency activity (Goal One, Policy Six, Implementation Measures 1 and 2).
- Eliminating the reference to the Urban Services zoning district in the implementation measure regarding rezoning within the sphere of influence of a community services district, sanitary district, or domestic water district. The implementation measure would instead state that land within the sphere of influence of a community services district, sanitary district, or domestic water district shall be rezoned for development only if capacity for connecting to available public services exists and any resulting projects are conditioned to require connection to available services (Goal One, Policy Six, Implementation Measure 3).
- Adding policy language that requires, when feasible, new development to be designed and built to allow for the upgrading or expansion of services necessary to upgrade existing unincorporated urban communities; however, new development will not be expected to be financially responsible for providing upgrades (Goal One, Policy Six, Implementation Measure 4).
- Adding language to Goal One, Policy Six, Implementation Measure 5, to encourage unincorporated communities to establish "self-help" programs (such as benefit assessment districts).
- Including in Goal One, Policy Six an assessment of the infrastructure needs of "disadvantaged communities" (new Implementation Measure 6).

- Clarifying that all requests for development that require discretionary approval and include lands adjacent to or within riparian habitat shall include measures for protecting that habitat to the extent that such protection does not pose threats to proposed site uses, such as airports (Goal One, Policy Seven, Implementation Measure 1).
- Adding measures to support economic development and job creation within the county (Goal Three, Policy Eighteen, Implementation Measures 1–3).
- Encouraging reuse of the Crows Landing air facility as a regional jobs center (Goal Three Policy Eighteen, Implementation Measure 9).
- Adding Policy Sixteen and Implementation Measures 1 and 2, under Goal TWO to reduce impacts associated with artificial lighting.
- Adding a new policy supporting efforts to direct economic development and job creation centers towards incorporated areas, the County shall also consider approval of centers in unincorporated areas of unique character and proximity to transportation infrastructure. (Goal Three, Policy Twenty-Two, Implementation Measure 1.Due to the addition of this new policy, the remaining policy numbers have changed.
- Adding an implementation measure such that development within a public water district and/or wastewater district shall connect to the public water system and/or the wastewater treatment facility, except where capacity is limited or connection to existing infrastructure is limiting and an alternative is approved by the county's Department of Environmental Resources. Development outside a water and/or wastewater district shall meet the standards of the Stanislaus County Primary and Secondary Sewage Treatment Initiative (Measure X) and domestic water (Goal Four, Policy Twenty-Four, Implementation Measure 2).
- Amending Goal Four, Policy Twenty-Four, Implementation Measure 6 to provide that the rezoning of property for development prior to 1) annexation to a special district or 2) inclusion of such property into a newly formed special district that will provide urban services (i.e., sanitary sewer district, domestic water district, or community service district) shall be approved only if the development is adequately conditioned to restrict it from occurring until annexation to or the formation of the required district is complete.
- Adding an implementation measure to allow the County to amend its ordinances to implement any specific designation created by agreement with a City within a sphere of influence, allowing all active agreements to be incorporated into the General Plan as an Appendix to the Land Use Element, and upon approval incorporated into the General Plan without the need for a General Plan amendment (Goal Five, Policy Twenty-Six, Implementation Measure 6).
- Enhancing policies about complementing the general plans of cities within the county. Coordination with cities is encouraged to identify opportunities for developing uniform development standards in city spheres of influence and along all major county-defined gateways to cities. An implementation measure has been added that will require development projects that require discretionary approval located outside the sphere of influence of cities but within one mile of a city's adopted sphere of influence boundary and a city's adopted general plan area to be referred to that city for consideration. However, the county reserves the right of final discretionary action and authority (Goal Five, Policy Twenty-Seven, Implementation Measures 1–3).

- Adding a policy that expresses the county's support for a county-wide growth management strategy that is equitable to the needs of the county and all nine cities, taking into consideration land consumption and absorption rates (Goal Five, Policy Twenty-Eight, Implementation Measures 1 and 2).
- Adding a new goal and related policies regarding healthy living environments for county residents. Recent environmental legislative changes led to the creation of a new goal to promote and protect healthy living environments and encourage development that result in the following (Goal Six, Policies Twenty-Nine through Thirty-one).
    - Decreases air and water pollution,
    - Reduces the consumption of natural resources and energy,
    - Increases the reliability of local water supplies,
    - Facilitates alternative modes of transportation,
    - Promotes active living, and
    - Improves local health care options through the siting of new facilities in locations with the infrastructure (including, but not limited to, transportation and utility) to support both facility and client needs (Goal 6, Policies 27–29).
- Revising the portion of the "Background" section of the element regarding Spheres of Influence.
- Amending the "commercial" general plan designation to allow residential development in limited situations or when connected to both public sewer and water service.
- Amending the general policy statement regarding "community plans" to specify that any requests for rezoning within a community plan area must be consistent with the proposed use category on the community plan and shall be processed as a general plan amendment.
- Adding clarifying language to the Salida Community Plan section to differentiate the "existing plan" from the "amendment area," specify the date of adoption of the amended area, and clarify the process for making amendments to the Salida initiative and the term limit of the initiative.
- Revising information in the Public Services and Facilities section to clarify the current status of educational facilities, special education, and enrollment in the County.
- Making minor revisions to the Liquid and Solid Waste Disposal Facilities section regarding location and status of the 11 permitted solid waste facilities in the County.

Airport Land Use Compatibility Plan

The update to the general plan is taking place in conjunction with the preparation of a revised ALUCP for Modesto City/County Airport and Oakdale Municipal Airport. Each ALUCP considers a 20-year planning horizon and revised policies have been updated in coordination with the general plan update. The revisions coordinate the ALUCP with proposed general plan policies and take into account changes in land uses (apart from the general plan update) that have occurred since adoption of the current ALUCP. The updated ALUCP considers the following factors in accordance with guidance set forth by the California Department of Transportation, Division of Aeronautics, in its *California Airport Land Use Compatibility Planning Handbook* (2011):

- Noise contour safety zones,

- Airspace protection zones (FAR Part 77), and
- Overflight areas (annoyance, disclosure).

One of the greatest differences between the current ALUCP and the proposed 2015 ALUCP is associated with the number of airports being addressed. In the 2004 ALUCP, height restrictions and building standards were identified for the areas adjacent to five public-use airports: the Modesto City-County Airport, the Oakdale Municipal Airport, the Patterson Airport, Turlock Airpark, and the former Crows Landing Naval Auxiliary Landing Field. Since that time, the Patterson Airport has closed, and the Airport Operating permit issued for the Turlock Airpark is no longer valid (Haug 2013). As of 20134, the Turlock Airpark was being sold for non-aeronautical use.

The overall shape and size of the proposed Airport Influence Area (AIA) and individual compatibility zones presented in the proposed 2015 ALUCP vary from those provided in the 2004 plan. The configuration of the safety zones in the proposed 2015 ALUCP are consistent with the geometry provided in the 2011 Handbook, which considers accident distribution patterns around public-use airports. In addition, new technologies and tools, such as Geographic Information Systems (GIS) and improvements to the FAA's Integrated Noise Model (INM), provide greater precision in measuring the extent of aircraft noise exposure and locations that may be subject to increased safety hazard. For example, the FAA's current noise model considers the influence of topography on noise exposure. As a result, the areas identified as exposed to significant levels of aircraft noise has changed for both the Modesto City-County Airport and the Oakdale Airport. In both cases, the noise exposure contours shrunk as a result of more precise modeling and quieter aircraft. In addition, the proposed 2015 ALUCP also discusses the potential effect of exposure to aircraft overflight, which was not considered in the 2004 plan. The potential implications of the revised noise contours, safety zones, and airspace protection on local land use plans are described later in this EIR discussion. Potential displacement of residences as a result of the proposed ALUCP is discussed in Section 3.13, *Population and Housing*.

Ultimately, the revised county-wide ALUCP will provide policies for three airports: the Modesto City-County Airport, the Oakdale Municipal Airport, and the Crows Landing Airport. However, at this time, a new Airport Land Use Plan is being prepared separately for the Crows Landing Airport that would allow the former military airfield to operate as a public use general aviation facility. Once the County completes the Crows Landing Airport Layout Plan and its associated CEQA review, the proposed 2015 ALUCP will be amended to include new compatibility policies for the proposed Crows Landing Airport. Until that time, the currently adopted policies in the 2004 ALUCP for the Crows Landing airfield will not change and remain in effect. Therefore, the Crows Landing Airport is not considered in this CEQA analysis.

Modesto City/County Airport

The ALUCP is based on the *Airport Layout Plan and Narrative Repor*t that were prepared by the City of Modesto in 2009 and approved by the Federal Aviation Administration (FAA) in 2011. Based on that document, MOD will maintain its FAA classification as an Airport Reference Code (ARC) C-II airport, which indicates that the size and type of aircraft accommodated by the airport is not expected to change. Operational data in the 2009 report were reviewed to estimate operations over a 20-year timeframe. Aircraft noise data was obtained from the 2008 Noise Compatibility Study prepared by the City in accordance with Federal Aviation Regulation Part 150. The study included a baseline (2008) and two forecast levels of activity (2015 and "Long Range"). The "Long Range" forecast presented in the Part 150 study, served as the basis of the forecast operations and noise

contours used in to prepare the proposed 2015 ALUCP. Approximately 141,000 annual operations are anticipated for the 20-year planning horizon. The Caltrans Division of Aeronautics concurred with the use of the approved ALP and use of the Part 150 study long range forecast as the basis of the proposed 2015 ALUCP.

The following policy area maps, included in the updated ALUCP, were changed, based on the most recent Airport Layout Plan:

- The noise contours upon which the policies are based cover a smaller area than that of the previous ALUCP to reflect the use of newer, quieter aircraft;
- The size and configuration of safety zones have changed to reflect changes in airport operations and new guidance provided in the handbook; and
- Overflight policies are included for the first time.

Oakdale Municipal Airport

The City of Oakdale adopted a Master Plan for the Oakdale Municipal Airport in 1998 (Resolution No. 99-88). The Master Plan included a 1,300-foot runway extension and upgrade to the airport reference code. The FAA did not support the proposed runway extension, and the City prepared a revised ALP and Narrative Report in 2014 that no longer depicts a runway extension or a change in the aircraft reference code and resubmitted the plan to the FAA. The "long-term" forecast presented in the 2014 ALP and Narrative report estimates that airport will support up to 52,000 annual operations, and this long-term served as the basis of the forecast operations and noise contours used in to prepare the proposed 2015 ALUCP. The Caltrans Division of Aeronautics concurred that the aeronautical factors reflected in the 2014 ALP and Narrative Report are appropriate to serve as the basis of the ALUCP. The following policy area maps were changed, based on the date presented in the 2013 plan.

- Noise contours were defined for the first time,
- New safety zones were developed to reflect new guidance provided by the Caltrans handbook, and
- Overflight policies are included for the first time.

Major Sources Used in Analysis

Major sources used in the analysis include the Stanislaus County Zoning Ordinance, StanCOG RTP/SCS, the Stanislaus County housing element and land use designations, and the general plans of the nine incorporated cities in Stanislaus County.

Approach and Methodology

This draft EIR includes the project's short- and long-term adverse effects on the physical and natural environment. As mentioned above, existing conditions at the time when the NOP was released represent the baseline from which land use policy updates are evaluated.

Changes to the Stanislaus County General Plan were evaluated in conjunction with the existing general plan. For cumulative impact analysis, the general plan, as proposed for amendment, was compared with the land use goals and policies of the general plans of the nine incorporated cities in the county. Each city's land use goals and policies were compared with the proposed general plan

update to determine whether there were any conflicts between the policies of the proposed Stanislaus County General Plan and those of the nine existing general plans.

Thresholds of Significance

Based on State CEQA Guidelines, Appendix G, the plan updates would have a significant impact with respect to land use and planning if they would:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

Impacts and Mitigation Measures

Impact LAN-1: Physically divide an established community (less than significant)

The Stanislaus County General Plan update and the ALUCP update are not typical development projects in that they would not result in a direct physical change in the environment. However, the updated objectives and policies listed above will indirectly affect the environment as development occurs on the basis of those objectives and policies. Physical division of an established community may occur when general plan policies or ALUCP would substantially change the existing land use and zoning in such a way that it would cause divisions in the existing community. This typically occurs through changes to the land use map. However, the project does not propose any changes to the county's land use map or the existing boundaries of the land use designations. The update includes changes to legislation, regulatory codes, and local standards as well as some minor revisions to general plan language and some policy improvements.

The project proposes several changes to general plan language. Language in the Land Use Element would be updated to reflect the elimination of redevelopment agencies, and clarifying language would be added to differentiate the "existing plan" from the "amendment area." References to Urban Services zoning districts would be eliminated; instead, references to Urban Services zoning districts would provide that land within the sphere of influence of a community services district, sanitary district, or domestic water district would be rezoned for development only if capacity for connecting to available public services exists (Policy 6, Implementation Measure 3). New policy language would be added that would require, when feasible, new development to be designed and built to allow for the upgrading or expansion of services necessary to upgrade existing unincorporated urban communities. Language added to Policy 6, Implementation Measure 5, would encourage unincorporated communities to establish "self-help" programs (such as benefit assessment districts). Under Policy 7, Implementation Measure 1, clarifying language would be added to emphasize that all requests for development that require discretionary approval and include lands adjacent to or within riparian habitat would include measures for protecting that habitat to the extent that such protection does not pose threats to proposed site uses, such as airports. Updates to general plan land use language would not result in the division of existing communities.

Several changes to legislation, regulatory codes, and local standards would be adopted, none of which would result in the division of existing communities. A new implementation measure, consisting of an assessment of the infrastructure needs of "disadvantaged communities," would be

added under Policy 6. Additionally, several implementation measures would be added to support economic development and job creation. Implementation measures that support economic development and job creation would be added under a policy that would aim to direct economic development and job creation centers toward incorporated areas. If centers are not approved in the incorporated areas, the county would consider approving centers in unincorporated areas of unique character with proximity to transportation infrastructure. Additionally, several policies and implementation measures regarding development within public water districts and/or wastewater districts would be adopted. Several policies about complementing the general plans of cities within the county would also be included as well as a policy regarding county support for a growth management strategy that is equitable to the needs of the county and all nine cities. Similarly, the general policy statement regarding "community plans" would be amended to specify that any requests for rezoning within a community plan area must be consistent with the proposed use category on the community plan and processed as a general plan amendment. A new goal and policies regarding healthy living environments for county residents would also be added. Finally, the "commercial" general plan designation would be amended to allow residential development in limited situations or when connected to both public sewer and water service.

The proposed ALUCP update for Modesto City/County Airport and Oakdale Municipal Airport has been coordinated with the general plan update. The proposed changes to the ALUCP for Modesto City/County Airport include updating noise contours for a smaller area, updating the size and configuration of safety zones based on changes in airport operations and new guidance, and including overflight policies for the first time. Similar changes are proposed for Oakdale Municipal Airport. Changes to the ALUCP pertaining to Oakdale Municipal Airport include defining noise contours for the first time, including new safety zones to reflect Caltrans guidance, and including overflight policies. The ALUCP would establish an expanded AIA adjacent to Modesto City/County Airport that would expand its influence and therefore result in a greater potential to displace future homes than the current ALUCP does (see the discussion of potential displacement in Section 3.10, *Population and Housing*). However, the proposed changes would be unlikely to result in the division of an established community, given that the changes to the AIA would not affect existing development, only future development. All other changes would be policy changes that would not affect the built environment and therefore would have a less-than-significant impact on the division of established communities.

The general plan update does not propose new zoning or changes to the land use map or the existing boundaries of the land use designations. Additionally, the proposed ALUCP policy changes would not affect current land use patterns. Therefore, the project would have a less-than-significant impact.

Significance without Mitigation: Less than significant (no mitigation required)

Impact LAN-2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect (less than significant)

The project was examined for conflicts with the current Stanislaus County General Plan, which the project would be updating. All of the proposed changes to goals, policies, and implementation measures would be consistent with the current general plan and therefore would not result in conflicts.

General Plan Update and City General Plans

General plan goals, policies, and implementation measures from each of the nine incorporated cities in Stanislaus County were analyzed for consistency with the proposed general plan land use changes and ALUCP changes. The proposed general plan land use changes would not conflict with the goals, policies, and implementation measures in the general plans for the City of Ceres (adopted in 1997), City of Hughson (adopted in 2005), City of Oakdale (adopted in 2013), City of Modesto (adopted in 2008), City of Newman (adopted in 2007), City of Patterson (adopted in 2010), City of Riverbank (adopted in 2005), City of Turlock (adopted in 2012), or City of Waterford (adopted in 2006).

City of Hughson

The City of Hughson's General Plan references using their redevelopment agency to create an industrial recruitment plan (City of Hughson 2005). Stanislaus County's proposed general plan update to reflect the elimination of redevelopment agencies (Policy 6, Implementation Measures 1 and 2) would be inconsistent with Action LU-2.1 in the City of Hughson's General Plan. However, this inconsistency occurs because of the State's dissolution of local redevelopment agencies. The City of Hughson's general plan has not been updated to reflect that change. The City of Hughson could still develop and implement the industrial recruitment plan, though the activities would not take place under a redevelopment agency. Therefore, this is less-than-significant. Therefore, this is a less-than-significant inconsistency.

City of Riverbank

The City of Riverbank's General Plan was adopted in 2005. The Stanislaus County General Plan update is superficially inconsistent with the City of Riverbank's Policy LAND-5.2.

Stanislaus County General Plan update to Policy 6, Implementation Measure 4, proposes new policy language that requires, when feasible, new development to be designed and built to allow for the upgrading or expansion of services necessary to upgrade existing unincorporated urban communities; however, new development will not be expected to be financially responsible for providing upgrades (Policy 6, Implementation Measure 4). Policy 6, Implementation Measure 4, of the Stanislaus County General Plan update states that new development would not be expected to be financially responsible for upgrades to infrastructure, while the City of Riverbank's policy states that development shall "plan and finance necessary infrastructure and service expansion." Although these policies are not consistent, the inconsistency represents the slightly differing policies of independent governments. No physical change would occur due to this inconsistency, and therefore this inconsistency is considered less than significant.

ALUCP Update and County and City General Plans

Modesto City-County Airport Influence Area

Stanislaus County, the City of Modesto, and the City of Ceres are the general purpose government entities having land use jurisdiction in the AIA (Referral Area 1) proposed for the Modesto-City County Airport. Referral Area 1 is the area in which noise and/or safety represent compatibility concerns, as well as potential airspace and overflight concerns. The general plans associated with these jurisdictions were reviewed to identify potential conflicts with the proposed 2015 ALUCP policies. Table 3.10-2 summarizes the applicable policies associated with each general plan.

Stanislaus County General Plan policies do not conflict with the proposed ALUCP. However, Title 17–Airport Regulations of the County Code, will require modification following adoption of the 2015 ALUCP. Goal 1 of the Noise element is to prevent the development of land uses that are incompatible near to known noise-producing industries, including airports. Noise element Goal 2 specifies the need to provide appropriate mitigation in areas exposed to noise sources including airports. Although the noise policies in the General Plan are similar to those in the proposed 2015 ALUCP, the ALUCP policies are slightly more restrictive. The proposed 2015 ALUCP would not allow any residential development within the CNEL noise contour, whereas the General Plan would allow multi-family residences within the 65 CNEL noise contour and require mitigation for outdoor and indoor areas. In the event that sufficient mitigation for outdoor uses was unavailable, the general plan would allow the housing to move forward. Since new residential development is not proposed within a 65 CNEL noise contour for on either the County's Land Use diagram or identified in its Housing element, this difference is negligible. Safety element Policy 12 states that "The ALUCP and County Airport Regulations (Chapter 17 of the County Code) shall be "updated as necessary, maintained, and enforced." The implementation measures state that development areas shall only be approved if they comply with the ALUCP, support revision of the ALUCP to conform to state law, and addresses the need to confer with the ALUC and either accept or overrule its recommendations. This is declaratory of state law and conforms to the 2015 ALUCP.

The City of Ceres and its sphere of influence include areas that lie within the AIA for the Modesto City-County Airport. The City's General Plan policies emphasize the compatibility of land uses for both urban development and airport facilities, and state that new development will be allowed in accordance with the safety zones and their policy standards. The policies also emphasize the need to work closely with appropriate agencies, including the ALUC. They do not conflict with the proposed ALUCP.

The City of Modesto's *Urban Area General Plan* was adopted in 2008. It includes policies calling for compatibility with the ALUCP for the airport. These policies are sufficiently broad that the general plan does not conflict with the proposed ALUCP.

Oakdale Municipal Airport

Stanislaus County and the City of Oakdale are the general purpose government entities having land use jurisdiction in the proposed AIA for the Oakdale Municipal Airport. Stanislaus County's General Plan policies are summarized in the preceding Table 3.10-2. The County's policies related to compatibility planning around airports also apply to Oakdale Municipal Airport and are not in conflict with the proposed ALUCP.

Four sections of the City of Oakdale General plan address the airport and the currently adopted ALUCP policies. None of them conflict with the proposed ALUCP.

Conclusions

Because there would be no inconsistencies with the proposed ALUCP and the inconsistencies with the Stanislaus County General Plan would be minor, policy-based inconsistencies that would not affect land use patterns in the county directly, this impact would be considered less than significant. No mitigation is required.

All three cities will need to amend or supplement their general plans and/or other implementing ordinances to specifically reflect the proposed 2015 ALUCP following its adoption. At a minimum, the agencies will be required by law to:

- Reference the 2015 ALUCP by name and adoption date;
- Establish the process the local agency will follow when forwarding certain land use actions to the ALUC for review;
- Define the process the local agency will follow when reviewing proposed land use development within the Airport Influence Area to ensure that the development will be consistent with the polices set forth in the ALUCP; and
- Incorporate the compatibility criteria, policies, and zones into the general plan or other implementing policy document referenced by the general plan.

With these mandated revisions, there will be no inconsistencies with the three cities' plans and ordinances and therefore no impact.

Significance without Mitigation: Less than significant (no mitigation required)

Impact LAN-3: Conflict with any applicable habitat conservation plan or natural community conservation plan (no impact)

The Pacific Gas and Electric Company (PG&E) San Joaquin Valley Operations and Management Habitat Conservation Plan (HCP) is located in Stanislaus County. Because this is an operations and maintenance HCP, it is applicable only to PG&E facilities. Therefore, the land use update would not conflict with the HCP (Pacific Gas and Electric Company 2007).

The PG&E San Joaquin Valley Operations and Maintenance HCP covers incidental take of special-status plants and animals due to operation of PG&E facilities, maintenance, and minor construction. The HCP covers only activities related to these specific PG&E activities and does not apply to actions undertaken by a third party, such as the county (see Section 3.4, *Biological Resources,* for additional information). Because the PG&E HCP applies only to PG&E activities, the Stanislaus County General Plan update would not conflict with an applicable HCP or natural community conservation plan. Therefore, the project would have no impact.

Significance without Mitigation: Less than significant (no mitigation required)

3.10.4 References Cited

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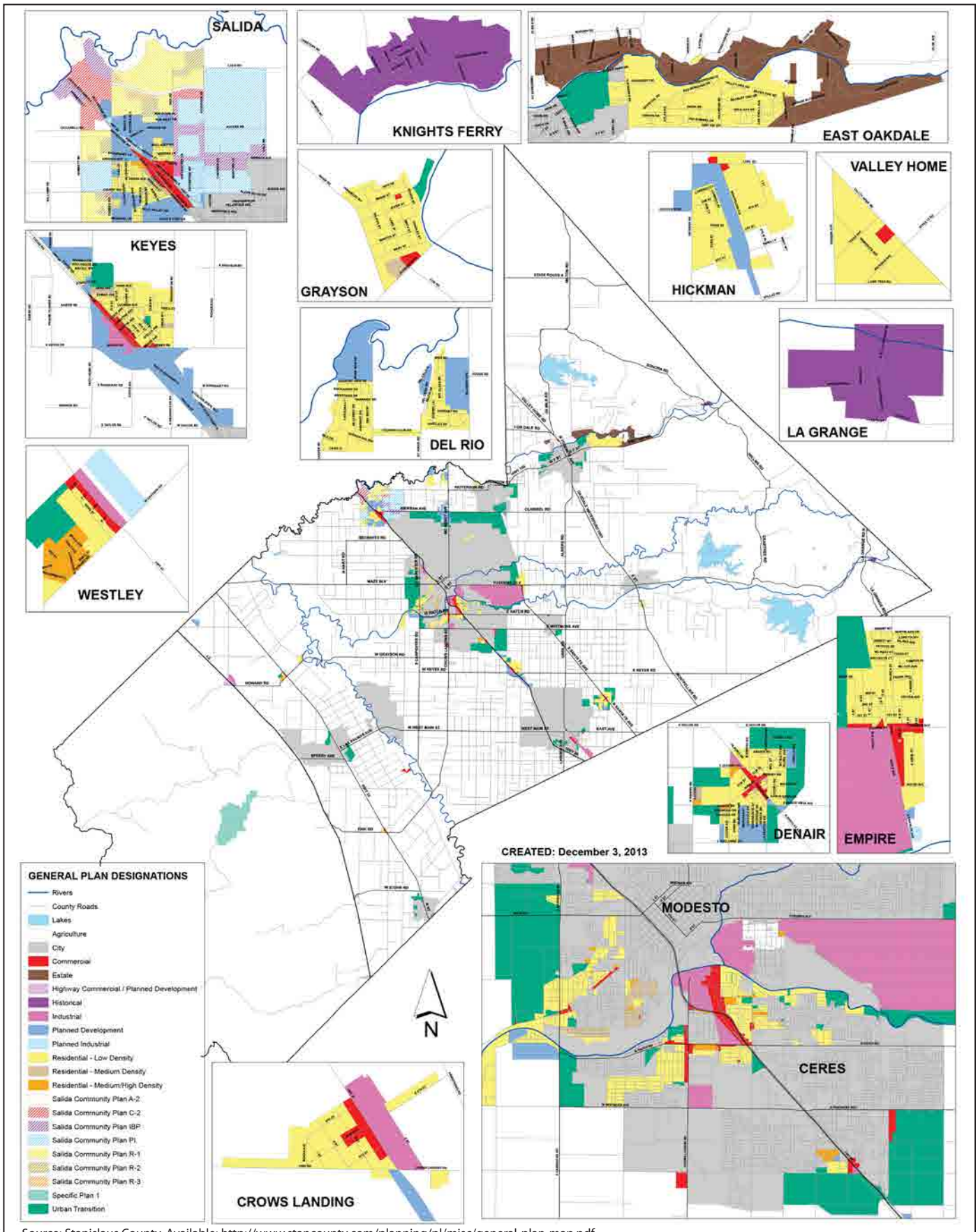


Source: Stanislaus County. Available: http://www.stancounty.com/planning/pl/misc/general-plan-map.pdf

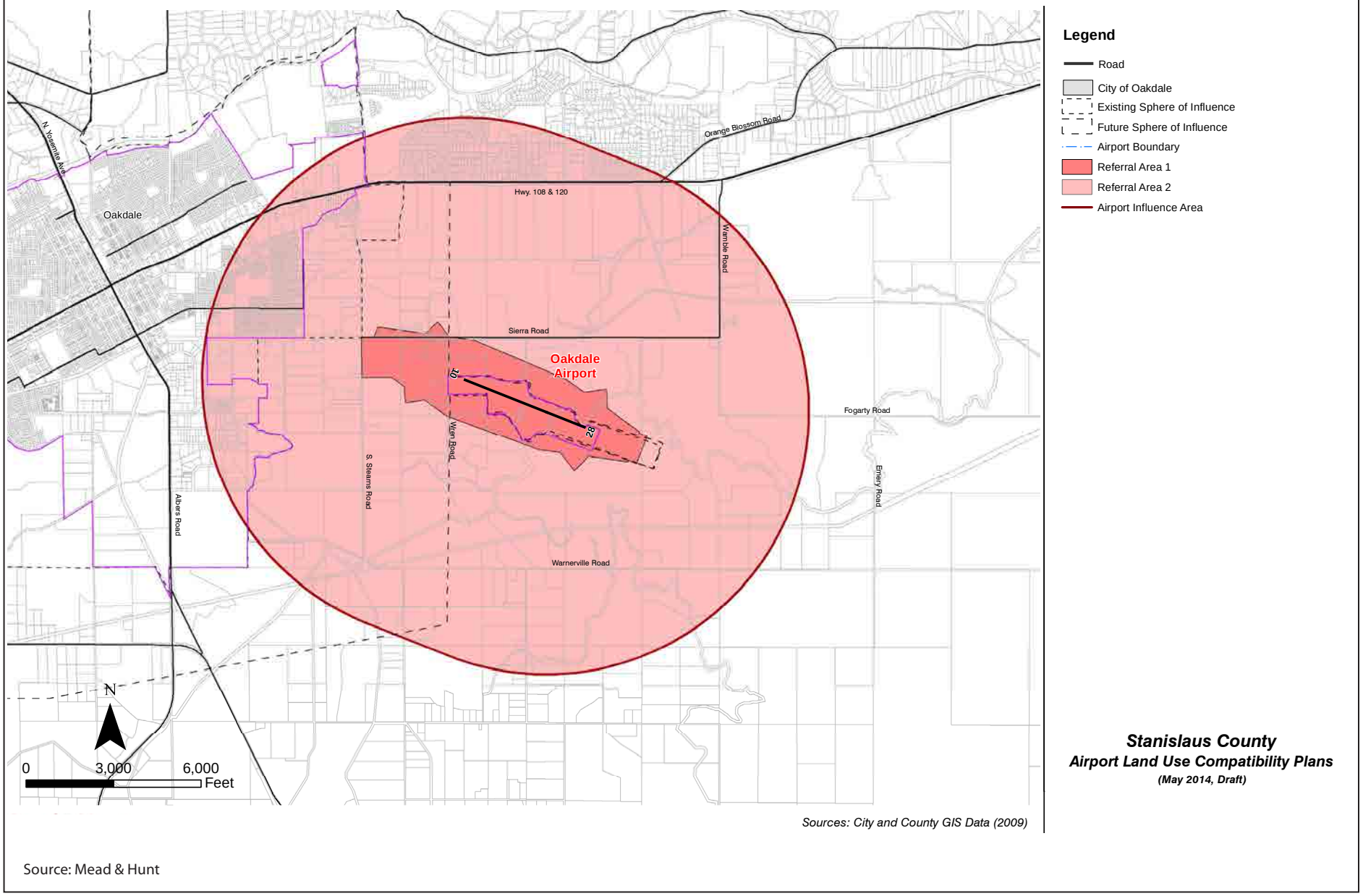
Graphics ... 0020310 (12-22-2014)

Figure 3.10-1
General Plan Designations

Source: Mead & Hunt

Graphics ... 00203.10 (04-21-2015) SS

Figure 3.10-2
Airport Influence Area Policy Map
Modesto City-County Airport



Stanislaus County
Airport Land Use Compatibility Plans
(May 2014, Draft)

Source: Mead & Hunt

Graphics ... 00203.10 (04-21-2015) SS

Figure 3.10-3
Airport Influence Area Policy Map
Oakdale Airport

3.11 Mineral Resources

3.11.1 Introduction

This section discusses the impacts of the plan updates with respect to mineral resources. It lists the thresholds of significance that form the basis of the environmental analysis, describes the mineral resources study area and major sources used in the analysis, provides environmental setting information that is relevant to mineral resources, and assesses whether the plan updates would result significant impacts with respect to mineral resources.

Study Area

The mineral resources study area for the EIR is defined as Stanislaus County.

3.11.2 Environmental Setting

This section describes the state and local regulations and policies that are applicable to the plan updates and the existing conditions pertaining to mineral resources in the study area. The existing conditions constitute the baseline for this analysis.

Regulatory Setting

This section describes the state and local regulations related to mineral resources that would apply to the plan updates.

State

General Plan Law Conservation Element

California Government Code Section 65302 requires the conservation element of a general plan to address the "distribution of mineral resources and provisions for their continued availability." This element is intended to maintain the availability of mineral resources necessary for construction.

California Surface Mining and Reclamation Act of 1975

The principal piece of legislation that addresses issues related to mineral resources in California is the Surface Mining and Reclamation Act of 1975 (SMARA) (Public Resources Code [PRC] Sections 2710–2719), which was enacted in response to land use conflicts between urban growth and essential mineral production. The stated purpose of SMARA is to provide a comprehensive surface mining and reclamation policy that encourages the production and conservation of mineral resources while ensuring that adverse environmental effects of mining are prevented or minimized. Under SMARA, mined lands are reclaimed and residual hazards to public health and safety are eliminated. In addition, consideration is given to recreation, watershed, wildlife, aesthetic, and other related values. SMARA governs the use and conservation of a wide variety of mineral resources, although some resources and activities are exempt from its provisions, including excavation and grading conducted for farming, construction, or recovery from flooding or other natural disasters.

SMARA provides for the evaluation of an area's mineral resources using a system of Mineral Resource Zone (MRZ) classifications that reflect the known or inferred presence and significance of a given mineral resource. The MRZ classifications are based on available geologic information, including geologic mapping and other information regarding surface exposures, drilling, and mines, and socioeconomic factors such as market conditions and urban development patterns.

The MRZ classifications are defined as follows:

- **MRZ-1**—areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence.
- **MRZ-2**—areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.
- **MRZ-3**—areas containing mineral deposits, the significance of which cannot be evaluated from available data.
- **MRZ-4**—areas where available information is inadequate for assignment into any other MRZ.

Although the State of California is responsible for identifying areas that contain mineral resources, the county is responsible for SMARA implementation and enforcement within unincorporated areas by providing annual mining inspection reports and coordinating with the California Geological Survey.

Mining activities in unincorporated areas that disturb more than 1 acre or 1,000 cubic yards of material require a SMARA use permit from the county. Stanislaus County is a SMARA Lead Agency and is responsible for establishing its own local regulations, such as requiring a mining applicant to obtain a surface mining permit, and submitting a reclamation plan, or providing financial assurances, pursuant to SMARA, to ensure that the adverse environmental effects of mining are prevented or minimized.

Local

Stanislaus County General Plan

Conservation/Open Space Element

GOAL NINE. Manage extractive mineral resources to ensure an adequate supply without degradation of the environment.

POLICY TWENTY-SIX. Surface mining in areas classified by the State Division of Mines and Geology as having significant deposits of extractive mineral resources shall be encouraged.

POLICY TWENTY-SEVEN. The County shall emphasize the conservation and development of lands having significant deposits of extractive mineral resources by not permitting uses that threaten the potential to extract the minerals.

POLICY TWENTY-EIGHT. Lands used for the extraction of mineral resources shall be reclaimed as required by the Surface Mining and Reclamation Act of 1975 to minimize undesirable impacts

Stanislaus County Code

The County Surface Mining and Reclamation Ordinance (Chapter 21.88 of the County Code) recognizes the SMARA MRZ designations and identifies requirements related to mining and mine reclamation. The code encourages mine development to occur before conflicting land uses encroach

and requires the county's general plan and resource maps to be updated within 12 months of receipt of mineral resource information from the State Mining and Geology Board.

Existing Conditions

The geologic setting of the resource study area is described in Section 3.6, Geology, Soils, and Paleontological Resources.

The focus of this section is on aggregate (i.e., sand and gravel) resources, which are the primary mineral resources of economic importance in the resource study area (Stanislaus County 1986). Aggregate resources are important because they are necessary for most construction, cannot be replaced with other products, and are most economical when used close to the area where they are mined because of the high cost of transportation (California Geological Survey 2012:1).

The predominant mineral resources in the planning area are sand and gravel (Stanislaus County 1986; California Division of Mines and Geology 1993, xv). According to the Office of Mine Reclamation (2014), 12 mines are in operation in the county. Current mining activities occur primarily within fluvial deposits along river and stream drainages (Stanislaus County 1986; California Geological Survey 2012, map).

To date, three mineral classification maps have been prepared for the county. In 1993, the California Division of Mines and Geology published the mineral land classification for the entire county. The report designated 22 areas as MRZ-2 resource zones, primarily for aggregate resources (California Division of Mines and Geology 1993). The areas along the Stanislaus and Tuolumne Rivers were considered to be of the highest grade. In 2011, in response to a petition by a mineral extraction firm, the California Geological Survey investigated the mineral resource potential of two parcels, totaling 436 acres, in the southwestern corner of the county, near Newman. Based on the results of this investigation, the California Geological Survey reclassified the two parcels as MRZ-2 resource zones (California Geological Survey 2011). In 2012 California Geological Survey Special Report 199 adopted an update of Mineral Land Classification for Portland Cement Concrete – Grade Aggregate in the Stockton-Lodi Production-Consumption Region, San Joaquin and Stanislaus Counties. The report encompassed a triangular area in the northernmost portion of the County.

The demand for aggregate resources is now much greater than the amount of permitted resources in Stanislaus County. The California Geological Survey (2012) estimated that, as of 2011, the 50-year demand for aggregate resources was 214 million tons, but the amount of permitted material totaled only 45 million tons. The county has an estimated 11 to 20 years of permitted reserves remaining (California Geological Survey 2012:7).

3.11.3 Impact Analysis

This section discusses the approach and methodology used to assess the impacts of the plan updates; the individual impacts relative to the thresholds of significance; mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for significant impacts; and the overall significance of the impact with mitigation incorporated.

Major Sources Used in Analysis

The major source used in this analysis is listed below:

- California Department of Conservation, California Geological Survey.

Approach and Methodology

Evaluation of the mineral resources impacts in this section is based on information from published maps, reports, and other documents that describe the mineral resource conditions of the resource study area. No new fieldwork, research, or engineering-level design was conducted for preparation of this EIR. The policies of the general plan have been examined to determine whether they would result in substantial adverse changes to existing conditions.

Thresholds of Significance

Based on State CEQA Guidelines, Appendix G, the plan updates would have a significant impact with respect to mineral resources if they would:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Impacts and Mitigation Measures

Impact MIN-1: Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state (beneficial impact)

If updates made to the county's general plan were to rezone or limit areas designated for mining by the State Mining and Geology Board, this update could cause the loss of availability of a known mineral resource. This would be a significant impact. However, the updates to the general plan are designed to protect land that has been designated for mineral resource extraction by the State Mining and Geology Board.

Conservation/Open Space Element

GOAL NINE. Manage extractive mineral resources to ensure an adequate supply without degradation of the environment.

POLICY TWENTY-SIX. Surface mining in areas classified by the State Division of Mines and Geology as having significant deposits of extractive mineral resources shall be encouraged

IMPLEMENTATION MEASURES

2. The County shall utilize the California Environmental Quality Act (CEQA) process to protect mineral resources as well as the environment. Most discretionary projects require review for compliance with CEQA. As a part of this review, environmental impacts and alternatives, must be identified and the manner for such significant effects to be avoided or mitigated must be indicated. ~~The Legislature declares that in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects.~~

3. Areas identified in Special Reports prepared by the California Geological Survey, shall be covered by the Mineral Resource land use designation of the Land Use Element. ~~The County shall adopt the Mineral Resources land use designation for those areas designated by the state as significant deposits of mineral by the State Division of Mines and Geology resources at such time as the State Division of Mines and Geology completes the countywide mineral resources designation process under the Surface Mining and Reclamation Act (SMARA).~~

These changes mean that the reclassification of the two parcels discussed in the 2011 report (see *Existing Conditions*) will be incorporated into the county's general plan, as will any future mineral resource reclassifications. This impact would be beneficial.

Significance without Mitigation: Beneficial (no mitigation required)

Impact MIN-2: Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan (beneficial impact)

If updates made to the county's general plan were to rezone or limit areas designated for mining in the county's general plan, this update could cause the loss of availability of a known mineral resource. This would be a significant impact. However, the updates to the general plan are designed to protect land that has been designated for mineral resource extraction and incorporate additional lands that have been reclassified by the State Mining and Geology Board. In Goal Nine, Policy Twenty-Six, Implementation Measure 2 (Impact MIN-1), text has been removed about approving individual projects despite significant environmental effects. In Implementation Measure 3, the measure has been changed to state that areas identified in special reports prepared by the California Geological Survey will be covered under the Mineral Resource land use designation in the Land Use Element of the general plan. These changes mean that the reclassification of the two parcels discussed in the 2011 report (see *Existing Conditions*) will be incorporated into the county's general plan, as will any future mineral resource reclassifications. This impact would be beneficial.

Significance without Mitigation: Beneficial (no mitigation required)

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3.12 Noise

3.12.1 Introduction

This section discusses the impacts of the plan updates with respect to noise. It lists the thresholds of significance that form the basis of the environmental analysis, describes the noise study area and major sources used in the analysis, provides environmental setting information that is relevant to noise, and assesses whether the plan updates would result significant impacts with respect to noise.

Study Area

The noise study area for the EIR is defined as unincorporated Stanislaus County.

Noise and Vibration Fundamentals

Noise

Noise is commonly defined as unwanted sound that annoys or disturbs people and potentially causes an adverse psychological or physiological effect on human health. Because noise is an environmental pollutant that can interfere with human activities, an evaluation of noise is necessary when considering the environmental impacts of a proposed project.

Sound is mechanical energy (vibration) transmitted by pressure waves over a medium such as air or water and characterized by various parameters, which include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor that is used to characterize the loudness of an ambient (existing) sound level. Although the decibel (dB) scale, a logarithmic scale, is used to quantify sound intensity, it does not accurately describe how sound intensity is perceived by human hearing. The human ear is not equally sensitive to all frequencies in the entire spectrum; therefore, noise measurements are weighted more heavily toward frequencies to which humans are sensitive. The process is called A-weighting, and the noise measurements are in A-weighted decibels, written as dBA. Table 3.12-1 provides definitions for sound measurements and other terminology used in this section, and Table 3.12-2 summarizes typical A-weighted sound levels for different noise sources.

Table 3.12-1. Definition of Sound Measurements

Sound Measurements	Definition
Decibel (dB)	A unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to reference sound pressure amplitude. The reference pressure is 20 micropascals.
A-weighted decibel (dBA)	An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
Maximum sound level (L_{max})	The maximum sound level measured during the measurement period.
Minimum sound level (L_{min})	The minimum sound level measured during the measurement period.
Equivalent sound level (L_{eq})	The equivalent steady-state sound level that, in a stated period of time, would contain the same acoustical energy.
Percentile-exceeded sound level (L_{XX})	The sound level exceeded xx% of a specific time period. L_{10} is the sound level exceeded 10% of the time.
Day-night level (L_{dn})	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10 p.m. to 7 a.m.
Community noise equivalent level (CNEL)	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the A-weighted sound levels occurring during the period from 7 p.m. to 10 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10 p.m. to 7 a.m.
Peak particle velocity (peak velocity or PPV)	A measurement of ground vibration, defined as the maximum speed (measured in inches per second) at which a particle in the ground is moving relative to its inactive state.
Hertz (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure.

Table 3.12-2. Typical A-Weighted Sound Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	—110—	Rock band
Jet flyover at 1,000 feet		
	—100—	
Gas lawnmower at 3 feet		
	—90—	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	—80—	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower, 100 feet	—70—	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	—60—	
		Large business office
Quiet urban daytime	—50—	Dishwasher in next room
Quiet urban nighttime	—40—	Theater, large conference room (background)
Quiet suburban nighttime		
	—30—	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	—20—	
		Broadcast/recording studio
	—10—	
	—0—	

Source: California Department of Transportation 2013.

In general, human sound perception is such that a change in sound level of 1 dB cannot typically be perceived by the human ear, a change of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level.

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (L_{eq}), the minimum and maximum sound levels (L_{min} and L_{max}), percentile-exceeded sound levels (such as L_{10}, L_{20}), the day-night sound level (L_{dn}), and the community noise equivalent level (CNEL). L_{dn} and CNEL values differ by less than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and treated as such in this assessment.

For a point source, such as a stationary compressor or construction equipment, sound attenuates at a rate of 6 dB per doubling of distance. For a line source, such as free-flowing traffic on a freeway, sound attenuates at a rate of 3 dB per doubling of distance (California Department of Transportation 2013). Atmospheric conditions, including wind, temperature gradients, and humidity, can change how sound propagates over distance and affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface, such as grass, attenuates at a greater rate than

sound that travels over a hard surface, such as pavement. The increased attenuation is typically in the range of 1 to 2 dB per doubling of distance. Barriers such as buildings and topography that block the line of sight between a source and receiver also increase the attenuation of sound over distance.

The operation of heavy construction equipment, particularly pile-driving equipment and impact devices (e.g., pavement breakers), creates seismic waves that radiate along the surface of and downward into the ground. These surface waves can be felt as ground vibration. Vibration from the operation of this equipment can result in effects that range from annoyance of people to damage within structures. Variations in geology and distance result in different vibration levels, containing different frequencies, and displacements. In all cases, vibration amplitudes decrease with increasing distance.

Perceptible groundborne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they cause rock and soil particles to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is a commonly accepted descriptor of vibration amplitude, peak particle velocity (PPV).

Vibration amplitude, which attenuates over distance, is a complex function of how energy is imparted into the ground and the soil or rock conditions through which the vibration travels. The equation below is used to estimate the vibration level at a given distance for typical soil conditions (Federal Transit Administration 2006). PPV_{ref} is the reference PPV at 25 feet.

$$PPV = PPV_{ref} \times (25/Distance)^{1.5}$$

Table 3.12-3 summarizes typical vibration levels generated by construction equipment at a reference distance of 25 feet as well as other distances, as determined with use of the attenuation equation above.

Table 3.12-3. Vibration Source Levels for Construction Equipment

Equipment	PPV at 25 Feet	PPV at 50 Feet	PPV at 75 Feet	PPV at 100 Feet	PPV at 175 Feet
Pile driver (sonic/vibratory)	0.734	0.2595	0.1413	0.0918	0.0396
Hoe ram[a] or large bulldozer	0.089	0.0315	0.0171	0.0111	0.0048
Loaded trucks	0.076	0.0269	0.0146	0.0095	0.0041
Jackhammer	0.035	0.0124	0.0067	0.0044	0.0019
Small bulldozer	0.003	0.0011	0.0006	0.0004	0.0002

Source: Federal Transit Administration 2006.

[a] Representative of rock ripper.

Tables 3.12-4 and 3.12-5 summarize the guidelines developed by the California Department of Transportation (Caltrans) for damage and annoyance potential from transient and continuous vibrations, which are usually associated with construction activity. Equipment or activities that are typical of continuous vibration include excavation equipment, static compaction equipment, use of tracked vehicles, traffic on a highway, vibratory pile drivers, pile-extraction equipment, and vibratory compaction equipment. Equipment or activities that are typical of single-impact (transient) or low-rate repeated impact vibration include impact pile drivers, blasting, drop balls,

pogo-stick compactors, and crack-and-seat equipment (California Department of Transportation 2013).

Table 3.12-4. Guideline Vibration Damage Potential Threshold Criteria

	Maximum PPV (in/sec)	
Structure and Condition	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: California Department of Transportation 2013.

Note: Transient sources, such as blasting or drop balls, create a single isolated vibration event. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 3.12-5. Guideline Vibration Annoyance Potential Criteria

	Maximum PPV (in/sec)	
Structure and Condition	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: California Department of Transportation 2013.

Note: Transient sources, such as blasting or drop balls, create a single isolated vibration event. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

3.12.2 Environmental Setting

This section describes the federal, state, and local regulations and policies that are applicable to the plan updates and the existing conditions pertaining to noise in the study area. The existing conditions constitute the baseline for this analysis.

Regulatory Setting

This section describes the federal, state, and local regulations related to noise that would apply to the plan updates.

Various federal agencies have set standards for transportation-related noise and vibration sources that are closely linked to interstate commerce, such as aircraft, locomotives, and trucks. The state sets noise standards for those noise sources that are not exempted from regulation, such as

automobiles, light trucks, and motorcycles. Noise and vibration sources associated with industrial, commercial, and construction activities are generally subject to local control through noise ordinances and general plan policies.

Federal

Noise Control Act. The federal Noise Control Act of 1972 (Public Law 92-574) established a requirement for all federal agencies to administer their programs so as to promote an environment that is free of noise that would jeopardize public health or welfare. The U.S. Environmental Protection Agency (EPA) was given the responsibility for:

- Providing information to the public regarding identifiable effects of noise on public health and welfare,
- Publishing information on the levels of environmental noise that will protect the public health and welfare with an adequate margin of safety,
- Coordinating federal research and activities related to noise control, and
- Establishing federal noise emission standards for selected products distributed in interstate commerce.

The Noise Control Act also directs all federal agencies to comply with applicable federal, state, interstate, and local noise control regulations.

Although EPA has the major role in disseminating information to the public and coordinating federal agencies, each federal agency retains authority to adopt noise regulations pertaining to its programs, subject to EPA oversight. At the local level, the key federal agencies are:

- U.S. Department of Housing and Urban Development (HUD): Noise standards for federally funded housing projects
- Federal Aviation Administration (FAA): Noise standards for aircraft noise at airports
- Federal Highway Administration (FHWA): Noise standards for federally funded highway projects
- Federal Transit Administration (FTA): Noise standards for federally funded transit projects
- Federal Railroad Administration (FRA): Noise standards for federally funded rail projects

Environmental Protection Agency. In 1974, in response to the requirements of the Noise Control Act, EPA identified indoor and outdoor noise limits to protect public health and welfare as they relate to communication disruption, sleep disturbance, and hearing damage. Outdoor L_{dn} limits of 55 dB and indoor L_{dn} limits of 45 dB were identified as desirable for protecting against speech interference as well as sleep disturbance in residential, educational, and health care areas. The sound-level criterion for protecting against hearing damage in commercial and industrial areas was identified as a 24-hour L_{eq} value of 70 dB (both outdoors and indoors).

U.S. Department of Housing and Urban Development. HUD has established guidelines for evaluating noise impacts on residential projects that seek financial support under its various grant programs (44 *Federal Register* 135:40860, 40866, January 23, 1979). Sites are generally considered acceptable for residential use if they are exposed to outdoor L_{dn} values of 65 dB or less. Sites are considered normally unacceptable if they are exposed to outdoor L_{dn} values of 65 to 75 dB. Sites are considered

unacceptable if they are exposed to outdoor L_{dn} values above 75 dB. The HUD goal for interior noise in residences is for noise levels not to exceed 45 dB L_{dn}.

Federal Aviation Administration. The Code of Federal Regulations (CFR) Title 24, Part 150, Airport Noise Compatibility Planning, prescribes the procedures, standards, and methodology to be applied to airport noise compatibility planning. Noise levels below 65 L_{dn} are normally considered to be acceptable for noise-sensitive land uses. These are among the criteria applied during the update of the ALUCP.

Federal Highway Administration. FHWA regulations (23 CFR 772) specify procedures for evaluating noise impacts associated with federally funded highway projects and determining whether such impacts justify funding noise abatement actions. The FHWA noise abatement criteria are based on the worst hourly L_{eq} sound levels, not L_{dn} or CNEL values. The noise abatement criterion for residences, parks, schools, and other similar noise-sensitive uses is 67 dBA.

Federal Transit Administration. FTA procedures for the evaluation of noise from transit projects are specified in *Transit Noise and Vibration Impact Assessment* (Federal Transit Administration 2006). The FTA Noise Impact Criteria categorize noise-sensitive land uses as follows:

- **Category 1:** Buildings or parks where quiet is an essential element of their purpose.
- **Category 2:** Residences and buildings where people normally sleep. This includes residences, hospitals, and hotels where nighttime sensitivity is assumed to be of utmost importance.
- **Category 3:** Institutional land uses with daytime and evening use. This category includes schools, libraries, churches, and active parks.

The descriptor L_{dn} is used to characterize noise exposure for residential areas (Category 2). For other noise-sensitive land uses, such as outdoor amphitheaters and school buildings (Categories 1 and 3), the maximum 1-hour L_{eq} during the facility's operating period is used. Noise impacts are based on absolute predicted noise levels and increases in noise associated with the project.

Federal Railroad Administration. FRA noise standards are the same as those specified by FTA.

State

State of California General Plan Guidelines. The *State of California General Plan Guidelines* (Office of Planning and Research 2003) for noise elements of local general plans include a compatibility chart regarding sound level/land use that categorizes, by land use, outdoor L_{dn} ranges in up to four categories (normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable). For many land uses, the guidelines indicate overlapping L_{dn} ranges for two or more compatibility categories.

The Noise Element guidelines chart identifies the normally acceptable range for low-density residential uses as less than 60 dB and the conditionally acceptable range as 55 to 70 dB. The normally acceptable range for high-density residential uses is identified as L_{dn} values below 65 dB, and the conditionally acceptable range is identified as 60 to 70 dB. For educational and medical facilities, L_{dn} values below 70 dB are considered normally acceptable, and L_{dn} values of 60 to 70 dB are considered conditionally acceptable. For office and commercial land uses, L_{dn} values below 70 dB are considered normally acceptable, and L_{dn} values of 67.5 to 77.5 dB are categorized as conditionally acceptable.

These overlapping L_{dn} ranges indicate that local conditions (existing sound levels and community attitudes toward dominant sound sources) should be considered in evaluating land use compatibility at specific locations.

California Noise Insulation Standards. Title 24 of the California Code of Regulations (the California Building Code) contains sound transmission standards that apply to common interior walls, partitions, and floor/ceiling assemblies between adjacent dwelling units and sleeping units or between dwelling units and sleeping units and adjacent public areas such as halls, corridors, stairs, or service areas. Standards related to allowable interior noise levels are also specified and state that interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room.

Division of Aeronautics Noise Standards. Title 21, Chapter 5000, of the California Code of Regulations identifies noise compatibility standards for airport operations. Section 5014 of the code states that the standard for the acceptable level of aircraft noise for persons living in the vicinity of airports is a CNEL of 65 dB. Land uses such a residences, schools, hospitals, or places of worship that are exposed to aircraft noise that exceeds 65 dB CNEL are deemed to be in a noise impact area. This standard forms the basis for the limitation that no proprietor of an airport shall operate an airport within a noise impact area, based on the standard of 65 dB CNEL, unless the operator has applied for or received a variance.

Local

Stanislaus County General Plan

Noise Element

The purpose of the existing Noise Element of the general plan is to limit the community's exposure to excessive noise. It contains several related goals and policies, as well as two implementation measures relevant to this analysis. The Noise Element also establishes land use compatibility standards for noise (see Figure 3.12-1).

GOAL ONE. Prevent the encroachment of incompatible land uses near known noise producing industries, railroads, airports and other sources to protect the economic base of the County.

POLICY ONE. It is the policy of Stanislaus County to utilize the noise exposure information contained within the General Plan to identify existing and potential noise conflicts through the Land Use Planning and Project Review processes.

GOAL TWO. Protect the citizens of Stanislaus County from the harmful effects of exposure to excessive noise.

POLICY TWO. It is the policy of Stanislaus County to develop and implement effective measures to abate and avoid excessive noise exposure in the unincorporated areas of the County by requiring that effective noise mitigation measures be incorporated into the design of new noise generating and new noise sensitive land uses.

IMPLEMENTATION MEAUSRES

1. New development of noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels to the following levels:

    a. For transportation noise sources, such as traffic on public roadways, railroads, and airports, 60 L_{dn} (or CNEL) or less in outdoor activity areas of single family residences, 65 L_{dn} (or CNEL) or less in community outdoor spaces for multi-family residences, and 45 L_{dn} (or CNEL) or less within noise sensitive interior spaces. Where it is not possible to

reduce exterior noise to the prescribed level using a practical application of the best available noise-reduction technology, an exterior noise level of up to 65 L_{dn} (or CNEL) will be allowed. Under no circumstances will interior noise levels be allowed to exceed 45 L_{dn} (or CNEL) with the windows and doors closed in residential uses.

b. For other noise sources, such as local industries or other stationary noise sources, noise levels shall not exceed the performance standards contained in Table 4.

2. New development of industrial, commercial or other noise generating land uses will not be permitted if the resulting noise levels will exceed 60 L_{dn} (or CNEL) in noise-sensitive areas. Additionally, the development of new noise-generating land uses which are not preempted from local noise regulation will not be permitted if the resulting noise levels will exceed the performance standards contained in Table 4 in areas containing residential or other noise sensitive land uses.

Table 4
Maximum Allowable Noise Exposure—Stationary Noise Sources

	Daytime 7 a.m. to 10 p.m.	Nighttime 10 p.m. to 7 a.m.
Hourly L_{eq}, dBA	55	45
Maximum level, dBA	75	65

Each of the noise level standards specified in Table 4 shall be reduced by five (5) dBA for pure tone noises, noise consisting primarily of speech or music, or for recurring impulsive noises. The standards in Table 4 should be applied at a residential or other noise-sensitive land use and not on the property of a noise-generating land use. Where measured ambient noise levels exceed the standards, the standards shall be increased to the ambient levels.

POLICY THREE. It is the objective of Stanislaus County to protect areas of the County where noise-sensitive land uses are located.

POLICY FOUR. It is the objective of Stanislaus County to ensure that the Noise Element is consistent with and does not conflict with other elements of the Stanislaus County General Plan.

Stanislaus County Noise Ordinance

Chapter 10.46 of the Stanislaus County Code (the Noise Control Ordinance) was adopted by the county in February 2010. The ordinance states that it is unlawful for any person at any location within the unincorporated area of the county to create any noise or to allow the creation of any noise that causes the exterior noise level, when measured at any property situated in either the incorporated or unincorporated area of the county, to exceed exterior noise level standards (see Table 3.12-6).

Table 3.12-6. Exterior Noise-Level Standards

	Maximum A-weighted Sound Level (L_{max})	
Designated Noise Zones	7 a.m. to 9:59 p.m.	10 p.m. to 6:59 a.m.
Noise Sensitive	45	45
Residential	50	45
Commercial	60	55
Industrial	75	75

The standards in Table 3.12-6 are adjusted, as indicated in Table 3.12-7.

Table 3.12-7. Cumulative Duration Allowance Standards

Cumulative Duration	Allowance Decibels
Equal to or greater than 30 minutes per hour	Table 3.12-6 plus 0 dB
Equal to or greater than 15 minutes per hour	Table 3.12-6 plus 5 dB
Equal to or greater than 5 minutes per hour	Table 3.12-6 plus 10 dB
Equal to or greater than 1 minute per hour	Table 3.12-6 plus 15 dB
Less than 1 minute per hour	Table 3.12-6 plus 20 dB

The ordinance further states that, in the event that the measured ambient noise level exceeds the applicable noise level standard above, the ambient noise level shall become the applicable exterior noise-level standard. The ordinance limits construction noise to 75 dBA at any receiving property line between the hours of 7 p.m. and 7 a.m. With regard to vibration, the ordinance states that activity that generates perceptible vibration or vibration that exceeds 0.01 inch per second at or beyond a property boundary is prohibited.

Stanislaus County Airport Land Use Compatibility Plan

The Stanislaus County ALUCP identifies noise compatibility standards for a wide variety of land uses. In summary, the plan states that all new residential development and children's schools are deemed incompatible within the projected CNEL 60 dB contour of each airport. New nonresidential development is deemed incompatible in locations where the airport-related noise exposure would be highly disruptive to the specific land use. The plan provides specific applicable criteria for various land use types.

The noise data has been updated for the proposed ALUCP that is being evaluated in this EIR and is integrated into that plan.

Existing Conditions

The primary noise generators within Stanislaus County are associated with transportation (i.e., airports, freeways, arterial roadways, railroads), with industrial and agricultural operations generating more localized noise. Local collector streets are not considered significant noise sources because traffic volumes and speeds are generally much lower than they are on freeways and arterial roadways. Generally, transportation-related noise is the dominant source within urban environments. Similar to the environmental setting for noise, the vibration environment is typically dominated by traffic from nearby roadways and activity on construction sites. Heavy trucks can generate groundborne vibrations that vary, depending on vehicle type, weight, and pavement condition. Heavy trucks typically operate on major streets. Nonetheless, vibration levels adjacent to roadways are typically not perceptible.

Ambient noise levels in Stanislaus County vary widely, depending on proximity to noise generators such as major roads, airports, and rail lines. The major noise sources in the county are described below.

Motor Vehicle Traffic

Motor vehicles are a primary source of noise in Stanislaus County, particularly near major, primary, and secondary arterials. Interstate 5 (I-5) and State Route 99 (SR-99), which serve high volumes of inter-regional traffic, are the noisiest corridors (Stanislaus County 2005). Traffic in these corridors generate noise levels in excess of 70 dBA CNEL. Noise levels can also exceed 70 dBA CNEL near SR-108 and SR-120 as well as in proximity to local roads. Therefore, noise-sensitive land uses in the vicinity of these and other heavily traveled corridors can be exposed to excessive noise (Stanislaus Council of Governments 2014).

Traffic noise along major roadways and highways has been modeled using traffic data provided by the project traffic consultant (Fehr & Peers 2015) and traffic noise emissions data from the FHWA Traffic Noise Model (TNM). Table 3.12-8 summarizes the results of traffic noise modeling analysis for base year (2014) conditions. Noise levels were calculated for receivers located 75 feet from roadway centerline.

Table 3.12-8. Traffic Noise Modeling Results for Base Year Conditions (2014)

Link	Roadway	Segment Location	ADT	L_{dn}
1	26 Mile Road	Carter Road–Eastman Road	1,500	54
2	26 Mile Road	Dunn Ranch Road–Gilbert Road	2,300	56
3	9th Street	E Street–D Street	15,900	64
4	August Road	Prairie Flower Road–Mitchell Road	1,300	54
5	Bacon Road	Hammett Road–Toomes Road	1,000	53
6	Bacon Road	Hammett Road–Williams Road	1,400	54
7	Bacon Road	Jackson Road–Hart Road	800	52
8	Beckwith Road	Hart Road–Hammett Road	3,600	58
9	Beckwith Road	Finney Road–Toomes Road	3,800	58
10	Beckwith Road	Jackson Road–Hart Road	2,100	56
11	Berkeley Avenue	Ramson Drive–Paulson Road	6,100	60
12	Blue Gum Avenue	Morse Road–Dakota Avenue	2,700	57
13	Bradbury Road	Morgan Road–Crows Landing Road	1,300	54
14	Bradbury Road	Blaker Road–Central Avenue	1,800	55
15	Bradbury Road	Walnut Road–Soderquist Road	2,100	56
16	Bradbury Road	Commons Road–Washington Road	2,600	57
17	Bradbury Road	Tegner Road–Walnut Road	2,600	57
18	Brier Road	Berkeley Avenue–Johnson Road	1,400	54
19	Carpenter Road	Ruble Road–Crows Landing Road	1,500	54
20	Carpenter Road	Fulkerth Road–Monte Vista Avenue	5,300	60
21	Carpenter Road	Service Road–Redwood Road	6,900	61
22	Central Avenue	Hilmar Road–Bradbury Road	1,500	54
23	Central Avenue	Linwood Avenue–Main Street	1,500	54
24	Central Avenue	Tuolume Road–Monte Vista Road	1,600	55
25	Church Street	Milnes Road–Parker Road	2,800	57
26	Claribel Road	Albers Road–Oakdale Waterford Hwy	1,700	55
27	Claribel Road	Bentley Road–Albers Road	5,800	60
28	Claribel Road	Langworth–Eleanor Avenue	6,500	61

Link	Roadway	Segment Location	ADT	L_{dn}
29	Crows Landing Road	Clausen Road–Harding Road	5,000	59
30	Crows Landing Road	Canal Road–FULKERTH	5,200	60
31	Crows Landing Road	Bradbury Road–Ehrlich Road	5,700	60
32	Del Puerto Canyon Road	Diablo Grande Pky–Mt Oso Road	5,500	60
33	E Keyes Road	Hickman Road–Merriam Road	1,800	55
34	E Keyes Road	Geer Road–Berkeley Avenue	2,700	57
35	E Keyes Road	Crows Landing Road–Ustick Road	4,300	59
36	E Keyes Road	Central Avenue–Moffett Road	4,700	59
37	E Keyes Road	Pioneer Road–Mountain View Road	6,300	60
38	E Marshal	SR 33–Pomegranate Avenue	1,900	55
39	E Monte Vista Road	Santa Fe Avenue–Vincent Road	1,600	55
40	E Whitmore	Lockwood Road–Washington Road	5,800	60
41	East Avenue	Johnson Road–Oleander Lane	6,500	61
42	East Avenue	Santa Fe Drive–Hickman Road	2,600	57
43	East Avenue	Verduga Road–Daubenberger Road	3,400	58
44	East Avenue	Quincy Road–Johnson Road	4,200	59
45	Emerald Avenue	Lone Palm Avenue–Kansas Avenue	5,400	60
46	Faith Home Road	Tuolume Road–Monte Vista Road	1,800	55
47	Faith Home Road	CR-J17–Clayton Road	1,400	54
48	Faith Home Road	Keyes Road–Barnhart Road	1,900	55
49	Faith Home Road	Main Street–Fulkerth Road	1,800	55
50	Faith Home Road	Keyes Road–Kaiser Road	1,100	53
51	Faith Home Road	Don Pedro Road–Service Road	2,300	56
52	Faith Home Road	Whitmore Avenue–Roeding Road	2,400	56
53	Finch Road	Garner Road–Codoni Avenue	2,500	56
54	Fink Road	Ward Avenue–Davis Road	1,700	55
55	Fink Road	Bell Road–Medlin Road	1,800	55
56	Finney Road	Beckwith Road–North Avenue	1,100	53
57	Finney Road	Covert Road–Adams Avenue	1,900	55
58	Fulkerth	Central Avenue–Moffett Road	1,900	55
59	Fulkerth	Crows Landing Road–Bystrum Road	1,900	55
60	Fulkerth	Prairie Flower Road–Faith Home Road	2,600	57
61	Fulkerth	Washington Road–Commons Road	3,400	58
62	Garner Road	Leckron Road–Finch Road	7,800	61
63	Geer Road	Santa Fe Avenue–Grayson Road	10,800	63
64	Geer Road	Keyes Road–Barnhart Road	11,100	63
65	Golden State Blvd	Nunes Road–Keyes Road	3,600	58
66	Golf Road	Glenwood Avenue–Linwood Avenue	2,500	56
67	Gratton Road	Keyes Road–Barnhart Road	1,600	55
68	Hammett Road	Covert Road–Bacon Road	1,900	55
69	Harding Road	Commons Road–Faith Home Road	400	49
70	Hart Road	California Avenue–Maza Blvd	2,700	57
71	Hart Road	California Avenue–Paradise Road	2,600	57
72	Hawkeye Avenue	Verduga Road–Waring Road	1,800	55

Link	Roadway	Segment Location	ADT	L_{dn}
73	Herndon Road	River Road–Sorona Avenue	3,900	58
74	Hickman Road	Delaware Road–Lake Road	6,000	60
75	Hickman Road	Monte Vista Avenue–Taylor Road	2,300	56
76	Hills Ferry Road	Stuhr Road–River Road	5,700	60
77	I-5	Davis Road–Stuhr Road	38,100	76
78	I-5	Fink Road–Davis Road	38,100	76
79	I-5	Diablo Grande Pky–Oak Flat Road	38,800	76
80	I-5	Gaffery Road–Ingram Creek Road	41,800	76
81	I-5	Ingram Creek Road–Diablo Grande Pky	43,900	76
82	Jeffrey Drive	Sylvan Avenue–Carl Way	1,400	54
83	Jennings Road	Service Road–Grayson Road	900	52
84	Jennings Road	Keyes Road–Grayson Road	2,800	57
85	Jennings Road	Keyes Road–Barnhart Road	2,900	57
86	Johnson Road	Merritt Street–East Avenue	3,500	58
87	Johnson Road	East Avenue–Evelle Lane	2,900	57
88	Keyes Road	Blaker Road–Central Avenue	4,800	59
89	Kiernan Road	Stratos Way–SR 108	16,400	65
90	Kiernan Road	CR 99 Off Ramp–CR 99 On Ramp	33,800	68
91	Langworth Road	Mesa Drive–Patterson Road	1,800	55
92	Langworth Road	Milnes Road–Rice Road	2,200	56
93	Lester Road	Hawkeye Avenue–Tuolume Road	1,700	55
94	Linwood Avenue	Paulson Road–Johnson Road	1,200	53
95	Main Street	Kern Street–Fresno Avenue	6,000	60
96	Mariposa Road	Farrar Avenue–Finch Road	2,800	57
97	Maze Blvd	Carpenter Road–Rosemore Avenue	14,000	64
98	Maze Blvd	Carpenter Road–Meadow Lane	13,100	64
99	Maze Blvd	Hart Road–Texas Avenue	14,500	64
100	Maze Blvd	McCracken Road–Kasson Road	19,000	65
101	McCracken Road	Gaffery Road–Spencer Road	900	52
102	Milnes Road	Santa Fe Avenue–Dewitt Road	4,600	59
103	Milnes Road	Church Street–Langworth Road	5,800	60
104	Milton Road	Dunton Road–Sonora Road	1,200	53
105	Mitchell Road	Harding Road–Bradbury Road	1,000	53
106	Mitchell Road	Clayton Road–Linwood Avenue	1,400	54
107	Mitchell Road	Hilmar Road–August Road	1,400	54
108	Mitchell Road	August Road–Williams Avenue	1,900	55
109	Morgan Road	Grayson Road–Keyes Road	1,800	55
110	Motsinger Road	Faith Home Road–Anna Avenue	1,700	55
111	N Santa Fe Avenue	Monte Vista Avenue–Vincent Road	2,100	56
112	N Santa Fe Avenue	Keyes Road–Barnhart Road	3,300	58
113	Oakdale-Waterford Hwy	Claribel Road–Rice Road	3,400	58
114	Oakdale-Waterford Hwy	Ellenwood Road–Milnes Road	5,700	60
115	Orange Blossom Road	Wamble Road–Lancaster Road	2,600	57
116	Orange Blossom Road	Rodden Road–Olive Avenue	2,100	56

Link	Roadway	Segment Location	ADT	L_{dn}
117	Orange Blossom Road	Stone Avenue–Sonora Road	1,100	53
118	Paradise Road	Michigan Avenue–Pauline Avenue	3,900	58
119	Paradise Road	Shiloh Road–Hart Road	4,500	59
120	Parker Road	Wellsford Road–Church Street	3,200	58
121	Paulson Road	Linwood Avenue–Daubenberger Road	2,000	56
122	Pioneer Road	Redwood–Grayson Road	1,200	53
123	Pioneer Road	Keyes Road–Grayson Road	1,400	54
124	Quincy Road	Monte Vista Avenue–Valdosta Drive	2,700	57
125	Redwood Road	Central Avenue–Moffett Road	400	49
126	Riverside Drive	Lapham Drive–Nathan Avenue	3,900	58
127	Roselle Road	Sylvan Avenue–Plainview Road	7,100	61
128	Rosemore Avenue	Kansas Avenue–Elm Avenue	2,300	56
129	Rouse Avenue	Alturas Avenue–Leon Avenue	3,600	58
130	Santa Fe Avenue	Service Road–7th Street	6,000	60
131	Santa Fe Avenue	Hatch Road–Leedom Road	7,700	61
132	Santa Fe Avenue	Geer Road–Redwood Road	2,600	57
133	Santa Fe Drive	East Avenue–Linwood Avenue	2,300	56
134	Service Road	Carpenter Road–Ustick Road	1,800	55
135	Service Road	Mountain View Road–Tully Road	1,900	55
136	Service Road	Ustick Road–Crows Landing Road	1,600	55
137	Service Road	Griffin Road–Santa Fe Avenue	1,900	55
138	Service Road	Washington Road–Pioneer Road	2,100	56
139	Service Road	Sanders Road–Vivian Road	1,000	53
140	Service Road	Esmar Road–Faith Home Road	3,700	58
141	Shoemake Avenue	Dakota Avenue–Finney Road	1,400	54
142	Shoemake Avenue	Hart Road–Edsel Lane	700	51
143	Shoemake Avenue	Gates Road–Dunn Road	900	52
144	Sierra Road	Laughlin Road–Wamble Road	1,100	53
145	Sierra Road	Stearns Road–Orsi Road	3,800	58
146	Sisk Road	Wallasey Way–Wessex Lane	10,300	63
147	SR 108	St Francis Avenue–Ladd Road	20,000	71
148	SR 108	SR 219–Charity Way	22,700	71
149	SR 120	Sawyer Avenue–Walnut Avenue	13,700	69
150	SR 120	Pioneer Avenue–Sawyer Avenue	13,700	69
151	SR 120	Wamble Road–Orange Blosson Road	15,600	70
152	SR 120	Dillwood Road–Orange Blossom Road	22,600	71
153	SR 120	26 Mile Road–Rodden Road	28,500	72
154	SR 120	Rodden Road–North Street	28,200	72
155	SR 33	SR 132–Welty Road	2,100	58
156	SR 33	D Street–E Street	3,500	60
157	SR 33	B Street–Grayson Road	4,600	62
158	SR 33	Fruit Avenue–Baldwin Road	5,000	62
159	SR 33	Mulberry Avenue–Baldwin Road	4,600	62
160	SR 33	Eucalyptus Avenue–Olive Avenue	6,100	63

Link	Roadway	Segment Location	ADT	L_{dn}
161	SR 33	I Street–El Circulo Avenue	7,200	63
162	SR 33	5th Street–6th Street	5,300	62
163	SR 33	5th Street–4th Street	5,500	62
164	SR 33	Inyo Avenue–Sanches Road	8,500	64
165	SR 33	Lundy Road–Stuhr Road	6,500	63
166	SR 33	4th Street–Ike Crow Road	5,900	63
167	SR 33	J T Crow Road–Anderson Road	6,800	63
168	SR 33	Eastin Road–J T Crow Road	7,100	63
169	SR 33	Stanislaus Street–Inyo Avenue	8,800	64
170	SR 33	6th Street–Fink Road	7,600	64
171	SR 33	Sperry Avenue–C Street	7,300	64
172	SR 33	El Circulo Avenue–E Street	8,700	64
173	SR 33	Las Palmas Avenue–Salado Avenue	10,100	65
174	SR 33	Poppy Avenue–Sperry Avenue	8,400	64
175	SR 33	Merced Street–Kern Street	9,900	65
176	SR 33	Mariposa Street–Kern Street	9,700	65
177	SR 4	Milton Road–Waverly Road	7,400	64
178	SR 99	Golf Road–Griffith Avenue	54,400	77
179	SR 99	Lander Avenue–Golf Road	54,400	77
180	SR 99	Linwood Avenue–Lander Avenue	69,500	78
181	SR 99	Monte Vista Avenue–Taylor Road	70,000	78
182	SR 99	Fulkerth Road–Tuolume Road	76,100	79
183	SR 99	Canal Drive–Main Street	78,900	79
184	SR 99	Keyes Road–Taylor Road	90,200	79
185	SR 99	Service Road–Pine Street	92,500	79
186	SR 99	Whitmore Avenue–Pine Street	92,600	79
187	SR 99	Service Road–Mitchell Road	99,900	80
188	SR 99	Hatch Road–9th Street	100,700	80
189	SR 99	Crows Landing Road–9th Street	100,200	80
190	SR 99	Hatch Road–Whitmore Avenue	101,800	80
191	SR 99	Faith Home Road–Mitchell Road	106,200	80
192	SR 99	Pelandale Avenue–Beckwith Road	107,000	80
193	SR 99	Crows Landing Road–Zeff Road	108,000	80
194	SR 99	Sierra Drive–Tuolumne Blvd	115,300	80
195	SR 99	Pelandale Avenue–SR 219	109,700	80
196	SR 99	Hammett Road–SR 219	112,100	80
197	SR 99	Kansas Avenue–SR 132	123,000	81
198	SR 99	Beckwith Road–Carpenter Road	124,100	81
199	SR 99	Carpenter Road–9th Street	124,600	81
200	SR 99	Woodland Avenue–9th Street	124,600	81
201	Vivian Road	Grayson Road–Keyes Road	1,600	55
202	Vivian Road	Whitmore Avenue–Hackett Road	2,500	56
203	W Grayson Road	Morgan Road–Blaker Road	1,300	54
204	W Grayson Road	Vivian Road–Carpenter Road	2,300	56

Link	Roadway	Segment Location	ADT	L_{dn}
205	W Grayson Road	River Road–SR 33	5,800	60
206	W Keyes Road	Crows Landing Road–Ustick Road	2,300	56
207	W Monte Vista Road	Carpenter Road–Vivian Road	600	51
208	W Stuhr Road	Bell Road–Jorgensen Road	1,300	54
209	W Stuhr Road	I-5–Bell Road	1,300	54
210	Ward Avenue	Elfers Avenue–Marshall Road	1,500	54
211	Washington Road	Idaho Road–Bradbury Road	1,400	54
212	Wellsford Road	Garst Road–Dusty Lane	1,000	53
213	Yosemite (SR 132)	Old La Grange Road–SR 132	2,000	63
214	Yosemite (SR 132)	La Grange Road–Old La Grange Road	2,500	64
215	Yosemite (SR 132)	Crabtree Road–Roberts Ferry Road	3,000	65
216	Yosemite (SR 132)	La Grange Road–Lake Road	3,000	65
217	Yosemite (SR 132)	Lake Road–Rushing Road	3,000	65
218	Yosemite (SR 132)	Rushing Road–Crabtree Road	3,000	65
219	Yosemite (SR 132)	Rushing Road–Crabtree Road	3,000	65
220	Yosemite (SR 132)	Baker Street–Appling Road	5,600	67
221	Yosemite (SR 132)	Baker Street–E Street	5,900	67
222	Yosemite (SR 132)	H Street–Root Road	8,600	69
223	Yosemite (SR 132)	Lincoln Avenue–Mariposa Road	17,900	72
224	Yosemite (SR 132)	Santa Fe Avenue–F Street	9,800	70
225	Yosemite (SR 132)	Reinway Avenue–Pasadena Avenue	10,100	70
226	Yosemite (SR 132)	Triangle Ranch Road–Albers Road	9,800	70
227	Yosemite (SR 132)	Garner Road–Creekwood Drive	16,000	72
228	Yosemite (SR 132)	Covena Avenue–Santa Cruz Avenue	19,900	73
229	Yosemite (SR 132)	El Vista Avenue–Colfax Avenue	20,400	73
230	Yosemite (SR 132)	G Street–H Street	11,300	70
231	Yosemite (SR 132)	Parry Road–Mitchell Road	21,000	73
232	Yosemite (SR 132)	C Street–E Street	22,500	73
233	Yosemite (SR 132)	E Street–SR 108	22,500	73
234	Yosemite (SR 132)	Covena Avenue–Kerr Avenue	24,500	74
235	Yosemite (SR 132)	A Street–Santa Fe Avenue	16,500	72
236	Yosemite (SR 132)	A Street–B Street	22,500	73
237	Yosemite (SR 132)	North Street–A Street	28,300	74
238	Yosemite (SR 132)	B Street–C Street	22,500	73

Aircraft Operation

In 1978, the Stanislaus County Airport Land Use Commission adopted the county's first Airport Land Use Commission Plan, which was amended in 2004. That plan provided height restrictions and building standards for areas adjacent to the five public and privately owned airports that were in the county at that time:

- Modesto City-County Airport
- Oakdale Municipal Airport

- Patterson Airport
- Turlock Airpark
- Crows Landing Airport (formerly Crows Landing Naval Auxiliary Landing Field)

The proposed ALUCP update (Stanislaus County 2014) provides information and promulgates policies for three airports: Modesto City-County Airport, Oakdale Municipal Airport, and Crows Landing Airport. Since adoption of the 2004 ALUCP, Patterson Airport has closed and the Turlock Airpark is in the process of being sold for non-aeronautical use, thereby making them ineligible for inclusion in the ALUCP update (Stanislaus County 2014).

Modesto City-County Airport is located directly east of Modesto and north of Ceres. Residential uses are located north, west, and south of the airport. Oakdale Municipal Airport and Crow's Landing Airport are generally surrounded by agricultural uses.

The currently adopted 2004 ALUCP does not contain airport noise contours for existing conditions. The 2004 Airport Land Use Commission Plan does provide noise contours for Modesto City-County Airport, but not Oakdale Airport or Crow's Landing Airport. The noise contours for Modesto City-County Airport reported in the 2004 Airport Land Use Commission Plan are shown in Figure 3.12-2.

With regard to Oakdale Airport, the 2004 Airport Land Use Commission Plan states that any noise conflicts, as defined by law, lie within the planning boundaries that conform to the FAA's Regulations Part 77, Objects Affecting Navigable Airspace. The 2004 Airport Land Use Commission Plan further states that noise and safety conflicts around the airport are considered minimal.

At the time that the 2004 Airport Land Use Commission Plan was prepared, the Navy operated Crows Landing Airport, which was called Crows Landing Naval Auxiliary Landing Field. There is no specific information on noise other than this statement: "The Navy has determined agricultural uses are compatible with the type of facility at Crows Landing." The ALUCP for Crows Landing will be updated at such time as plans for the Crows Landing Business Park are completed and there is a better idea of what the future use of the airport will involve.

Railroad Operations

Mainline rail operations in Stanislaus County occur on Burlington Northern Santa Fe (BNSF) Railway and Union Pacific Railroad lines. The BNSF mainline traverses the county, passing through Hughson, Riverbank, and smaller towns; a branch line connects Oakdale with the mainline at Riverbank. Regarding the Union Pacific Railroad, the mainline passes through Modesto, Ceres, and Turlock, adjacent to SR-99, and a branch line runs through Patterson, Newman, and the west side of the county. Low-speed mainline and switching operations also occur on Union Pacific Railroad, Sierra Railroad, Modesto Empire and Traction Company Railroad, and Tidewater Southern Railroad tracks (Stanislaus Council of Governments 2014).

Intermittent noise is generated during rail operations as locomotives start and stop, trains brake, rail cars are coupled and uncoupled, train whistles are blown, and track noise is generated (i.e., from trains' wheels running on the tracks). Based on ambient noise surveys from 2004, the 60 dBA L_{dn} contours are approximately 950 feet from the center of the BNSF mainline, 680 feet from the Union Pacific Railroad mainline, 140 feet from the Tidewater Southern Railroad tracks, and 80 feet from the Sierra Railroad mainline (Stanislaus Council of Governments 2014).

Industrial, Agricultural, and Other Stationary Noise Sources

Industrial and agricultural operations can be significant sources of noise, depending on the types of operations. Typically, heavy equipment and processing equipment are the primary sources of noise. Table 3.12-9 summarizes current industrial and agricultural processing operations in Stanislaus County. In addition, farming operations produce noise intermittently from field preparation, planting, harvesting, and, where applicable, crop dusting activities.

Table 3.12-9. Summary of Stationary Sources in Stanislaus County

Company, Location	Activity	Sources	Operation	Noise Level
Berry Feed and Seed Company, Keyes	Grain processing for seed and animal feeds	Material and air-handling fans, hammermills, roller mills, and heavy truck movements	24 hours/ day	60 L_{dn} approximately 1,500 feet from center of plant
California Almond Growers Exchange, Salida	Almond receiving, processing, and storage	Almond shelling, heavy truck movements, elevators, dust collectors, and conveyers	6 a.m. to midnight 5 to 6 days a week	Elevator: 66 dBA at 900 feet; processing: 66 dBA at 200 feet
Dompe Company Warehouse, Crows Landing	Storage, bean cleaning and treatment	Trucks, processing equipment	Primarily during harvest season	60 L_{dn} contour within property boundaries
Flory Industries, Salida	Equipment manufacturing and fabrication	Forklifts, trucks, welding and grinding operations, steam cleaning, compressors, and pump operations	24 hours/ day 5 to 6 days a week	60 L_{dn} contour within property boundaries
Grisez Warehouse, Crows Landing	Storage, bean cleaning and treatment	One operating mill, ventilation fans, deliveries, and forklift operation	7 a.m. to 7 p.m.	60 L_{dn} contour approximately 830 feet from center of milling equipment
Modesto Sand and Gravel, Modesto	Heavy equipment storage	Movement of heavy equipment	daytime	60 L_{dn} contour within property boundaries
Bonzi Landfill	Storage, recycling, and disposal of industrial waste	Heavy trucks, processing equipment	6 a.m. to 6 p.m. 5 days/week	Unknown
Gallo Winery, Modesto	Wine production	Cooling towers, refrigeration equipment, various types of small and large fans, trucks	24 hours/ day, every day	55 to 70 dBA at plant boundaries
Santa Fe Aggregates, Waterford	Sand and gravel extraction and processing	Backhoe, belt conveyer line, crushers	6 a.m. to 11 p.m.	60 L_{dn} contour at approximately 600 feet for excavation and hauling; 4,500 feet for asphalt processing

Source: Illingworth & Rodkin 2005.

Community Noise Survey

An extensive community noise survey was conducted in 2004 as part of the focused general plan update that occurred in 2005. In general, there is a direct relationship between population and community noise. As population increases, traffic noise increases. In the decade between 2000 and 2010, the population of Stanislaus County increased by about 15% (U.S. Census Bureau 2010). This corresponds to an increase in noise of less than 1 dB. Assuming this level of population growth, the community noise levels in 2004 are considered to be reasonably representative of community noise levels in 2014.

Table 3.12-10 summarizes measurements from the community noise survey.

Table 3.12-10. Summary of Community Noise Survey

Location	Date	Time	Daytime Noise Levels	Nighttime Noise Levels	L_{dn}
Residence, 907 Kiernan Road; 60 feet from the centerline of Hwy 219/Kiernan Road	7/20/04 to 7/21/04	11:00 am to 1:00 pm	65–68	56–65	68
50 feet from the centerline of Hwy 108, near intersection with Hwy 219	7/20/04 to 7/21/04	11:30 am to 12:30 pm	71–74	64–73	76
200 feet to center of SR 99 near lane, 350 feet to UPRR rail line	7/20/04 to 7/22/04	12:20 pm to 2:30 pm	62–65	69–75	78
30 feet from centerline of 132, near county line	7/20/04 to 7/21/04	12:00 pm to 4:00 pm	62–66	51–66	68
50 feet from centerline of 120, near county line	7/20/04 to 7/21/04	1:00 pm to 5:00 pm	70–73	62–72	75
45 feet from centerline of highway 4	7/20/04 to 7/21/04	2:00 pm to 7:00 pm	64–67	54–67	69
30 feet from centerline of Central Ave, south of Ceres near Grayson Rd	7/20/04 to 7/22/04	6:00 pm to 2:00 pm	67–70	59–69	72
65 feet from near lane of I-5	7/21/04 to 7/22/04	11:00 am to 12:00 pm	73–75	73–75	80
50 feet from centerline of SR 33, north of Crows Landing	7/21/04 to 7/22/04	11:30 am to 1:00 pm	66–70	57–69	72
50 feet from centerline of Santa Fe Ave, near Leedom	7/21/04 to 7/22/04	3:30 pm to 4:00 pm	68–75	62–76	78
50 feet from centerline of Santa Fe Ave, near Leedom	8/31/04 to 9/2/04	2:00 pm to 2:00 pm	69–75	60–74	76
3831 Hatch Rd, 65 feet from centerline of Hatch Rd	7/21/04 to 7/22/04	3:30 pm to 4:00 pm	68–71	62–71	74
20 feet west of SPTCo Railroad and 105 feet west of SR 99 in Ceres	5/18/04 to 5/21/04	12:30 pm to 2:00 pm	77–81	71–79	83
30 feet from edge of Service Rd, at Service and Moffett in Ceres	5/18/04 to 5/21/04	1:00 pm to 2:00 pm	69–73	62–73	75
2805 Evalee Lane, 270 feet east of SR 99 in Ceres	5/18/04 to 5/20/04	1:30 pm to 3:00 pm	66–69	60–69	72
Little Orchard Mobile Home Park, 130 feet east of SR 99 in Ceres	5/18/04 to 5/20/04	2:30 pm to 3:00 pm	72–74	64–73	78

Location	Date	Time	Daytime Noise Levels	Nighttime Noise Levels	L_{dn}
60 feet from near lane of I-5 in Westley	8/31/04 to 9/2/04	10:30 am to 10:30 am	72–74	71–75	80
150 feet from AT&SF Railroad in Hughson	8/31/04 to 9/2/04	1:00 pm to 2:00 pm	69–80	59–80	81
50 feet from the Sierra Railroad tracks east of Oakdale	8/31/04 to 9/2/04	3:00 pm to 3:00 pm	66–71	58–70	72
35 feet from Tidewater Railroad, south of Del Rio	8/31/04 to 9/2/04	4:00 pm to 4:00 pm	63–70	43–63	70

Source: Stanislaus County 2005.

3.12.3 Impact Analysis

This section discusses the approach and methodology used to assess the impacts of the plan updates; the individual impacts relative to the thresholds of significance; mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for significant impacts; and the overall significance of the impact with mitigation incorporated.

Major Sources Used in Analysis

The major sources used in this analysis are listed below:

- Stanislaus County General Plan Update, Technical Reference Document for Noise Analysis (Illingworth & Rodkin 2005)
- Stanislaus County General Plan Noise Element (no substantive changes in the general plan update)
- Stanislaus County Noise Ordinance (http://qcode.us/codes/stanislauscounty/)
- Stanislaus Council of Governments, 2014 Regional Transportation Plan/Sustainable Communities Strategy Final Programmatic Environmental Impact Report (Stanislaus Council of Governments 2014)
- Stanislaus County Airport Land Use Commission Plan, as amended May 2004 (Stanislaus County 2004)
- Stanislaus County Airport Land Use Compatibility Plan (Stanislaus County 2014)

Approach and Methodology

Noise impacts associated with implementation of the updated general plan have been evaluated at a program level of detail, with a focus on temporary construction-related noise and long-term noise associated with transportation-related growth and land use development. The evaluation of temporary construction noise was based the FTA guidance document, *Transit Noise and Vibration Impact Assessment* (Federal Transit Administration 2006). Noise associated with increased traffic that would occur with implementation of the plan is likely to be the largest contributor to increased transportation noise in the county. Traffic noise was evaluated by using traffic data provided by the project traffic consultant (Fehr & Peers 2015) and traffic noise emissions data from the TNM to compare traffic noise levels from implementation of the plan with existing conditions.

Forecasts regarding how freight rail operations may change in the future are not available. In general, freight operations tend to not change significantly over time. The evaluation of noise from aircraft operations was based on noise data and contours provided in the currently adopted ALUCP reports and the updated ALUCP reports.

Thresholds of Significance

Based on State CEQA Guidelines, Appendix G, the plan updates would have a significant impact with respect to noise if they would:

- Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies.
- Expose persons to or generate excessive groundborne vibration or groundborne noise levels.
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels.
- Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels.

Impacts and Mitigation Measures

Impact NOI-1: Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies (significant and unavoidable)

Construction Noise

Table 3.12-11 summarizes typical construction noise levels for several project types and various phases of construction. The calculation of noise levels at various distances was based on a point-source attenuation of 6 dB per doubling of distance.

Table 3.12-11 indicates that construction activity would result in excessive noise when located close to noise-sensitive uses or occurring at night. Chapter 10.46 of the Stanislaus County Code limits construction noise to 75 dBA at any receiving property line between the hours of 7 p.m. and 7 a.m. Implementation of this code requirement will limit construction noise to a level determined to be acceptable by the county. The noise impact of construction activity is therefore considered to be less than significant. No mitigation is required.

Table 3.12-11. Typical Construction Noise Levels

	Housing					Industrial					Public Works					Non-Residential				
	Distance from Construction (feet)																			
	50	100	200	400	800	50	100	200	400	800	50	100	200	400	800	50	100	200	400	800
Construction Phase	Sound Level (dBA)																			
Ground clearing	85	79	73	67	61	87	81	75	69	63	88	82	76	70	64	91	85	79	73	67
Excavation	89	83	77	71	65	90	84	78	72	66	90	84	78	72	66	87	81	75	69	63
Foundations	82	76	70	64	58	89	83	77	71	65	92	86	80	74	68	87	81	75	69	63
Building/facility construction	81	75	69	63	57	85	79	73	67	61	88	82	76	70	64	88	82	76	70	64
Finishing and cleanup	86	80	74	68	62	89	83	77	71	65	90	84	78	72	66	87	81	75	69	63

Source: U.S. Environmental Protection Agency 1971.

Construction Vibration

Table 3.12-12 summarizes typical construction vibration levels from various types of equipment.

Table 3.12-12. Typical Construction Vibration Levels

	Distance from Construction (feet)				
	25	50	75	100	175
Equipment	Peak Particle Velocity (in/sec)				
Pile driver (impact)	1.518	0.5367	0.2921	0.1898	0.0820
Pile driver (sonic)	0.734	0.2595	0.1413	0.0918	0.0396
Vibratory roller	0.21	0.0742	0.0404	0.0263	0.0113
Hoe ram	0.089	0.0315	0.0171	0.0111	0.0048
Large bulldozer	0.089	0.0315	0.0171	0.0111	0.0048
Caisson drill rig	0.089	0.0315	0.0171	0.0111	0.0048
Loaded truck	0.076	0.0269	0.0146	0.0095	0.0041
Jackhammer	0.035	0.0124	0.0067	0.0044	0.0019
Small bulldozer	0.003	0.0011	0.0006	0.0004	0.0002

Source: Federal Transit Administration 2006.

Table 3.12-12 indicates that construction activity would result in excessive vibration when located close to noise-sensitive uses. Chapter 10.46 of the Stanislaus County Code limits vibration to the perception level or 0.01 inch per second at or beyond a property boundary. Implementation of this code requirement will limit construction vibration to a level determined to be acceptable by the county. The vibration impact of construction activity is therefore considered to be less than significant. No mitigation is required.

Traffic

Predicted traffic noise levels under future conditions in Year 2035 are shown in Table 3.12-13. Noise levels were calculated for receivers located 75 feet from roadway centerline.

Table 3.12-13 indicates that traffic noise levels in Year 2035 would result in noise levels of 60 L_{dn} or greater on several roadway segments within the county. A map illustrating roadway segments where traffic noise levels are predicted to equal or exceed 60 L_{dn} is shown in Figure 3.12-3. New residences and other noise-sensitive land uses constructed on roadway segments with traffic that equals or exceeds 60 L_{dn} would be exposed to excessive noise. Implementation Measure 1 Goal Two, Policy Two in the general plan Noise Element limits the exposure of new noise-sensitive development to traffic noise to a level determined to be acceptable by the county. Noise impacts from traffic on new development are therefore considered to be less than significant. No mitigation is required.

Noise impacts would be significant where future noise levels would equal or exceed 60 L_{dn} and expose existing noise sensitive land uses to these higher levels. Examples of these areas are identified in Table 3.12-13, including link numbers 11, 14-17, 29-32, 35-38, 41, 44, 50-53, 61, 62, 75, and more. Mitigation of this impact would vary, depending on the level of noise, distance of the sensitive receptor from the road, and construction of the affected building. Based on the specific

circumstances, methods of mitigation could include, but are not limited to, installation of a solid wall along the road frontage, retrofitting of existing buildings with double-pane windows, and installation of insulation in walls facing the road. The County does not have a program for mitigating noise impacts affecting existing sensitive receptors. This impact would be significant and unavoidable because there is no feasible program to mitigate the impact.

Table 3.12-13. Future Traffic Noise Levels

Link	Roadway	Segment Location	ADT	2014 L_{dn}	2035 L_{dn}	Increase over 2014 L_{dn}, dB
1	26 Mile Road	Carter Road–Eastman Road	3,200	54	58	+ 4
2	26 Mile Road	Dunn Ranch Road–Gilbert Road	3,200	56	58	+ 2
3	9th Street	E Street–D Street	2,300	64	56	- 8
4	August Road	Prairie Flower Road–Mitchell Road	4,100	54	59	+ 5
5	Bacon Road	Hammett Road–Toomes Road	1,900	53	55	+ 2
6	Bacon Road	Hammett Road–Williams Road	2,600	54	57	+ 3
7	Bacon Road	Jackson Road–Hart Road	1,400	52	54	+ 2
8	Beckwith Road	Hart Road–Hammett Road	4,000	58	58	0
9	Beckwith Road	Finney Road–Toomes Road	5,100	58	59	+ 1
10	Beckwith Road	Jackson Road–Hart Road	2,600	56	57	+ 1
11	Berkeley Avenue	Ramson Drive–Paulson Road	8,500	60	62	+ 2
12	Blue Gum Avenue	Morse Road–Dakota Avenue	2,300	57	56	- 1
13	Bradbury Road	Morgan Road–Crows Landing Road	4,800	54	59	+ 5
14	Bradbury Road	Blaker Road–Central Avenue	5,200	55	60	+ 5
15	Bradbury Road	Walnut Road–Soderquist Road	5,400	56	60	+ 4
16	Bradbury Road	Commons Road–Washington Road	5,900	57	60	+ 3
17	Bradbury Road	Tegner Road–Walnut Road	6,000	57	60	+ 3
18	Brier Road	Berkeley Avenue–Johnson Road	4,100	54	59	+ 5
19	Carpenter Road	Ruble Road–Crows Landing Road	2,600	54	57	+ 3
20	Carpenter Road	Fulkerth Road–Monte Vista Avenue	7,400	60	61	+ 1
21	Carpenter Road	Service Road–Redwood Road	9,100	61	62	+ 1
22	Central Avenue	Hilmar Road–Bradbury Road	1,500	54	54	0
23	Central Avenue	Linwood Avenue–Main Street	1,500	54	54	0
24	Central Avenue	Tuolumne Road–Monte Vista Road	2,600	55	57	+ 2
25	Church Street	Milnes Road–Parker Road	2,600	57	57	0
26	Claribel Road	Albers Road–Oakdale Waterford Hwy	1,600	55	55	0
27	Claribel Road	Bentley Road–Albers Road	5,700	60	60	0
28	Claribel Road	Langworth–Eleanor Avenue	6,500	61	61	0
29	Crows Landing Road	Clausen Road–Harding Road	14,000	59	64	+ 5
30	Crows Landing Road	Canal Road–FULKERTH	10,400	60	63	+ 3
31	Crows Landing Road	Bradbury Road–Ehrlich Road	18,200	60	65	+ 5
32	Del Puerto Canyon Road	Diablo Grande Pkwy–Mt Oso Road	22,500	60	66	+ 6
33	E Keyes Road	Hickman Road–Merriam Road	2,300	55	56	+ 1
34	E Keyes Road	Geer Road–Berkeley Avenue	2,900	57	57	0

Link	Roadway	Segment Location	ADT	2014 L_{dn}	2035 L_{dn}	Increase over 2014 L_{dn}, dB
35	E Keyes Road	Crows Landing Road–Ustick Road	5,400	59	60	+ 1
36	E Keyes Road	Central Avenue–Moffett Road	6,000	59	60	+ 1
37	E Keyes Road	Pioneer Road–Mountain View Road	6,700	60	61	+ 1
38	E Marshal	SR 33–Pomegranate Avenue	8,600	55	62	+ 7
39	E Monte Vista Road	Santa Fe Avenue–Vincent Road	1,900	55	55	0
40	E Whitmore	Lockwood Road–Washington Road	6,900	60	61	+ 1
41	East Avenue	Johnson Road–Oleander Lane	15,700	61	64	+ 3
42	East Avenue	Santa Fe Drive–Hickman Road	3,200	57	58	+ 1
43	East Avenue	Verduga Road–Daubenberger Road	4,800	58	59	+ 1
44	East Avenue	Quincy Road–Johnson Road	11,400	59	63	+ 4
45	Emerald Avenue	Lone Palm Avenue–Kansas Avenue	5,000	60	59	- 1
46	Faith Home Road	Tuolumne Road–Monte Vista Road	2,900	55	57	+ 2
47	Faith Home Road	CR-J17–Clayton Road	3,300	54	58	+ 4
48	Faith Home Road	Keyes Road–Barnhart Road	3,300	55	58	+ 3
49	Faith Home Road	Main Street–Fulkerth Road	4,000	55	58	+ 3
50	Faith Home Road	Keyes Road–Kaiser Road	6,800	53	61	+ 8
51	Faith Home Road	Don Pedro Road–Service Road	10,100	56	62	+ 6
52	Faith Home Road	Whitmore Avenue–Roeding Road	11,600	56	63	+ 7
53	Finch Road	Garner Road–Codoni Avenue	5,300	56	60	+ 4
54	Fink Road	Ward Avenue–Davis Road	2,100	55	56	+ 1
55	Fink Road	Bell Road–Medlin Road	3,600	55	58	+ 3
56	Finney Road	Beckwith Road–North Avenue	1,400	53	54	+ 1
57	Finney Road	Covert Road–Adams Avenue	1,900	55	55	0
58	Fulkerth	Central Avenue–Moffett Road	4,200	55	59	+ 4
59	Fulkerth	Crows Landing Road–Bystrum Road	4,300	55	59	+ 4
60	Fulkerth	Prairie Flower Road–Faith Home Road	5,000	57	59	+ 2
61	Fulkerth	Washington Road–Commons Road	7,100	58	61	+ 3
62	Garner Road	Leckron Road–Finch Road	15,700	61	64	+ 3
63	Geer Road	Santa Fe Avenue–Grayson Road	10,900	63	63	0
64	Geer Road	Keyes Road–Barnhart Road	11,300	63	63	0
65	Golden State Blvd	Nunes Road–Keyes Road	7,100	58	61	+ 3
66	Golf Road	Glenwood Avenue–Linwood Avenue	3,700	56	58	+ 2
67	Gratton Road	Keyes Road–Barnhart Road	2,000	55	56	+ 1
68	Hammett Road	Covert Road–Bacon Road	2,500	55	56	+ 1
69	Harding Road	Commons Road–Faith Home Road	1,700	49	55	+ 6
70	Hart Road	California Avenue–Maza Blvd	3,100	57	57	0
71	Hart Road	California Avenue–Paradise Road	3,200	57	58	+ 1
72	Hawkeye Avenue	Verduga Road–Waring Road	2,100	55	56	+ 1
73	Herndon Road	River Road–Sorona Avenue	3,800	58	58	0
74	Hickman Road	Delaware Road–Lake Road	7,500	60	61	+ 1
75	Hickman Road	Monte Vista Avenue–Taylor Road	2,500	56	56	0

Link	Roadway	Segment Location	ADT	2014 L_{dn}	2035 L_{dn}	Increase over 2014 L_{dn}, dB
76	Hills Ferry Road	Stuhr Road–River Road	8,700	60	62	+ 2
77	I-5	Davis Road–Stuhr Road	47,700	76	77	+ 1
78	I-5	Fink Road–Davis Road	47,700	76	77	+ 1
79	I-5	Diablo Grande Pkwy–Oak Flat Road	47,800	76	77	+ 1
80	I-5	Gaffery Road–Ingram Creek Road	52,000	76	77	+ 1
81	I-5	Ingram Creek Road–Diablo Grande Pkwy	55,000	76	77	+ 1
82	Jeffrey Drive	Sylvan Avenue–Carl Way	2,500	54	56	+ 2
83	Jennings Road	Service Road–Grayson Road	3,100	52	57	+ 5
84	Jennings Road	Keyes Road–Grayson Road	5,000	57	59	+ 2
85	Jennings Road	Keyes Road–Barnhart Road	5,500	57	60	+ 3
86	Johnson Road	Merritt Street–East Avenue	3,900	58	58	0
87	Johnson Road	East Avenue–Evelle Lane	5,200	57	60	+ 3
88	Keyes Road	Blaker Road–Central Avenue	6,100	59	60	+ 1
89	Kiernan Road	Stratos Way–SR 108	26,100	65	67	+ 2
90	Kiernan Road	CR 99 Off Ramp–CR 99 On Ramp	41,400	68	69	+ 1
91	Langworth Road	Mesa Drive–Patterson Road	2,000	55	56	+ 1
92	Langworth Road	Milnes Road–Rice Road	2,100	56	56	0
93	Lester Road	Hawkeye Avenue–Tuolumne Road	2,200	55	56	+ 1
94	Linwood Avenue	Paulson Road–Johnson Road	5,900	53	60	+ 7
95	Main Street	Kern Street–Fresno Avenue	6,700	60	61	+ 1
96	Mariposa Road	Farrar Avenue–Finch Road	2,700	57	57	0
97	Maze Blvd	Carpenter Road–Rosemore Avenue	9,700	64	62	- 2
98	Maze Blvd	Carpenter Road–Meadow Lane	8,900	64	62	- 2
99	Maze Blvd	Hart Road–Texas Avenue	16,800	64	65	+ 1
100	Maze Blvd	McCracken Road–Kasson Road	23,700	65	66	+ 1
101	McCracken Road	Gaffery Road–Spencer Road	2,900	52	57	+ 5
102	Milnes Road	Santa Fe Avenue–Dewitt Road	5,400	59	60	+ 1
103	Milnes Road	Church Street–Langworth Road	6,300	60	60	0
104	Milton Road	Dunton Road–Sonora Road	2,200	53	56	+ 3
105	Mitchell Road	Harding Road–Bradbury Road	2,100	53	56	+ 3
106	Mitchell Road	Clayton Road–Linwood Avenue	2,700	54	57	+ 3
107	Mitchell Road	Hilmar Road–August Road	3,700	54	58	+ 4
108	Mitchell Road	August Road–Williams Avenue	4,700	55	59	+ 4
109	Morgan Road	Grayson Road–Keyes Road	2,200	55	56	+ 1
110	Motsinger Road	Faith Home Road–Anna Avenue	3,700	55	58	+ 3
111	N Santa Fe Avenue	Monte Vista Avenue–Vincent Road	2,700	56	57	+ 1
112	N Santa Fe Avenue	Keyes Road–Barnhart Road	4,000	58	58	0
113	Oakdale-Waterford Hwy	Claribel Road–Rice Road	5,400	58	60	+ 2
114	Oakdale-Waterford Hwy	Ellenwood Road–Milnes Road	8,400	60	62	+ 2
115	Orange Blossom Road	Wamble Road–Lancaster Road	3,900	57	58	+ 1
116	Orange Blossom Road	Rodden Road–Olive Avenue	4,200	56	59	+ 3

Link	Roadway	Segment Location	ADT	2014 L_{dn}	2035 L_{dn}	Increase over 2014 L_{dn}, dB
117	Orange Blossom Road	Stone Avenue–Sonora Road	3,300	53	58	+ 5
118	Paradise Road	Michigan Avenue–Pauline Avenue	6,400	58	60	+ 2
119	Paradise Road	Shiloh Road–Hart Road	8,100	59	61	+ 2
120	Parker Road	Wellsford Road–Church Street	3,600	58	58	0
121	Paulson Road	Linwood Avenue–Daubenberger Road	4,400	56	59	+ 3
122	Pioneer Road	Redwood–Grayson Road	1,300	53	54	+ 1
123	Pioneer Road	Keyes Road–Grayson Road	1,500	54	54	0
124	Quincy Road	Monte Vista Avenue–Valdosta Drive	3,400	57	58	+ 1
125	Redwood Road	Central Avenue–Moffett Road	3,700	49	58	+ 9
126	Riverside Drive	Lapham Drive–Nathan Avenue	4,300	58	59	+ 1
127	Roselle Road	Sylvan Avenue–Plainview Road	20,000	61	65	+ 4
128	Rosemore Avenue	Kansas Avenue–Elm Avenue	2,400	56	56	0
129	Rouse Avenue	Alturas Avenue–Leon Avenue	3,700	58	58	0
130	Santa Fe Avenue	Service Road–7th Street	7,500	60	61	+ 1
131	Santa Fe Avenue	Hatch Road–Leedom Road	7,900	61	61	0
132	Santa Fe Avenue	Geer Road–Redwood Road	4,200	57	59	+ 2
133	Santa Fe Drive	East Avenue–Linwood Avenue	2,900	56	57	+ 1
134	Service Road	Carpenter Road–Ustick Road	1,800	55	55	0
135	Service Road	Mountain View Road–Tully Road	2,500	55	56	+ 1
136	Service Road	Ustick Road–Crows Landing Road	2,500	55	56	+ 1
137	Service Road	Griffin Road–Santa Fe Avenue	2,600	55	57	+ 2
138	Service Road	Washington Road–Pioneer Road	2,700	56	57	+ 1
139	Service Road	Sanders Road–Vivian Road	3,100	53	57	+ 4
140	Service Road	Esmar Road–Faith Home Road	4,600	58	59	+ 1
141	Shoemake Avenue	Dakota Avenue–Finney Road	1,700	54	55	+ 1
142	Shoemake Avenue	Hart Road–Edsel Lane	2,200	51	56	+ 5
143	Shoemake Avenue	Gates Road–Dunn Road	2,500	52	56	+ 4
144	Sierra Road	Laughlin Road–Wamble Road	1,200	53	53	0
145	Sierra Road	Stearns Road–Orsi Road	4,300	58	59	+ 1
146	Sisk Road	Wallasey Way–Wessex Lane	21,200	63	66	+ 3
147	SR 108	St Francis Avenue–Ladd Road	23,300	71	71	0
148	SR 108	SR 219–Charity Way	26,200	71	72	+ 1
149	SR 120	Sawyer Avenue–Walnut Avenue	17,600	69	70	+ 1
150	SR 120	Pioneer Avenue–Sawyer Avenue	17,700	69	70	+ 1
151	SR 120	Wamble Road–Orange Blosson Road	22,100	70	71	+ 1
152	SR 120	Dillwood Road–Orange Blossom Road	30,400	71	73	+ 2
153	SR 120	26 Mile Road–Rodden Road	33,600	72	73	+ 1
154	SR 120	Rodden Road–North Street	33,700	72	73	+ 1
155	SR 33	SR 132–Welty Road	8,100	58	64	+ 6
156	SR 33	D Street–E Street	10,000	60	65	+ 5
157	SR 33	B Street–Grayson Road	12,100	62	66	+ 4

Link	Roadway	Segment Location	ADT	2014 L_{dn}	2035 L_{dn}	Increase over 2014 L_{dn}, dB
158	SR 33	Fruit Avenue–Baldwin Road	12,200	62	66	+ 4
159	SR 33	Mulberry Avenue–Baldwin Road	13,600	62	66	+ 4
160	SR 33	Eucalyptus Avenue–Olive Avenue	14,900	63	67	+ 4
161	SR 33	I Street–El Circulo Avenue	15,000	63	67	+ 4
162	SR 33	5th Street–6th Street	15,200	62	67	+ 5
163	SR 33	5th Street–4th Street	15,300	62	67	+ 5
164	SR 33	Inyo Avenue–Sanches Road	15,300	64	67	+ 3
165	SR 33	Lundy Road–Stuhr Road	15,300	63	67	+ 4
166	SR 33	4th Street–Ike Crow Road	15,800	63	67	+ 4
167	SR 33	J T Crow Road–Anderson Road	15,800	63	67	+ 4
168	SR 33	Eastin Road–J T Crow Road	16,000	63	67	+ 4
169	SR 33	Stanislaus Street–Inyo Avenue	16,300	64	67	+ 3
170	SR 33	6th Street–Fink Road	16,800	64	67	+ 3
171	SR 33	Sperry Avenue–C Street	16,900	64	67	+ 3
172	SR 33	El Circulo Avenue–E Street	18,500	64	68	+ 4
173	SR 33	Las Palmas Avenue–Salado Avenue	19,700	65	68	+ 3
174	SR 33	Poppy Avenue–Sperry Avenue	20,100	64	68	+ 4
175	SR 33	Merced Street–Kern Street	19,300	65	68	+ 3
176	SR 33	Mariposa Street–Kern Street	20,300	65	68	+ 3
177	SR 4	Milton Road–Waverly Road	13,300	64	66	+ 2
178	SR 99	Golf Road–Griffith Avenue	69,500	77	78	+ 1
179	SR 99	Lander Avenue–Golf Road	69,500	77	78	+ 1
180	SR 99	Linwood Avenue–Lander Avenue	86,500	78	79	+ 1
181	SR 99	Monte Vista Avenue–Taylor Road	88,000	78	79	+ 1
182	SR 99	Fulkerth Road–Tuolumne Road	90,000	79	79	0
183	SR 99	Canal Drive–Main Street	93,900	79	79	0
184	SR 99	Keyes Road–Taylor Road	108,800	79	80	+ 1
185	SR 99	Service Road–Pine Street	113,000	79	80	+ 1
186	SR 99	Whitmore Avenue–Pine Street	113,700	79	80	+ 1
187	SR 99	Service Road–Mitchell Road	119,600	80	81	+ 1
188	SR 99	Hatch Road–9th Street	122,500	80	81	+ 1
189	SR 99	Crows Landing Road–9th Street	122,900	80	81	+ 1
190	SR 99	Hatch Road–Whitmore Avenue	123,000	80	81	+ 1
191	SR 99	Faith Home Road–Mitchell Road	126,000	80	81	+ 1
192	SR 99	Pelandale Avenue–Beckwith Road	127,500	80	81	+ 1
193	SR 99	Crows Landing Road–Zeff Road	132,900	80	81	+ 1
194	SR 99	Sierra Drive–Tuolumne Blvd	135,100	80	81	+ 1
195	SR 99	Pelandale Avenue–SR 219	136,900	80	81	+ 1
196	SR 99	Hammett Road–SR 219	143,600	80	81	+ 1
197	SR 99	Kansas Avenue–SR 132	144,500	81	81	0
198	SR 99	Beckwith Road–Carpenter Road	145,800	81	81	0

Link	Roadway	Segment Location	ADT	2014 L_{dn}	2035 L_{dn}	Increase over 2014 L_{dn}, dB
199	SR 99	Carpenter Road–9th Street	146,100	81	81	0
200	SR 99	Woodland Avenue–9th Street	146,100	81	81	0
201	Vivian Road	Grayson Road–Keyes Road	4,300	55	59	+ 4
202	Vivian Road	Whitmore Avenue–Hackett Road	7,100	56	61	+ 5
203	W Grayson Road	Morgan Road–Blaker Road	3,000	54	57	+ 3
204	W Grayson Road	Vivian Road–Carpenter Road	4,800	56	59	+ 3
205	W Grayson Road	River Road–SR 33	9,500	60	62	+ 2
206	W Keyes Road	Crows Landing Road–Ustick Road	3,300	56	58	+ 2
207	W Monte Vista Road	Carpenter Road–Vivian Road	2,500	51	56	+ 5
208	W Stuhr Road	Bell Road–Jorgensen Road	2,300	54	56	+ 2
209	W Stuhr Road	I-5–Bell Road	6,000	54	60	+ 6
210	Ward Avenue	Elfers Avenue–Marshall Road	7,900	54	61	+ 7
211	Washington Road	Idaho Road–Bradbury Road	1,700	54	55	+ 1
212	Wellsford Road	Garst Road–Dusty Lane	1,500	53	54	+ 1
213	Yosemite (SR 132)	Old La Grange Road–SR 132	2,300	63	63	0
214	Yosemite (SR 132)	La Grange Road–Old La Grange Road	2,900	64	64	0
215	Yosemite (SR 132)	Crabtree Road–Roberts Ferry Road	3,200	65	65	0
216	Yosemite (SR 132)	La Grange Road–Lake Road	3,200	65	65	0
217	Yosemite (SR 132)	Lake Road–Rushing Road	3,200	65	65	0
218	Yosemite (SR 132)	Rushing Road–Crabtree Road	3,200	65	65	0
219	Yosemite (SR 132)	Rushing Road–Crabtree Road	3,200	65	65	0
220	Yosemite (SR 132)	Baker Street–Appling Road	7,000	67	68	+ 1
221	Yosemite (SR 132)	Baker Street–E Street	8,300	67	69	+ 2
222	Yosemite (SR 132)	H Street–Root Road	10,000	69	70	+ 1
223	Yosemite (SR 132)	Lincoln Avenue–Mariposa Road	21,500	72	73	+ 1
224	Yosemite (SR 132)	Santa Fe Avenue–F Street	11,500	70	70	0
225	Yosemite (SR 132)	Reinway Avenue–Pasadena Avenue	11,800	70	70	0
226	Yosemite (SR 132)	Triangle Ranch Road–Albers Road	11,900	70	71	+ 1
227	Yosemite (SR 132)	Garner Road–Creekwood Drive	19,600	72	73	+ 1
228	Yosemite (SR 132)	Covena Avenue–Santa Cruz Avenue	24,100	73	74	+ 1
229	Yosemite (SR 132)	El Vista Avenue–Colfax Avenue	24,500	73	74	+ 1
230	Yosemite (SR 132)	G Street–H Street	12,700	70	71	+ 1
231	Yosemite (SR 132)	Parry Road–Mitchell Road	25,300	73	74	+ 1
232	Yosemite (SR 132)	C Street–E Street	27,400	73	74	+ 1
233	Yosemite (SR 132)	E Street–SR 108	27,400	73	74	+ 1
234	Yosemite (SR 132)	Covena Avenue–Kerr Avenue	29,200	74	74	0
235	Yosemite (SR 132)	A Street–Santa Fe Avenue	18,500	72	72	0
236	Yosemite (SR 132)	A Street–B Street	27,200	73	74	+ 1
237	Yosemite (SR 132)	North Street–A Street	33,100	74	75	+ 1
238	Yosemite (SR 132)	B Street–C Street	27,300	73	74	+ 1

Rail

Based on noise levels measured adjacent to existing tracks, rail operations may result in 60 L_{dn} noise contours extending up to 1,000 feet from tracks. Residences and other noise-sensitive land uses constructed within approximately 1,000 of tracks would be exposed to excessive noise. Implementation Measure 1, under Goal Two, Policy Two in the general plan Noise Element limits the exposure of new residential construction to rail noise to a level determined to be acceptable by the county. Railroad noise is an existing condition. So, existing sensitive receptors are already exposed to this noise. The noise impact from rail operations is therefore considered to be less than significant. No mitigation is required.

The California High Speed Rail Authority plans to institute full high speed rail (HSR) service from the Bay Area to the Los Angeles Basin by 2028 (California High Speed Rail Authority 2015). Service to Sacramento and San Diego is scheduled for Phase 2 of the HSR project, with no date of operation currently scheduled. Service to Sacramento would include construction of an HSR line from Merced through Stanislaus County to Sacramento, with a station anticipated to be located in Modesto. The specific route, track specifications, trainset specifications, and service intervals are unknown at this time, and planning for this line is just beginning. Without these facts, analysis of noise generated by a new HSR facility would be largely speculative and is not included here.

Industry/Stationary Sources

Noise generated by industrial operations and other stationary sources will vary widely, depending on the type of activity and equipment used at each site. Existing industrial operations result in 60 L_{dn} noise contours that extend up to approximately 1,500 feet from facilities. This already affects existing noise sensitive land uses and would not be a new impact on those uses. New residences and other noise-sensitive land uses constructed within approximately 1,500 of industrial operations would be exposed to excessive noise. Implementation Measure 1 under Goal Two, Policy Two in the general plan Noise Element limits the exposure of new noise-sensitive development to industrial noise to a level determined to be acceptable by the county. Implementation Measure 2 will prevent new development of industrial, commercial, or other noise-generating land uses from exposing new or planned noise-sensitive uses to excessive noise. The noise impact from industrial operations and other stationary source is therefore considered to be less than significant. No mitigation is required.

Airports

Figure 3.12-4 shows long-range noise contours for Modesto City-County Airport.

Figure 3.12-5 shows long-range noise contours for Oakdale Municipal Airport.

A noise contour map is not available for Crow's Landing Airport. This facility is not currently in operation and is in the midst of being planned as a major job center to be known as the Crows Landing Industrial Business Park. The county issued a Notice of Preparation of a Draft Environmental Impact Report for the proposed Crows Landing Industrial Business Park project on October 13, 2014. The county anticipates that the Industrial Business Park will require more than 30 years to reach full build-out. The anticipated Phase 1 development (2016 to 2025) would include revitalizing/converting former military Runway 11-29 to support a general aviation (GA) airport. The details of this use are not fully developed; however, the proposed airport will be sized and equipped to accommodate small- to medium-sized air cargo/air freight feeder aircraft (e.g., Cessna Caravan, Beech 99, and Lear jet, retrofitted twin-turboprop commuter aircraft), and the use of large

air cargo aircraft is not considered. At such time as Crows Landing becomes operational, the county would adopt an updated ALUCP for the airport.

The noise contour maps in Figures 3.12-4 and 3.12-5 indicate that new noise-sensitive land uses located in proximity to airports would be exposed to noise that would exceed county noise standards. The compatibility policies in Section 4 of the 2014 ALUCP will limit the exposure of new noise-sensitive construction to airport noise to a level determined to be acceptable by the county. The noise impact from airport operations is therefore considered to be less than significant.

Significance without Mitigation: Significant and Unavoidable

Impact NOI-2: Expose persons to or generate excessive groundborne vibration or groundborne noise levels (less than significant)

The analysis in Impact NOI-1 indicates that construction activity would result in excessive vibration when the activity is located close to noise-sensitive uses. Chapter 10.46 of the Stanislaus County Code limits vibration to the perception level or 0.01 inch per second at or beyond a property boundary. Implementation of this code requirement will limit construction vibration to a level determined to be acceptable by the county. The vibration impact of construction activity is therefore considered to be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact NOI-3: Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project (less than significant)

The 2014 ALUCP states that the long-range noise contours of Modesto City-County Airport are noticeably smaller than the noise contours provided in the 2004 Airport Land Use Commission Plan for the airport. This is attributed to advances in engine and airframe technology that have effectively reduced noise contours, even with an increase in annual operations. The same is expected to be true at Oakdale Municipal Airport. Crow's Landing Airport is not currently in operation, so an increase in airport noise expected once it begins operation as a GA airport. With the exception of Crows Landing, future airport operations in the county are therefore not expected to result in a substantial permanent increase in aircraft noise.

The Crows Landing airport will be surrounded by the proposed industrial business park, which is not a noise-sensitive land use. Furthermore, by law and regulation, the ALUCP adopted in the future for the airport will include policies to limit future development in areas of excessive noise and risk. Based on the preliminary airport layout plan, the county has prepared a preliminary draft noise map for Crows Landing. No excessive noise is expected to reach the nearby community of Crows Landing or the more distant City of Patterson, and the impact is therefore less than significant (Stanislaus County 2014).

Rail operations are not expected to increase substantially. Therefore, they are not expected to result in a substantial permanent increase in noise.

The analysis presented in Impact NOI-1 indicates that noise from traffic and industrial and agricultural operations could result in substantial permanent increases in noise, depending on the specific sources and ambient noise conditions at a given receiver location. Implementation Measure 1 under Goal Two, Policy Two in the general plan Noise Element limits the exposure of new noise-

sensitive development to industrial noise to a level determined to be acceptable by the county. Implementation Measure 2 under Goal Two, Policy Two prevents new development of industrial, commercial, or other noise-generating land uses from exposing new or planned noise-sensitive uses to excessive noise. The limitations on noise that will occur as a result of Implementation Measures 1 and 2 will prevent permanent noise increases from being substantial. This impact is therefore considered to be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact NOI-4: Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (less than significant)

The analysis presented in Impact NOI-1 indicates that noise from construction of projects in implementation of the general plan could result in substantial temporary increases in noise, depending on the specific sources and ambient noise conditions at a given receiver location. Chapter 10.46 of the Stanislaus County Code limits construction noise to 75 dBA at any receiving property line between the hours of 7 p.m. and 7 a.m. Implementation of this code requirement will limit construction noise to a level determined to be acceptable by the county and prevent temporary noise increases from being substantial. This impact is therefore considered to be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact NOI-5: Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels (less than significant)

As described in *Regulatory Setting* above, there are three airport land use plan areas in the county. The noise contour maps in Figures 3.12-3 and 3.12-4 indicate that new noise-sensitive land uses located in proximity to airports would be exposed to noise that would exceed county noise standards. The compatibility policies in Section 4 of the 2014 ALUCP will limit the exposure of new noise-sensitive construction to airport noise to a level determined to be acceptable by the county. The Crows Landing airport preliminary draft noise map indicates that the future GA airport will not exceed acceptable noise levels. The noise impact from airport operations is therefore considered to be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact NOI-6: Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels (less than significant)

There are numerous small, private airstrips in the county serving the agricultural industry. None of the proposed changes in the general plan would result in changes to these existing operations. This impact is therefore considered less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

3.12.4 References Cited

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Land Use Category	Exterior Noise Exposure L_{dn} or CNEL, dBA					
	55	60	65	70	75	80
Residential - Low Density Single Family, Duplex, and Mobile Homes						
Multi Family Residential			*			
Hotels and Motels						
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches						
Auditoriums, Concert Halls, and Amphitheaters						
Sports Arena and Outdoor Spectator Sports						
Playgrounds and Neighborhood Parks						
Golf Courses, Riding Stables, Water Recreation, and Cemeteries						
Office Buildings, Business Commercial, and Professional						
Industrial, Manufacturing, Utilities, and Agriculture						

** Interior noise levels shall not exceed 45 Ldn in all new residential units (single and multi family). Development sites exposed to noise levels exceeding 60 Ldn shall be analyzed following protocols in Appendix Chapter 12, Section 1208, A, Sound Transmission Control, 1998 California Building Code.*

NORMAL ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special insulation requirements.

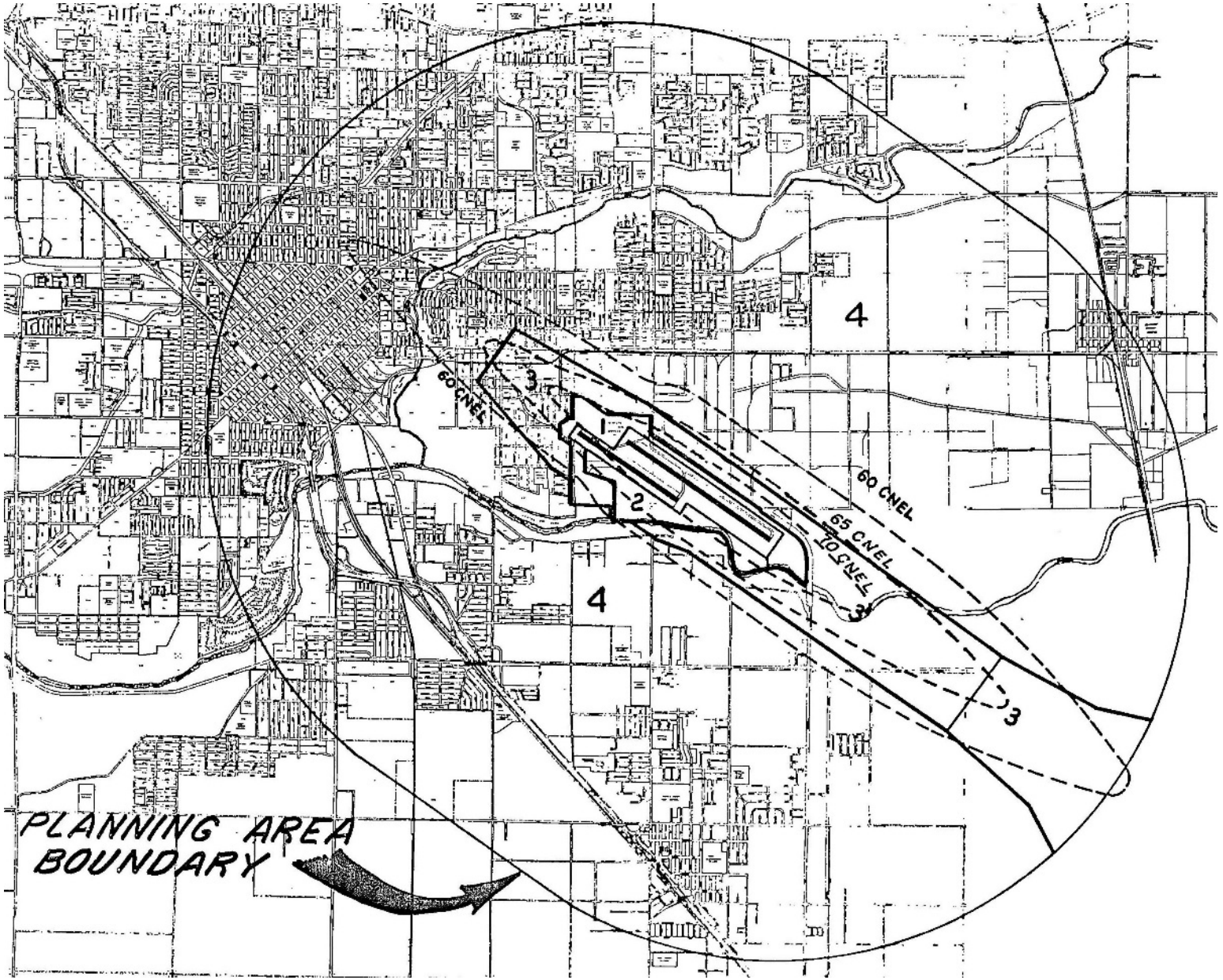
CONDITIONALLY ACCEPTABLE
Specified land use may be permitted only after detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

NORMALLY UNACCEPTABLE
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.

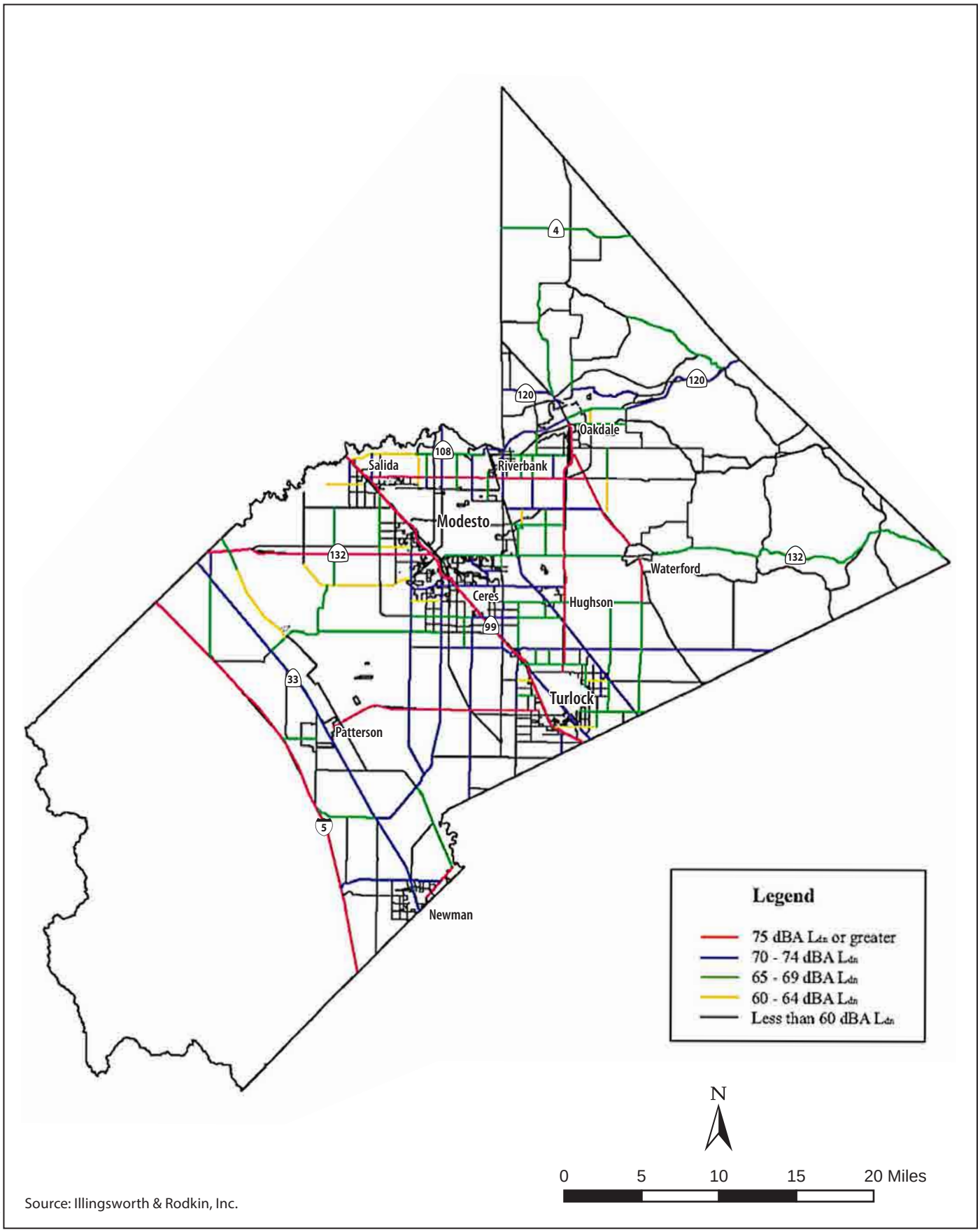
Graphics ... 00203.10 (04-21-2015) SS

Figure 3.12-1
Land Use Compatibility for Community Noise Environments



Graphics ... 00203.10 (04-21-2015) SS

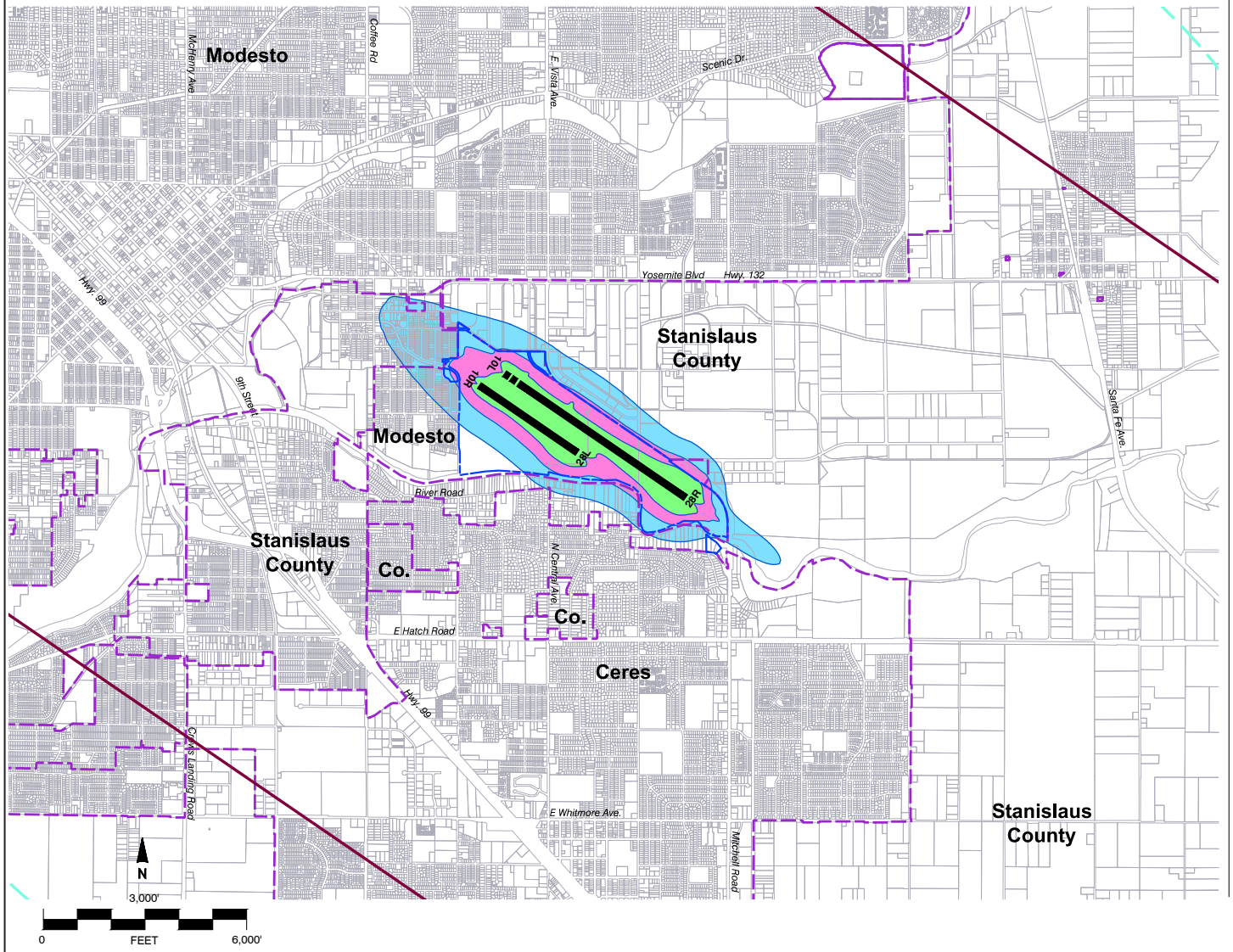
Figure 3.12-2
Noise Contours for Modesto City-County Airport from the 2004 Airport Land Use Commission Plan



Source: Illingsworth & Rodkin, Inc.

Graphics ... 00203.10 (3-6-2015) tm

Figure 3.12-3
Predicted Year 2030 Traffic Noise Levels
(Ldn, 75 feet from Roadway Centerline)



Legend

Boundary Lines

- Airport Property Line
- City Limits
- Existing Runway
- Future Runway
- Airport Influence Area

Noise Impact Zones[1]

- 60 - 65 dB CNEL
- 65 - 70 dB CNEL
- 70+ dB CNEL

Notes

1. Noise Contours reflect long range scenario with 141,000 annual operations.

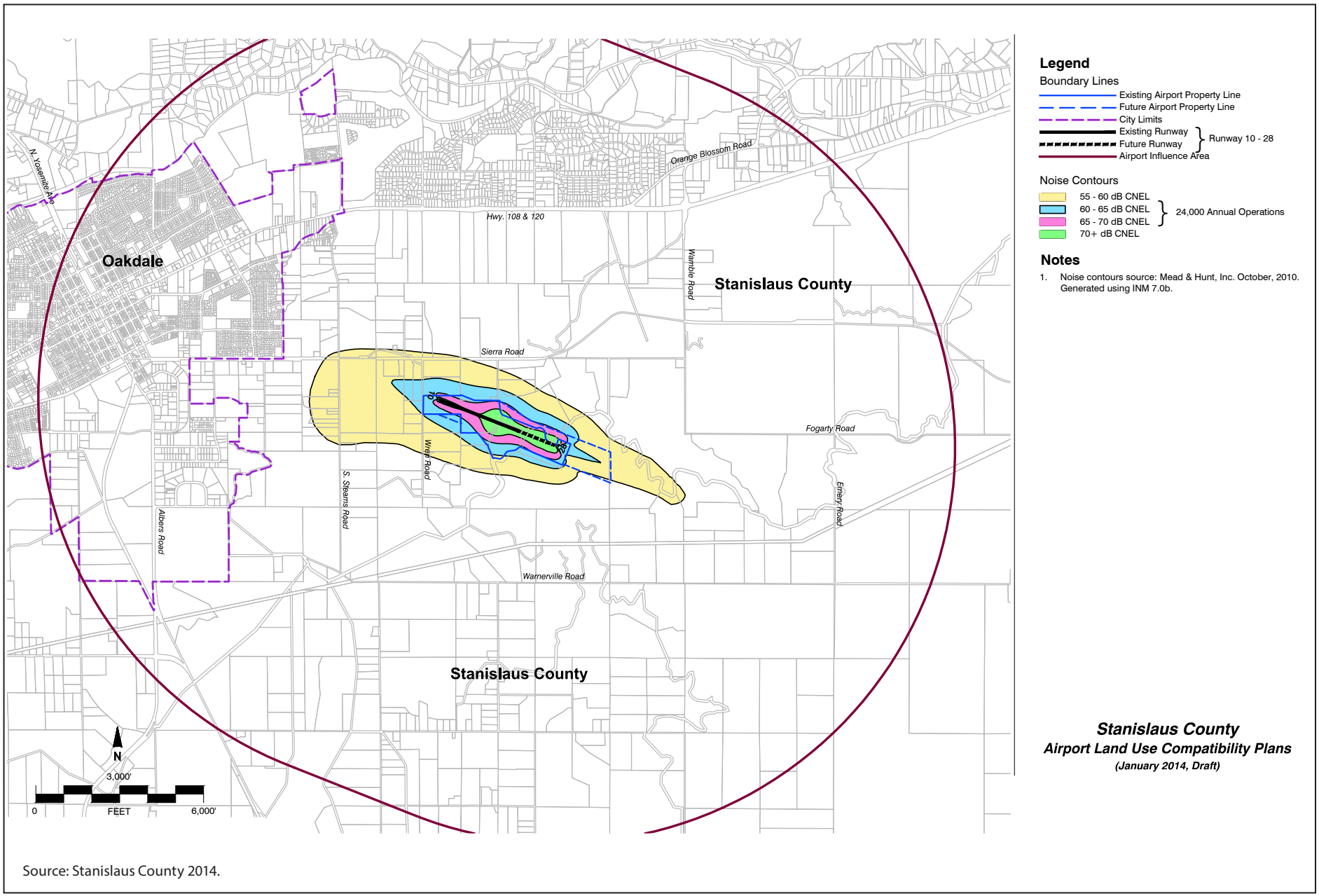
Stanislaus County
Airport Land Use Compatibility Plans
(January 2014, Draft)

Source: Stanislaus County 2014.

Graphics ... 00203.10 (3-5-2015) tm

ICF INTERNATIONAL

Figure 3.12-4
Airport Noise Zones Policy Map—
Modesto City-County Airport



Source: Stanislaus County 2014.

Graphics ... 00203.10 (3-5-2015) tm

Figure 3.12-5
Airport Noise Zones Policy Map—
Oakdale Municipal Airport

3.13 Population and Housing

3.13.1 Introduction

This section discusses the impacts of the plan updates with respect to population and housing. It lists the thresholds of significance that form the basis of the environmental analysis, describes the study area, provides environmental setting information that is relevant to population and housing, and assesses whether the plan updates would result in significant impacts.

Study Area

The population and housing impact study area for the project is defined as Stanislaus County.

3.13.2 Environmental Setting

This section describes the state, regional, and local regulations and policies that are applicable to the plan updates, and the existing conditions pertaining to population and housing in the study area. The existing conditions constitute the baseline for this environmental analysis.

Regulatory Setting

This section describes the state and local regulations related to population and housing that would apply to the plan updates. Increasing population requires new jobs and housing to support it. State legislation passed throughout the last decade encourages jurisdictions to weave jobs, housing, infrastructure, public services, transportation, natural resource management, and health issues together into unified strategies. This type of comprehensive and coordinated planning requires a regional approach and increased cooperation between the cities and counties in efforts to find solutions to regional problems.

State

Housing Element Law

California Planning Law requires each county (and city) to adopt a housing element as part of its general plan (Government Code Sections 65580-65590). As Government Code Section 65583 explains:

> The housing element shall consist of an identification and analysis of existing and projected housing needs and a statement of goals, policies, quantified objectives, financial resources, and scheduled programs for the preservation, improvement, and development of housing. The housing element shall identify adequate sites for housing, including rental housing, factory-built housing, mobile homes, and emergency shelters, and shall make adequate provision for the existing and projected needs of all economic segments of the community.

The California Department of Housing and Community Development (HCD) is responsible for assigning quantified regional housing shares to the various councils of government for allocation to the individual cities and counties within their region. HCD is also responsible for reviewing and certifying the adequacy of the housing elements adopted by the cities and counties. The Stanislaus Council of Governments (StanCOG) is responsible for determining the regional housing needs of the

individual cities in Stanislaus County through the Regional Housing Needs Allocation (RHNA) process. Unlike other elements of a general plan, the housing element must be updated on a regular schedule. Beginning with the upcoming housing element cycle, the local governments in Stanislaus County will be required to update their housing elements every eight years.

Senate Bill 375

Senate Bill (SB) 375, enacted in 2008, links regional transportation plans (RTPs) to policies for reducing greenhouse gas (GHG) emissions and providing housing within the region. RTPs are adopted for purposes of identifying and prioritizing funding for regional transportation improvements. SB 375 requires Metropolitan Planning Organizations (MPOs) such as StanCOG to include a "sustainable communities strategy" (SCS) in their RTPs and details regarding the contents of that strategy. The purpose of the SCS is to establish policies and transportation funding to reduce GHG emissions from automobiles and light trucks in their region.

Under SB 375, StanCOG is responsible for linking the quantified housing objectives to the land use strategy of the RTP/SCS through the RHNA process. These numbers will be the underlying focus of the 2015–2023 housing element to be prepared by the local governments, including Stanislaus County.

Disadvantaged Unincorporated Communities

SB 244 of 2011 requires cities and counties to assess the infrastructure needs of disadvantaged unincorporated communities in city and county general plans. Local Agency Formation Commissions (LAFCOs) must consider the needs of disadvantaged unincorporated communities in Municipal Service Reviews (MSRs) and annexation decisions. The requirements of what constitutes a "disadvantaged community" are as follows:

- Contains 10 or more dwelling units in proximity to one another.
- Is within a city sphere of influence or an island within a city boundary or is geographically isolated but has existed for more than 50 years.
- Has a median income that is 80% or less than the statewide median income (San Joaquin Valley n.d.).

Under Government Code Section 65302.10, on or before the due date for the next adoption of its Housing Element, pursuant to Section 65588, the county is to review and update the Land Use Element of its general plan to include all of the following:

- An identification of each legacy community within the boundaries of the county but not any area within the sphere of influence of any city. This identification shall include a description of the community and a map designating its location.
- For each identified community, an analysis of water, wastewater, stormwater drainage, and structural fire protection needs or deficiencies.
- An analysis, based on then-existing available data, of benefit assessment districts or other financing alternatives that could make the extension of services to identified communities financially feasible.

Stanislaus County has completed and is in the process of adopting the required disadvantaged unincorporated communities report. There are seven disadvantaged unincorporated communities

that qualify for consideration in the report: Cowan Tract, Crows Landing, Grayson, Keyes, Monterey Park Tract, Riverdale Park Tract, and Westley. The general plan update includes a number of new policies that will encourage providing services to underserved communities.

Regional

Regional Transportation Plan/Sustainable Communities Strategy

StanCOG prepared the RTP/SCS for the Stanislaus County region and adopted it in June 2014. The RTP/SCS represents an approach to transportation planning that strengthens the link between land use and transportation planning and contains a strategy to accommodate significant expected growth in the region (Stanislaus Council of Governments 2014a).

The RTP/SCS addresses SB 375 and federal mandates under MAP-21. As noted above, SB 375 calls for reductions in GHG emissions from automobiles and light trucks. MAP-21 emphasizes a performance-based planning approach. The RTP/SCS matches transportation investment priorities with desired land use. The RTP/SCS itself does not control land use within the county or exert power over county land use decisions but, rather, is a steering document for StanCOG's vision for a cohesive, sustainable region with multimodal transportation options that are available for all (Stanislaus Council of Governments 2014a).

RHNA and the Housing Element

HCD assigned a numerical share of the projected statewide housing needs to StanCOG, which StanCOG then divided among the cities and county. The county's current 2009–2014 Housing Element accommodates the 5,568 dwelling units assigned to the county by StanCOG.

HCD has assigned the regional housing need for the next revision of the Housing Element; StanCOG released the quantified RHNA in mid-2014. As shown in Table 3.13-1, the allocation for Stanislaus County's 2014-2023 Housing Element update is 2,241 dwelling units (Stanislaus Council of Governments 2014b).

Table 3.13-1. StanCOG Regional Housing Need Allocation for 2014–2023

Income Level	Unincorporated Stanislaus County Need	Full Stanislaus County Need
Very Low	538	5,225
Low	345	3,350
Moderate	391	3,670
Subtotal of Affordable Units	1,274	12,245
Above Moderate	967	9,085
Total	2,241	21,330

Source: Stanislaus Council of Governments 2014b. Draft Regional Housing Needs Plan for Stanislaus County: 2014–2023. Adopted January 2014.

Local

County Housing Element

Stanislaus County adopted its current Housing Element in August of 2012. It was duly certified as being adequate by HCD in September of 2012. The county is required to adopt the 2015–2023 update to the Housing Element by December 31, 2015. That amendment will be considered separately from the general plan update and will include the county's RHNA responsibility.

County Measure E

Stanislaus County's voters passed Measure E in November 2007. Under Measure E, land that is designated as agricultural or open space in the Land Use Element cannot be amended to residential or rezoned to residential without the approval of a majority of county voters. Because Measure E amended the County General Plan, it affects unincorporated lands that are under the county's jurisdiction. Under California law, a general plan amendment that is adopted by voter-approved initiative can be changed only by approval of another initiative.

Measure E is intended to direct residential growth into the incorporated cities, which are more capable of serving these uses, and limit the potential for residential growth to convert agricultural land within the unincorporated areas. Its immediate effect is to restrict future residential developments within the unincorporated county to those areas that are currently designated and zoned for residential development (e.g., Salida and Diablo Grande). Measure E will remain in effect until December 31, 2036, unless it is otherwise amended by a future initiative (Stanislaus Council of Governments 2007).

Existing Conditions

Stanislaus County is located in the San Joaquin Valley, in the heart of California's Central Valley. The county is bordered by the California Coastal Ranges to the west and the Sierra Nevada to the east. It spans nearly 1,500 square miles and has approximately 514,000 residents (2010 census) in its nine cities and unincorporated communities. Two of California's major north/south routes, Interstate 5 and State Route 99, traverse the county, connecting it to employment centers in the San Francisco Bay Area, Stockton, and Sacramento.

In part because of its proximity to the Bay Area and relative lower cost of living, Stanislaus County is an agricultural county in transition. Prior to 1960, most of the county's population lived on farms; today, the population of the nine incorporated cities is nearly three times that of the unincorporated area of the county. Much of this change is the result of population and economic growth in the Bay Area, which has created employment opportunities within commuting distance of the county's largest cities. Unprecedented population growth throughout the 1990s increased pressure to convert productive agricultural lands to non-agricultural uses. As a response to this rapid growth, voters passed the 30-Year Land Use Restriction Initiative (Measure E) in 2008, which requires any redesignation or rezoning of land in the unincorporated area from agricultural or open space use to a residential use to be approved by a majority vote of the county voters at a general or special local election.

According to 2000 and 2010 census data, the county's population increased by 15.1% between 2000 and 2010; however, between 2010 and 2013, the county's trend toward growth had slowed to 1.8% county-wide (California Department of Finance 2013). As indicated in Table 3.13-2, most of

Stanislaus County's population increase in the 2000s occurred in the nine incorporated cities rather than the unincorporated area of the county. Between 2000 and 2010, the incorporated population increased by 18.8%, whereas the population of unincorporated Stanislaus County increased by only 3.2%. The county's unincorporated area and the city of Modesto have the largest populations and share the slowest growth rates (Table 3.13-2).

Table 3.13-2. Population Distribution for Stanislaus County, 2000 to 2010

Jurisdiction	2000	2010	Percentage Change
Modesto	188,856	201,165	6.5%
Turlock	55,810	68,549	22.8%
Ceres	34,609	45,417	31.2%
Riverbank	15,826	22,678	43.3%
Oakdale	15,503	20,675	33.4%
Patterson	11,606	20,413	75.9%
Newman	7,093	10,224	44.1%
Waterford	6,924	8,456	22.1%
Hughson	3,980	6,640	66.8%
Incorporated	340,207	404,217	18.8%
Unincorporated	106,790	110,236	3.2%
Stanislaus County Total	446,997	514,453	15.1%
San Joaquin County	563,598	685,306	21.6%
Merced County	210,554	255,793	21.5%
California	33,871,648	37,253,956	10.0%

Source: Stanislaus Council of Governments 2014a. Regional Transportation Plan/Sustainable Communities Strategy. Draft.

The slower growth rate in the unincorporated area of Stanislaus County is attributable to land use policy that directs growth to areas with the services necessary for urban development and the annexation of unincorporated lands into the cities as a precursor to development.

The LAFCO records show that the county's cities annexed more than 12,111 acres of previously unincorporated land between 2002 and 2012. As of 2014, the cities encompassed a total of 61,319 acres within their limits and an additional 86,974 acres within their spheres of influence. The spheres of influence encompass unincorporated lands that adjoin the cities and reflect their probable future physical boundaries and service areas. Land must be within a city's sphere of influence if it is to be annexed to the city. County land use policies and agreements with the cities regarding development within the spheres of influence contributed to the slower growth rate in the unincorporated area by requiring city concurrence in discretionary urban development occurring within the spheres.

Planning strategies of the Stanislaus County General Plan must reflect the requirements of Measure E, as discussed below. Although the community plans for Keyes and Denair identify additional residential capacity, the future development of these communities is restricted by Measure E's limit on rezoning. The only unincorporated communities with any substantial capacity for residential growth that are not subject to Measure E are Diablo Grande and Salida.

Stanislaus County does have some existing residential communities outside of city limits. The 2014 general plan update provides for comprehensive planning, with a focus on redevelopment[1] and infill of existing communities while protecting the county's agricultural resources.

Although most likely slower than the population boom the county experienced throughout the 1990s and 2000s, continued development and increased population growth is anticipated. StanCOG projects that the population of Stanislaus County will reach 721,582 by 2035, an increase of approximately 170,000 residents from the estimated 2015 population (Stanislaus Council of Governments 2013) About 11% of that growth is projected to occur in the unincorporated area (see Table 3.13-3).

Table 3.13-3. Regional Population Forecast (by local jurisdiction)

City	2010	2015	2020	2025	2030	2035	Change
Ceres	45,417	50,069	55,379	60,689	65,999	70,127	54.4%
Hughson	6,640	7,012	7,437	7,862	8,287	8,805	32.6%
Modesto	201,165	211,813	223,966	236,119	248,272	263,802	31.1%
Newman	10,224	11,648	13,274	14,900	16,525	17,559	71.7%
Oakdale	20,675	22,908	25,457	28,005	30,555	32,466	57.0%
Patterson	20,413	25,065	30,375	35,685	40,995	43,559	113.4%
Riverbank	22,678	24,989	27,627	30,265	32,903	34,961	54.2%
Turlock	68,549	74,983	82,328	89,673	97,017	103,086	50.4%
Waterford	8,456	9,409	10,496	11,584	12,671	13,464	59.2%
Unincorporated	110,236	113,772	117,807	121,843	125,879	133,753	21.3%
Stanislaus County Total	514,453	551,668	594,146	636,625	679,103	721,582	40.3%
San Joaquin County	685,000	743,000	807,000	872,000	938,000	1,004,000	46.6%
Merced County	256,000	277,000	303,000	330,000	356,000	383,000	49.6%

Source: Stanislaus Council of Governments 2014a. 2040 Regional Growth Forecast.

The Population and Housing section will use 2010 as the baseline year for population. This is because there is no reasonably available population estimate for 2014, while there is U.S. Census Bureau information for 2010. In addition, the StanCOG population forecasts used throughout this EIR is founded on a 2010 base year.

3.13.3 Impact Analysis

This section discusses the approach and methodology used to assess the impacts of the plan updates; discusses the individual impacts relative to the thresholds of significance; discusses mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for significant impacts; and indicates the overall significance of the impact with mitigation incorporated. The reasonably foreseeable impacts of the Stanislaus County General Plan update and the Airport Land Use Compatibility Plan (ALUCP) are compared to this baseline of existing (i.e., 2010) conditions.

[1] The term "redevelopment" is used to describe reinvestment in and improvement of a community. State law has eliminated all of the redevelopment agencies, so this term is not intended to describe the activities of those now-defunct agencies.

Major Sources Used in Analysis

The major sources used in this analysis are listed below:

- Stanislaus Council of Governments 2040 Regional Growth Forecast
- California Department of Finance Population Estimates
- Stanislaus County Land Use Designations

Approach and Methodology

As mentioned above, 2010 was used as the baseline year for population projections in the Population and Housing section. The reasonably foreseeable impacts of the Stanislaus County General Plan update and the ALUCP are compared to this baseline. For purposes of this analysis, the future population growth described in StanCOG's 2014 RTP/SCS is assumed to include future population growth in the unincorporated county.

The proposed updated general plan was qualitatively evaluated for the impact analysis section below by using county land use designations, maps, and information in other county documentation to determine how the project would affect existing conditions and future growth in the county.

Thresholds of Significance

Based on State CEQA Guidelines, Appendix G, the plan updates would have a significant impact with respect to population and housing if they would:

- Induce substantial population growth, either directly, by proposing new homes and businesses, or indirectly, through the extension of roads and other infrastructure.
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Impacts and Mitigation Measures

Impact POP-1: Induce substantial population growth, either directly, by proposing new homes and businesses, or indirectly, through the extension of roads and other infrastructure (less than significant)

The current Housing Element (adopted in 1992) had a major update in 2012. Therefore, the Housing Element is not proposed for change as part of the general plan update; it will be updated at a later date.

No direct impacts would occur as a result of the project because the project does not propose new homes and businesses. However, indirect impacts could occur through individual developments that are consistent with the general plan and the extension of roads and other infrastructure as the county becomes more built out as 2035 approaches. The Stanislaus County General Plan update would revise certain general plan policies but not substantially change planned locations of future developments.

Although the Housing Element is being updated through a separate process, the proposed project integrates population projections adopted by StanCOG that extend the planning horizon to 2035, per Government Code Section 65300. StanCOG's regional growth forecast predicts a population for the unincorporated county jurisdiction of 133,753 in 2035, which represents an increase of approximately 23,517 people, or approximately 21%, from its 2010 population (Stanislaus Council of Governments 2013). This is a yearly increase of approximately 0.8%.

The land use designations, described in the county's Land Use Element, provide a blueprint for future development in the county. Population growth in the unincorporated areas of Stanislaus County is likely to be concentrated in the Salida and Diablo Grande communities, according to general plan land use designations (Stanislaus County 1994). The Salida community is guided by a community plan and the Diablo Grande community is guided by a specific plan. They are served by special districts that provide the sewer and water systems necessary to accommodate development. Neither of these communities is subject to county Measure E's limit on residential general amendments or residential rezoning because they have been specifically designated to support residential growth. A major amendment to the Salida Community Plan was adopted by the Board of Supervisors in 2007 that will accommodate 5,000 new residential units in varying density ranges (Stanislaus County 2012). Diablo Grande currently has significant vacant and underutilized land, with a realistic development capacity of 292 additional units, taking into consideration infrastructure capacity (Stanislaus County 2012). However, a new fire station must be built before additional units may be developed in Diablo Grande. In addition, development cannot occur in the SCP designated zones until a comprehensive EIR is completed. Because development is likely to be concentrated in communities in unincorporated Stanislaus County that are zoned and designated to support growth, the general plan update would not induce substantial indirect population growth through the extension of roads and other infrastructure to support residential development.

Some of the proposed general plan policy changes would act to limit the project's potential to induce indirect population growth.

Circulation Element

GOAL ONE. Provide and maintain a transportation system ~~of roads and roads~~ throughout the County for the movement of people and goods that also meets land use and safety needs for all modes of transportation.

POLICY ONE. Development will be permitted only when facilities for vehicle circulation exist, or will exist as part of the development, to adequately handle increased traffic and safety concerns.

IMPLEMENTATION MEASURES

3. ~~Developers~~ Applicants will construct or pay the cost of new roads, including non-motorized elements, necessary to serve the development of all land uses and to mitigate impacts to the existing roads caused by the development.

4. The County shall ensure that new development pays its fair share of the costs of circulation improvements, including non-motorized modes, through a combination of public facility fees, ~~traffic~~ transportation impact fees, and other funding mechanisms. The total cost of required improvements shall be paid for by new development.

6. Applicants shall identify and mitigate, at the sole cost of the applicant, all potential impacts to the transportation system from new development that adversely impact the operations and safety of the circulation system.

7~~6~~. To identify the potential impacts of new development on ~~traffic~~ transportation service levels, the County ~~shall~~ may require the preparation of a ~~traffic~~ transportation impact study at the

sole expense of the ~~developer~~ applicant. ~~for developments determined to be large enough to have a potentially significant impact on traffic. As appropriate, the study may be required to follow the Caltrans' "Guide for the Preparation of Traffic Impact Studies" and/or other procedures specified by the Department of Public Works.~~

These measures are unlikely to increase the rate of development and induce indirect population growth because they would create greater financial responsibility for developers.

Conservation Element

GOAL THREE. Provide for the long-term conservation and use of agricultural lands.

POLICY TEN. Discourage the division of land which forces the premature cessation of agricultural uses.

IMPLEMENTATION MEASURES

2. The County will continue to ~~offer the financial benefits of the~~ participate in the Williamson Act, consistent with the Policies~~y Sixteen, Implementation Measure 5~~ of the Land Use and Agricultural Elements.

~~4. In designated areas of agricultural land, the County will encourage clustering, or grouping together, of allowable dwelling units on relatively small parcels instead of the dispersal of such dwelling units on larger parcels. Any changes to County zoning and/or subdivision regulations to allow clustering should be submitted by staff to the Planning Commission and Board of Supervisors by June 30, 1996.~~

Removing language that encourages the clustering of dwelling units (Implementation Measure 4) supports the general plan's overarching goal of encouraging development in incorporated cities. This policy would not influence indirect population growth due to the extension of roads or infrastructure because the removal of this language would discourage development in areas that would require the extension of roads and other infrastructure.

Safety Element

GOAL ONE. Prevent loss of life and reduce property damage as a result of natural disasters.

POLICY TWO. Development should not be allowed in areas that are within the designated floodway or any areas that are known to be susceptible to being inundated by water from any source.

IMPLEMENTATION MEASURES

3. The County shall amend its Zoning Ordinance, as needed, for compliance with the Central Valley Flood Protection Act of 2008 (and any subsequent amendments).

Although new development would be subject to any zoning ordinance amendment, the amendment of Policy Two would be unlikely to induce substantial indirect population growth due to extension of roads or infrastructure because of development limitations in areas that are prone to flooding.

ALUCP Update

The ALUCP update would also not induce substantial population growth in unincorporated Stanislaus County. The proposed policy changes would include noise contours, new safety zones, and overflight policies. As discussed below, in Impact POP-2 and Impact POP-3, the expansion of Airport Influence Areas could affect future development in those areas because of development restrictions, but revised ALUCP policies would not extend roads or infrastructure. Therefore, the

updated ALUCP is not likely to influence substantial indirect population growth, resulting in a less-than-significant impact.

Significance without Mitigation: Less than significant (no mitigation required)

Impact POP-2: Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere (less than significant)

The general plan does not contain policies that would result in the displacement of substantial amounts of housing. To the contrary, the purpose of the Housing Element is to ensure that housing is available to meet the county's share of the regional housing needs of all income levels. The general plan update would not alter any such policies. Additionally, there are no development projects proposed by the project that could displace housing.

Federal Emergency Management Agency (FEMA) Best Available Maps (BAM) show that there are 100- and 200-year floodplains within the county (Federal Emergency Management Agency 2014). Approval of site plans is prohibited where projects could be subject to flooding in a 200-year flood event, per SB-5 regulations. However, the potential loss of future development potential would most likely be minor because the floodplains would not affect areas that would be subject to the greatest amount of projected development, the Salida and Diablo Grande communities. Additionally, the BAM analyzed in conjunction with general plan land use maps show that most of the small communities in the county are outside of both the 100- and 200-year floodplains. Therefore, the loss of future development potential would not be significant.

ALUCP Update

The ALUCP identifies one 2.4 acre parcel near the Modesto Airport as being within Zone 2. Within this zone, the ALUCP would allow 1 dwelling unit per 10-acre parcel. Because the parcel is designated for medium to high density residential development, this would be a potential conflict. An analysis of residential displacement was conducted for the County as part of the ALUCP update, and aerial photographs identify this parcel as previously developed, but currently vacant. Because the ALUCP would not require the removal of existing development, no actual displacement would occur.

The ALUCP update would not displace any existing housing. However, it would affect the potential for future development. Unincorporated areas in Modesto adjacent to Modesto Airport are designated Low-Density Residential. The ALUCP would establish an expanded Airport Influence Area adjacent to Modesto Airport that would expand its influence and therefore affect more homes than the current ALUCP. However, although the expanded Airport Influence Area could limit future development because of the need for approval from the Airport Land Use Commission prior to approval, it would not require existing homes to be relocated. Therefore, the impact would be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact POP-3: Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere (less than significant)

Because the general plan update would not result in the displacement of existing housing, it would not displace substantial numbers of people. The general plan, as amended by the project, does not include any actions that could lead to the displacement of substantial numbers of people.

Similar to Impact POP-2, the ALUCP update would not displace substantial numbers of people. The proposed expansion of Modesto Airport's Airport Influence Area could affect future development but would not displace current residents. Because the project would not displace substantial numbers of people, the impact would be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

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3.14 Public Services

3.14.1 Introduction

This section discusses the impacts of the plan updates with respect to public services. It lists the thresholds of significance that form the basis of the environmental analysis, describes the public services study area and major sources used in the analysis, provides environmental setting information that is relevant to public services, and assesses whether the plan updates would result significant impacts with respect to public services.

Study Area

The public services impact study area for the project is defined as Stanislaus County.

3.14.2 Environmental Setting

This section describes the state, regional, and local regulations and policies that are applicable to the plan updates and the existing conditions pertaining to public services in the study area. The existing conditions constitute the baseline for analysis.

Regulatory Setting

This section describes the state, regional, and local regulations related to public services that would apply to the plan updates. There are no applicable federal regulations.

State

Senate Bill 50

Senate Bill 50 ("SB 50," also known as Proposition 1A, codified in California Government Code Section 65995 et seq.) was enacted in 1998 to address how schools are financed and how development projects may be assessed for associated school impacts (California State Senate 1998). SB 50 sets forth the "exclusive methods of considering and mitigating impacts on school facilities" resulting from any state or local planning and/or development project, regardless of whether its character is legislative, adjudicative, or both (Government Code Section 65996[a]). Section 65995 provides that "[t]he payment or satisfaction of a fee, charge, or other requirement levied or imposed pursuant to Section 17620 of the Education Code in the amount specified in Section 65995…is hereby deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization…on the provision of adequate school facilities" (Government Code Section 65995[h]). The reference in Section 65995(h) to fees "imposed pursuant to Section 17620 of the Education Code in the amount specified in Section 65995" is a reference to per-square-foot school fees that can be imposed by school districts on new residential or commercial/industrial construction at three levels. Education Code Section 17620 provides the basic authority for school districts to levy fees against construction for purposes of funding construction or reconstruction of school facilities, subject to limits set forth in Government Code Section 65995.

California State Fire Code

By state law, the State Fire Marshal (SFM) is responsible for coordination of the state's fire and life safety codes. The SFM must review the proposed regulations of state agencies that promote fire and life safety before the regulations can be submitted for approval. The SFM Code Development and Analysis Program staff regularly reviews Title 19 of the California Code of Regulations (CCR), Public Safety, which discusses fire safety standards, for relevancy, necessity, conflict, duplication, and overlap. The staff also implements legislative mandates to develop regulations related to fire and life safety, particularly the various occupancy classifications, under the authority of the SFM. This encompasses the administrative processing of regulations from concept to promulgation in the CCR (California Building Standards Commission 2013a).

California Code of Regulations Title 24

Part 2 of Title 24 of the CCR refers to the California Building Code, which contains complete regulations and general construction building standards of state adopting agencies, including administrative, fire and life safety, and field inspection provisions. Part 2 was updated in 2008 to reflect changes in the base document from the Uniform Building Code to the International Building Code. Part 9 refers to the California Fire Code, which contains fire safety–related building standards referenced in other parts of Title 24 (California Building Standards Commission 2013b). This is codified in the Stanislaus County Code under Title 16.

California Health and Safety Code (Section 13000 et seq.)

State fire regulations are set forth in Section 13000 et seq. of the California Health and Safety Code. This includes regulations concerning building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and child care facility standards, and fire suppression training. The SFM enforces these regulations and building standards in all state-owned buildings, state-occupied buildings, and state institutions throughout California (State of California 2012).

California Public Resources Code Sections 4201–4204

This section of the Public Resources Code (PRC) was amended in 1982 to require the California Department of Forestry and Fire Protection (CAL FIRE) to classify Fire Hazard Severity Zones within State Responsibility Areas (SRAs). Specifically, the purpose of this code is to classify lands within SRAs in accordance with the severity of fire hazard present for the purpose of identifying measures to be used to retard the rate of spreading and reduce the potential intensity of uncontrolled fires that threaten to destroy resources, life, or property (California Department of Forestry and Fire Protection 2012).

Senate Bill 1241

This bill revises the safety element requirements for SRAs and very high fire hazard severity zones to require the safety element to be reviewed and updated as necessary to address the risk of fire in these zones, taking into account specified considerations, including the most recent version of the OPR's "Fire Hazard Planning" document.

Regional

Stanislaus Council of Governments – 2014 Regional Transportation Plan/Sustainable Communities Strategy

The 2014 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) presents a strategy to accommodate the significant expected growth in the region while promoting economic vitality, providing more housing and transportation choices, promoting healthy living, and improving communities through an efficient and well-maintained transportation network. The land use pattern identified in the RTP/SCS is not binding on the county or its cities. However, the RTP/SCS is related to the Stanislaus Council of Governments (StanCOG) Regional Housing Needs Allocation, which is reflected in the general plan Housing Element. The county has integrated the RTP/SCS regional growth forecast into the proposed general plan update.

Local

Stanislaus County General Plan

The general plan is a comprehensive, long-range declaration of purposes, policies, and programs for development in Stanislaus County. Stanislaus County has adopted Community Plans for most of the unincorporated towns in the county. These plans outline future growth patterns in the towns. Each plan is used in conjunction with the general plan to indicate whether the Urban Transition area will be residential, commercial, industrial, etc. Community Plan areas include Crows Landing, Del Rio, Denair, Hickman, Keyes, Knight's Ferry, La Grange, Salida, and Westley.

The actual level of future residential development within the adopted Community Plans is limited by county Measure E. This initiative measure requires a popular vote prior to any general plan amendment or rezoning of designated agricultural or open space that would allow residential development.

The following are the pertinent goals and policies of the existing Stanislaus County General Plan, by element.

Land Use Element

Section 65302a of the California Government Code requires the county to adopt a Land Use Element that describes the general distribution as well as the general location and extent of land uses (e.g., housing; business; industry; open space, including areas for agriculture, natural resources, recreation, and enjoyment of scenic beauty; education; public buildings and grounds; solid and liquid waste disposal facilities; and other categories of public and private land uses).

> **GOAL ONE.** Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.
>
> > **POLICY FIVE.** Residential densities as defined in the General Plan shall be the maximum based upon environmental constraints, the availability of public services, and acceptable service levels. The densities reflected may not always be achievable and shall not be approved unless there is proper site planning and provision of suitable open space and recreational areas consistent with the supportive goals and policies of the General Plan.

GOAL FOUR. Ensure that an effective level of public service is provided in unincorporated areas.

POLICY TWENTY-ONE. At least three net acres of developed neighborhood parks, or the maximum number of acres allowed by law, should be provided for every 1,000 residents, through land dedication and development, payment of in-lieu-of fees, or other methods acceptable to the Parks Department.

POLICY TWENTY-TWO. Future growth shall not exceed the capabilities/capacity of the provider of services such as sewer, water, public safety, solid waste management, road systems, schools, health care facilities, etc.

IMPLEMENTATION MEASURES

1. The County shall continue to implement its Public Facilities Fees Program, which is intended to help finance public facilities needed to maintain current levels of service.

4. The County shall continue to work with independent fire districts to implement fees to help finance public facilities to support their services.

5. The current level of service of public agencies shall be determined and not allowed to deteriorate as a result of new development.

8. Only development requests which have recognized and reasonably mitigated significant impacts on school facilities shall be approved.

Circulation Element

The Circulation Element of the general plan identifies goals, policies, and implementation measures that ensure compatibility with respect to land use, infrastructure, and transportation modes.

GOAL ONE. Provide a system of roads throughout the County that meets land use needs.

POLICY TWO. Circulation systems shall be designed and maintained to promote safety and minimize traffic congestion.

IMPLEMENTATION MEASURE

8. Private roads in areas of the County protected by the California Department of Forestry and Fire Protection shall be designed consistent with the standards of that agency, the local fire protection district and the Department of Public Works.

Conservation/Open Space Element

The Conservation/Open Space Element of the Stanislaus County General Plan emphasizes the conservation and management of natural resources and the preservation of open space lands (any parcel or area of land or water that is essentially unimproved).

GOAL FOUR. Provide for the open-space and recreational needs of the residents of the County.

POLICY TWELVE. Provide a system of local and regional parks that will serve the residents of the County.

IMPLEMENTATION MEASURES

2. The County Department of Parks and Recreation shall prepare and implement a plan to identify, acquire, and maintain future park site locations. The parks plan should be adopted by June 30, 1996 and should address neighborhood parks and open space in urban settings as well as regional parks that serve the entire County population.

GOAL FIVE. Reserve, as open space, lands subject to natural disaster in order to minimize loss of life and property of residents of Stanislaus County.

POLICY SEVENTEEN. Develop a plan to minimize the impacts of a disaster.

IMPLEMENTATION MEASURES

1. The County Office of Emergency Services will continue to work with other jurisdictions to develop evacuation routes to be used in case of a disaster. Evacuation routes will serve all of the jurisdictions in the County. Plans for evacuation routes must be coordinated with the cities.
2. In case of a disaster, the County will use the adopted emergency plan and the procedures established in that document.

Safety Element

GOAL ONE. Prevent loss of life and reduce property damage as a result of natural disasters.

GOAL TWO. Minimize the effects of hazardous conditions that might cause loss of life and property.

POLICY SIX. All new development shall be designed to reduce safety and health hazards.

IMPLEMENTATION MEASURE

1. Review development proposals and require redesign when necessary to ensure that buildings are designed and sited to minimize crime and assure adequate access for emergency vehicles.

POLICY SEVEN. Adequate fire and sheriff protection shall be provided.

IMPLEMENTATION MEASURES

1. The County shall continue to implement the funding strategies identified under Policy Twenty-Two of the Land Use Element.
2. All discretionary projects in the County shall be referred to the Fire Safety Department and to the appropriate fire district for comment. The comments of these agencies will be used to condition or recommend modifications of the project as it relates to fire safety and rescue issues.
3. The County Fire Safety Department shall work with the California Department of Forestry and Fire Protection and with local fire districts to minimize the danger from wildfire.
4. Discretionary projects outside of fire districts shall be considered for approval only when they are found to include adequate fire protection.
5. New development, other than agricultural, shall have adequate water to meet the established fire flow standards.
6. All discretionary projects shall be referred to the Sheriff's Department for comment. Comments from the Sheriff will be used to either condition or modify the project.
7. All building permits and discretionary projects within the State Responsibility Areas, as identified by the California Department of Forestry and Fire Protection, shall meet the minimum development standards included in Article 1-5, Subchapter 2 SRA Fire Safe Regulations, Chapter 7 - Fire Protection, Division 1.5 - Department of Forestry, Title 14 - Natural Resources, or more stringent specific standards as may be adopted by the Board of Supervisors for this County.
8. All discretionary projects shall be referred to the Regional Emergency Medical Services Office for comments related to ambulance service.

POLICY EIGHT. Roads shall be maintained for the safety of travelers.

POLICY NINE. The County shall support the formation of improvement districts (including flood control districts) to eliminate safety hazards.

IMPLEMENTATION MEASURES

1. Fire Districts, Sheriff's Department, etc., should be encouraged to request that the Board of Supervisors impose development fees to help support their services. Such requests shall be accompanied by supporting documentation.
2. The County will work with the Fire Safety Department, State Department of Forestry and Fire Protection, and local fire districts to ensure that adequate fire suppression measures are provided in areas without access to a public water system. These measures may include restrictions on building materials as well as the provision of adequate access and appropriate facilities for suppressing a fire.

POLICY THIRTEEN. The Department of Environmental Resources shall continue to coordinate efforts to identify the locations of hazardous materials and prepare and implement plans for the management of spilled hazardous materials, as required.

POLICY FOURTEEN. The County will continue to enforce state-mandated structural health and safety codes, including but not limited to the Uniform Building Code, the Uniform Housing Code, the Uniform Fire Code, the Uniform Plumbing Code, the National Electric Code, and Title 24.

Stanislaus County Code, Title 23

To implement the goals and objectives of the County General Plan and mitigate impacts caused by new development within the county, the county collects public facilities impact fees from new development. The fees finance public capital facilities and ensure that new development pays its fair share for these improvements (Stanislaus County 2014a).

Stanislaus County Code, Title 24

To safeguard the public from the peril of fire, implement the goals and objectives of the County General Plan, and mitigate impacts caused by new development within the county, the county collects fire protection facilities impact fees. These fees, which are used to finance fire protection facilities and vehicles, ensure that new development pays its fair share for these improvements. Fees enacted pursuant to this title are to be paid to the fire protection district before the issuance of building permits (Stanislaus County 2014a).

Stanislaus County Public Facilities Fee Program

The Public Facilities Fee program imposes a fee on new development per the state Mitigation Fee Act (Government Code Section 66000 et seq.). Revenues from this "impact fee," fund the pro-rata extension of existing County capital facilities to support the new growth created by the development. The use of this fee is limited to capital improvements or facilities, and cannot be for operations (i.e., salaries). The fee reflects the projected cost of needed facilities, as shared by individual new developments. It does not replace, repair or maintain the existing level-of-service provided by the County.

Fees collected under this program pay for capital improvements related to emergency services, libraries, and police protection (county sheriff), among other things. The fees are adjusted on a regular basis to account for changes in cost or in development forecasts.

Stanislaus County Parks Master Plan

The Stanislaus County Parks Master Plan provides a comprehensive overview that is used to guide the County Board of Supervisors, Parks and Recreation Commission, and Department of Parks and Recreation as they work to meet a variety of goals for parks and park users. Development of this

long-range plan included a needs assessment, specific park plans, future planning, development of design standards, and economic and fiscal planning (Stanislaus County 1994).

Stanislaus County does not have a parks fee, nor does it have a "Quimby Act" provision in its Subdivision Ordinance that would allow for the collection of a fee or dedication of land for park and recreational facilities.

Stanislaus County Multi-Jurisdictional Hazard Mitigation Plan

The Stanislaus County Board of Supervisors adopted the Stanislaus County Multi-Jurisdictional Hazard Mitigation Plan on May 24, 2011. This document is in the process of being updated. The county and 58 other jurisdictions participated in updating the plan. Each of the 58 participating jurisdictions uses the Multi-Jurisdictional Hazard Mitigation Plan, along with its individual plan, as its own Local Hazard Mitigation Plan. The county's plan serves as an umbrella plan, with each individual jurisdiction's plan considered an annex. The Stanislaus County Multi-Jurisdictional Hazard Mitigation Plan is incorporated into the Safety Element of the general plan (Stanislaus County 2014b).

Existing Conditions

Fire Protection

The fire services system in Stanislaus County is a mix of municipal agencies, fire protection districts, and various forms of state fire protection. The Stanislaus County Office of Emergency Services and Office of the Fire Warden are divisions of the Chief Executive Office. Independently, the former is responsible for developing and maintaining general and specific preparedness programs for the county and its nine cities while the latter supports and coordinates all public fire services and agencies in the County, with an emphasis on special fire districts (Stanislaus County 2014b). Under the direction of the Fire Warden, the Fire Prevention Bureau provides a wide range of fire prevention services to the unincorporated areas of Stanislaus County, including the unincorporated communities of Crows Landing, Denair, Grayson, Hughson, Newman, Salida, and Westley. There are six municipal fire departments in the county, which are funded through general fund revenues. In addition, there are 14 special districts that provide fire protection services. A complete list of the fire protection agencies throughout Stanislaus County is shown in Table 3.14-1.

Table 3.14-1. Stanislaus County Fire Departments

Facility Name	Address
Burbank-Paradise Fire District	1313 Beverly Drive Modesto, CA 95351
Ceres Fire Protection District	2755 Third Street Ceres, CA 95307
Ceres Emergency Services[a]	2755 Third Street Ceres, CA 95307
Denair Fire District	P.O. Box 262 Denair, CA 95316
Hughson Fire Protection District	P.O. Box 37 Hughson, CA 95326
Industrial Fire Protection District	N/A
Keyes Fire Protection District	P.O. Box 577 Keyes, CA 95328
Modesto Fire Department[a]	610 Eleventh Street Modesto, CA 95354
Mountain View Fire Protection District	9633 Crows Landing Road Crows Landing, CA 95313
Newman Fire Department[a]	1035 Yolo Newman, CA 95360
Oakdale City Fire Department[a]	3324 Topeka Street Riverbank, CA 95367
Oakdale Rural Fire Protection District	3324 Topeka Street Riverbank, CA 95367
Patterson Fire Department	344 W. Las Palmas Avenue Patterson CA 95363
Salida Fire Protection District	P.O. Box 1335 Salida, CA 95368
Stanislaus Consolidated Fire Protection District	3324 Topeka Street Riverbank, CA 95367
Turlock City Fire Department[a]	P.O. Box 819006 Turlock, CA 95381
Turlock Rural Fire Protection District	690 W. Canal Drive Turlock, CA 95380
Westport Fire Protection District	5160 S. Carpenter Road Modesto, CA 95358
West Stanislaus Fire Protection District	P.O. Box 565 Patterson, CA 95363
Woodland Fire Protection District	3300 Woodland Avenue Modesto, CA 95358

Source: Stanislaus Consolidated Fire Protection District 2014a.

[a] Municipal fire department.

The Office of the Fire Warden places an emphasis on support and coordination with special fire districts. The Stanislaus Consolidated Fire Protection District (SCFPD) is the largest agency with responsibility for the provision of fire protection, prevention, and emergency services in unincorporated Stanislaus County. The district, with its 69 career employees, approximately 10 volunteers, and eleven fire stations, has an annual operating budget of $13 million (Stanislaus Consolidated Fire Protection District 2014). The district handled more than 7,000calls last year, ranging from medical aid to structural fires, hazardous materials responses, wildland fires, and miscellaneous calls (e.g., car fires, trash fires). In addition, the district has areas of state responsibility and works closely with CAL FIRE (Stanislaus Consolidated Fire Protection District 2014). It serves approximately 550 square miles of unincorporated area in the county, including the cities of Waterford, Oakdale, and Riverbank and the communities of Empire, Hickman, and La Grange, Knights Ferry, and Valley Home (Stanislaus Consolidated Fire Protection District 2014). A list of the names and locations of the SCFPD fire stations is provided in Table 3.14-2 below.

Table 3.14-2. Stanislaus Consolidated Fire Protection District Facilities

Facility Name	Address
Station 30 (Administrative Headquarters)	3324 Topeka Street Riverbank, CA 95367
Station 31	461 Mitchell Road Modesto, CA 95354
Station 32	4845 Yosemite Boulevard Modesto, CA 95354
Station 33	7737 Yosemite Boulevard Modesto, CA 95357
Station 34	321 E Street Waterford, CA 95386
Station 35	30198 Main Street La Grange, CA 95329
Station 36	3328 Topeka Street Riverbank, CA 95367
Station 1, Oakdale	1398 East F Street Oakdale, CA 95361
Station 2, Oakdale	13199 Valley Home Road Valley Home, CA 95361
Station 3, Oakdale	17700 Sonora Road Knights Ferry, CA 95361
Station 4, Oakdale	450 South Willowood Avenue Oakdale, CA 95361
Station 5, Oakdale	325 East G Street Oakdale, CA 95361

Source: Stanislaus Consolidated Fire Protection District 2014a.

CAL FIRE provides service within SRAs, predominantly wildland and open space areas within the county. It is also part of countywide mutual aid, with specific automatic aid agreements (Stanislaus Local Agency Formation Commission 2007).

Police Protection

The Stanislaus County Sheriff's Department (SCSD) is charged with law enforcement duties in Stanislaus County. Its Operations Division has principal jurisdiction in all unincorporated areas, covering an area of approximately 1,521 square miles with a population of more than 200,000 (Stanislaus County Sheriff's Department 2014). Of the nine cities in the county, SCSD provides law enforcement services to four contract cities: Patterson, Riverbank, Hughson, and Waterford. The cities of Ceres, Modesto, Newman, Oakdale, and Turlock maintain their own police departments. The Operations Division is divided into two units, Patrol and Investigations. Patrol Services is responsible for investigating crime, making arrests, providing preventative patrols, and rendering assistance or aid where necessary. The Investigations Unit follows up on cases that warrant further investigation (i.e., beyond that provided by patrol personnel).

Schools

The Stanislaus County Office of Education is responsible for supervising public school districts and schools in Stanislaus County. The County Office of Education supervises 26 districts located throughout Stanislaus County (see Table 3.14-3).

Table 3.14-3. Schools Districts in Stanislaus County

Facility Name	Address
Ceres Unified School District	2503 Lawrence Street Ceres, CA 95307
Chatom Union School District	7201 Clayton Road Turlock, CA 95380
Denair Unified School District	3460 Lester Road Denair, CA 95316
Empire Union School District	116 North McClure Road Modesto, CA 95323
Gratton School District	4500 South Gratton Road Denair, CA 95316
Hart-Ransom Union School District	3920 Shoemake Avenue Modesto, CA 95358
Hickman School District	13306 Fourth Street Hickman, CA 95323
Hughson Unified School District	6815 Hughson Avenue Hughson, CA 95326
Keyes Union School District	5680 Seventh Street Keyes, CA 95328
Knights Ferry School District	12726 Dent Street Knights Ferry, CA 95361
Modesto City Schools District	426 Locust Street Modesto, CA 95351

Facility Name	Address
Newman-Crows Landing Unified School District	1162 Main Street Newman, CA 95360
Oakdale Joint Unified School District	168 South Third Avenue Oakdale, CA 95361
Paradise Elementary School District	3361 California Avenue Modesto, CA 95358
Patterson Joint Unified School District	510 Keystone Boulevard Patterson, CA 95363
Riverbank Unified School District	6715 Seventh Street Riverbank, CA 95367
Roberts Ferry School District	101 Roberts Ferry Road Waterford, CA 95386
Salida Union School District	4801 Sisk Road Salida, CA 95368
Shiloh School District	6633 Paradise Road Modesto, CA 95358
Stanislaus County Office of Education	1100 H Street Modesto, CA 95354
Stanislaus Union School District	2410 Janna Avenue Modesto, CA 95350
Sylvan Union School District	605 Sylvan Avenue Modesto, CA 95350
Turlock Unified School District	1574 East Canal Drive Turlock, CA 95380
Valley Home Joint School District	13231 Pioneer Avenue Valley Home, CA 95361
Waterford Unified School District	219 North Reinway Avenue, Building 2 Waterford, CA 95386

Source: Stanislaus County Office of Education 2013a.

The largest of these school districts is Modesto City Schools, with 29,948 enrolled students. The smallest is Knights Ferry, with 85 enrolled students (Stanislaus County Office of Education 2013b). Total enrollment in the county (K through 12) is 106,126, with approximately 8,000 students at each grade level (Stanislaus County Office of Education 2013b). There are 98 elementary schools, 25 middle schools, 19 high schools, 22 continuation institutions, 24 charter schools, and one special education center, for a total of 189 educational facilities (Stanislaus County Office of Education 2013b). These facilities employ a classified staff of 5,273 (Stanislaus County Office of Education 2013b).

Parks

The Stanislaus County Department of Parks and Recreation is in charge of park and recreational facilities in unincorporated Stanislaus County. The existing system of county parks includes five regional parks, eight fishing access sites, and 11 neighborhood parks (Stanislaus County Department of Parks and Recreation 1994). In addition, various municipal agencies provide their own park and

recreational services throughout the county. A wide variety of recreational and community services are available in the county, including early childhood classes, special interest classes, workout classes, adult sports leagues and tournaments, recreation for people with special needs, senior recreation, and fine arts programs (see Section 3.15, *Recreation*, for more information on parks and recreational facilities).

Other Public Facilities

The Stanislaus County Library, funded through a dedicated portion of the sales tax, provides all county residents with access to 773,213 books, magazines, newspapers, audio books, videos, and DVDs (Stanislaus County Library 2013a). Several library facilities are maintained throughout the county (see Table 3.14-4).

Table 3.14-4. Library Facilities in Stanislaus County

Facility Name	Address
Modesto Public Library	1500 I Street Modesto, CA 95354
Ceres Public Library	2250 Magnolia Ceres, CA 95307
Denair Public Library	4801 Kersey Road Denair, CA 95316
Empire Public Library	18 South Abbie Street Empire, CA 95319
Hughson Public Library	2412 A Third Street Hughson, CA 95326
Keyes Public Library	4420 Maud Avenue Keyes, CA 95328
Newman Public Library	1305 Kern Street Newman, CA 95360
Oakdale Public Library	151 South First Avenue Oakdale, CA 95361
Patterson Public Library	46 North Salado Patterson, CA 95363
Riverbank Public Library	3442 Santa Fe Street Riverbank, CA 95367
Salida Public Library	4835 Sisk Road Salida, CA 95368
Turlock Public Library	550 Minaret Avenue Turlock, CA 95380
Waterford Public Library	324 E Street Waterford, CA 95386

Source: Stanislaus County Library 2013b.

Guidelines for determining minimum library space requirements are maintained by the American Planning Association (APA). An evaluation of building size and condition is necessary to determine whether each structure can provide the necessary services. The standards for building size are generally expressed in terms of square feet per capita. The Experience Formulas for Library Size and Costs used by the APA suggest minimum sizes that range from 0.3 square feet per capita for libraries that serve 50,000 people or more to 0.6 or 0.65 for those that serve 10,000 to 35,000 people (American Planning Association 1968). To the extent that funding is available, these formulas will guide the provision of new library service as the county population grows.

3.14.3 Impact Analysis

This section discusses the approach and methodology used to assess the impacts of the plan updates; discusses the individual impacts relative to the thresholds of significance; discusses mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for significant impacts; and indicates the overall significance of the impact with mitigation incorporated.

Major Sources Used in Analysis

The major sources used in this analysis are listed below:

- Stanislaus County General Plan
- Stanislaus County Code
- County Office of Education
- Information from County Departments

Approach and Methodology

The project was evaluated to determine if fire, police, school, library, and park and recreational facilities are staffed and located so as to continue to serve the county's residents adequately and whether additional facilities may be needed. Potential impacts from the additional facilities were assessed through the significance criteria established for this project, which are based on the State CEQA Guidelines. For purposes of this analysis, the future population growth described in StanCOG's 2014 RTP/SCS is assumed to include future population growth in the unincorporated county.

Thresholds of Significance

Based on State CEQA Guidelines, Appendix G, the plan updates would have a significant impact with respect to public services if they would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services and facilities:
    - Fire protection
    - Police protection
    - Schools

- Parks
- Other public facilities

Impacts and Mitigation Measures

Impact SER-1: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives: Fire protection (less than significant)

The proposed project integrates population projections adopted by StanCOG that extend the planning horizon to 2035. StanCOG's regional growth forecast predicts a population for the unincorporated county jurisdiction of 133,753 in 2035, which represents an increase of approximately 21% from its 2010 population (Stanislaus Council of Governments 2014). There is a reasonable expectation that population and housing within the public services study area will increase. The population and housing increase projected under the proposed project would increase the demands on Stanislaus County fire protection and emergency services. The ALUCP does not direct or propose any new airport operations. Therefore, it would not result in any new demands resulting from expansion or other changes to operations.

To maintain or achieve acceptable staffing and response-time objectives for fire protection, it is reasonably foreseeable that new or expanded fire stations will be needed. These would have the potential to result in adverse environmental impacts. Stanislaus County Ordinance (i.e., Title 23 and Title 24) impact fees will finance new facilities associated with the demands of new development. The fees from Title 24 will be used to fund the purchase of fire station sites, the construction of new stations, and the purchase of certain pieces of capital equipment.

As new development occurs, fees will be collected to ensure adequate levels of service related to fire protection are maintained.

Land Use Element

Existing Goal Four, Policy Twenty-Four (renumbered from Twenty-Two, under Implementation Measure 5, of the Land Use Element, requires current levels of service of public agencies to be determined and not allowed to deteriorate as a result of new development. Similarly, existing Goal One, Policy Five of the general plan's Land Use Element ensures that residential development maximums will be based on environmental constraints, the availability of public services, and acceptable service levels (see *Regulatory Setting*).

Safety Element

GOAL TWO. Minimize the effects of hazardous conditions that might cause loss of life and property.

POLICY SEVEN. Adequate fire and sheriff protection shall be provided.

IMPLEMENTATION MEASURES

2. All discretionary projects in the County shall be referred to the ~~Fire Safety Department and to the appropriate fire district~~ Office of Emergency Services / Fire Warden, and the Local Fire Agency having jurisdiction for comment. The comments of these agencies will be used to condition or recommend modifications of the project as it relates to fire safety and rescue

issues. All projects in State Responsibility Areas or Very High Fire Hazard Severity Zone shall be routed to CALFire for comments.

8. All discretionary projects shall be referred to the ~~Regional Emergency Medical Services Office~~ Local Emergency Medical Services Agency for comments related to ambulance service.

The comments of these agencies will be used to condition or recommend modifications to the project related to fire safety and rescue issues. All projects in SRAs or Very High Fire Severity Zones will be routed to CALFire for comments.

The number, locations, physical sizes, equipment assignments, and designs of future fire stations are unknown. The same is true for expansions of existing stations. As a result, the potential environmental impacts of future stations cannot be known at this time. Typical fire station impacts include intermittent noise from the sirens on fire trucks and ambulances leaving the station on calls as well as temporary traffic interruptions while vehicles are leaving the station. Fire stations very seldom result in significant effects that require the preparation of an EIR (e.g., the State Clearinghouse, which receives CEQA documents from all public agencies in California, has received only one EIR for a fire station since December 2009), and any impacts can be mitigated below a level of significance. Mitigation, if necessary, would be site and project specific. Because site- and project-specific information is not available for future fire stations, mitigation measures cannot be developed at this time.

Future fire stations will be subject to CEQA analysis, except for the new station to be located in Diablo Grande, which has already undergone environmental review. No CEQA analysis is required if stations are located in a commercial or industrial zone. Potential impacts will be disclosed, and site- and project-specific mitigation measures will be developed at that time. Due to the infrequency of an EIR being required for a fire station, it can be reasonably assumed that these facilities do not result in unavoidable significant impacts. Therefore, this impact is expected to be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact SER-2: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives: Police protection (less than significant)

As mentioned, StanCOG's regional growth forecasts, adopted in the general plan updates, create a reasonable expectation that population and housing within the public services study area will increase. The construction of housing (i.e., single- and multi-family residences) and nonresidential uses, including commercial, retail, office, and business park uses; fire stations; schools; and open areas, would increase the demand for police protection services within the public services study area. The SCSD would provide general law enforcement for this area. Without additional staffing and facilities, the projected increase in population would decrease the existing level of service of the SCSD. The ALUCP does not direct or propose any new airport operations. Therefore, it would not result in any new demands.

The number, locations, physical sizes, equipment assignments, and designs of future sheriff's stations are unknown. The same is true for expansions of existing stations. As a result, the potential environmental impacts of future stations cannot be known at this time. Typical sheriff's station impacts include minor traffic generation during shift changes when deputy's vehicles enter or leave

the station grounds and short bursts of noise if deputies test their patrol car sirens prior to leaving on patrol. Sheriff's/police stations do not typically result in significant effects that require the preparation of an EIR (e.g., the State Clearinghouse, which receives CEQA documents from all public agencies in California, has received no EIRs for a sheriff's/police station since December 2009), and any impacts can be avoided by project design and operating protocols limiting the use of sirens. Mitigation, if necessary, will be site and project specific. Because site- and project-specific information is not available about future sheriff's stations, mitigation measures cannot be developed at this time. In any case, future sheriff's stations located in a zone where a discretionary permit is required will be subject to CEQA analysis. Potential impacts will be disclosed, and site- and project-specific mitigation measures will be developed at that time, if necessary. Due to the infrequency of an EIR being required for a sheriff's station, it can be reasonably assumed that these facilities do not result in unavoidable significant impacts. Therefore, this impact is expected to be less than significant.

As mentioned, Stanislaus County Ordinance Title 23 is intended to reduce impacts associated with public facilities that may be caused by new development.

Land Use Element

Existing Goal Four, Policy Twenty-Four (renumbered from Twenty-Two), under Implementation Measure 5, of the Land Use Element, requires current levels of service of public agencies to be determined and not allowed to deteriorate as a result of new development. Similarly, Existing Goal One, Policy Five of the general plan's Land Use Element ensures that residential development maximums will be based on environmental constraints, the availability of public services, and acceptable service levels.

Safety Element

GOAL TWO. Minimize the effects of hazardous conditions that might cause loss of life and property.

POLICY SEVEN. Adequate fire and sheriff protection shall be provided.

IMPLEMENTATION MEASURES

6. All discretionary projects shall be referred to the Sheriff's Department for comment and evaluation of security features including crime prevention through design. Comments from the Sheriff will be used to either condition or modify the project.

POLICY NINE. The County shall support the formation of improvement districts (including flood control districts) or overlay zones to ~~eliminate~~ mitigate safety hazards.

IMPLEMENTATION MEASURES

6. Fire ~~Districts~~ Agencies, Sheriff's Department, etc. should be encouraged to request that the Board of Supervisors impose development fees to help support capital needs. ~~their services.~~ Such requests shall be accompanied by supporting documentation.

Comments from the sheriff will be used to either condition or modify the project. Thus, as future development projects are implemented, SCSD will review each project for potential impacts on its facilities and personnel. If determined to be necessary, mitigation will be imposed to fund capital facilities and equipment for SCSD.

Significance without Mitigation: Less than significant (no mitigation required)

Impact SER-3: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives: Schools (less than significant)

StanCOG's regional growth forecast, adopted in the general plan updates, creates a reasonable expectation that population and housing within the public services study area will increase, which would result in an increase in school enrollment. The Stanislaus County Office of Education is responsible for supervising public school districts and schools in the public services study area. School districts, identified in Table 3.14-3, offer education to all school-age residents within Stanislaus County and operate independently of the county government. Elected governing school boards are responsible for budgeting and decision-making. Public schools are not subject to county planning or zoning code requirements when the local school board chooses to exempt them. The construction of new schools and expansion of existing schools are routinely exempted from county planning and zoning requirements and rarely subject to county review and approval. As a result, the county can neither deny nor place conditions on new or expanded schools.

The types, number, locations, physical sizes, and designs of future public schools that will be built to accommodate future growth from implementation of the general plan as amended by the project are unknown. The same is true for the expansion of existing schools. As a result, the potential environmental impacts of future schools cannot be known at this time. The typical environmental impacts of new or expanded schools include aesthetic impacts (particularly if there will be lighted athletic fields), loss of agricultural land (where the school is located on agricultural land), noise, and traffic. Schools often result in significant effects that require the preparation of an EIR, depending on the size and location. EIRs are typically required for new high schools because of significant impacts related to aesthetics, noise, and traffic, for example. In any case, future new or expanded public schools will be subject to CEQA analysis by the school district. Potential impacts will be disclosed, and site- and project-specific mitigation measures will be developed at that time, if necessary. Because new schools often require an EIR, and that implies that there may be significant impacts from the school, this impact is foreseeably significant. CEQA review and mitigation will be the responsibility of the school district undertaking such projects. Public school approval is outside the authority of the county and public school construction is not a component of the General Plan update project. Therefore, the update is not responsible for school construction and this impact is less than significant

Significance without Mitigation: Significant and unavoidable (no feasible mitigation available)

Impact SER-4: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives: Parks (no impact)

The Stanislaus County Department of Parks and Recreation is in charge of park and recreation facilities in the public services study area. StanCOG's regional growth forecasts, adopted in the general plan updates, indicate that population and housing within the public services study area will increase, which will result in an increase in park usage. To maintain or achieve acceptable acre-to-

resident ratios, the provision of new or physically altered park facilities will be required by the County. This has the potential to result in adverse environmental impacts.

Land Use Element

GOAL FOUR. Ensure that an effective level of public service is provided.

POLICY TWENTY-~~ONE~~THREE. At least three net acres of developed neighborhood parks, or the maximum number of acres allowed by law, should be provided for every 1,000 residents, through land dedication and development, payment of in-lieu-of fees, public facility fees, or other methods acceptable to the Parks Department.

Conservation/Open Space Element

GOAL FOUR. Provide for the open-space recreational needs of the residents of the County.

POLICY TWELVE. Provide a system of local and regional parks which will serve the residents of the County.

IMPLEMENTATION MEASURES

1. The County shall consider adoption of an amendment to the Subdivision Ordinance ~~by June 30, 1996~~ to require parkland dedication~~, or~~ park in-lieu fees, public facility fees, or other methods acceptable to the Parks Department, to be paid by subdividers and developers.
2. ~~The County Department of Parks and Recreation shall prepare and implement a plan to identify, acquire and maintain future park site locations. The parks plan should be adopted by June 30, 1996 and should address neighborhood parks and open space in urban settings as well as regional parks that serve the entire County population.~~ The County shall continue to implement the Parks Master Plan. The Plan shall be comprehensively updated as found necessary by the Board of Supervisors.

The project will not result in a shortage of park land.

The Parks Master Plan identifies a number of new and renovated facilities that would be built in the future to support increased demand for parks and recreational facilities, if financially feasible. Depending on location and final site design, large park and recreational facilities typically result in significant effects on aesthetics (if lighted athletic fields are included), biological resources (when located in sensitive habitats), cultural resources (when located along water courses where sensitivity tends to be highest), noise (if athletic fields are included), and traffic. Future parks will be subject to CEQA review and related mitigation for significant impacts. However, absent information on the location and site design for future parks, it is not possible at this time to establish mitigation measures for future park construction and operation. Typically, a regional park with lighted athletic fields can have significant and unavoidable impacts related to aesthetics, noise, and traffic. However, the present project does not propose amendments to the Parks Master Plan, nor does it implement that plan. The General Plan update is distinguishable from the Parks Master Plan and future impacts under that plan. The project would have no impact.

Significance without Mitigation: No impact

Impact SER-5: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives: Other public facilities (less than significant)

Stanislaus County Library, funded through a dedicated portion of the sales tax, provides all residents of the public services study area with library facilities and an inventory of books, periodicals, audiocassettes, videos, etc. StanCOG's regional growth forecasts, adopted in the general plan updates, create a reasonable expectation that population and housing within the public services study area could increase, which would result in an increase in library system use. To maintain or achieve acceptable ratios pertaining to square footage per capita, it is reasonably foreseeable that the provision of new or physically altered library facilities could be required, which would have the potential to result in adverse environmental impacts. The number, locations, and designs of future libraries and library expansions are unknown. As a result, the potential environmental impacts of future libraries, if any, cannot be known at this time.

Typical library impacts include a reduction in the parking supply on adjoining streets if off-street parking is insufficient and, if the library itself is historic, effects on historic resources. Libraries very seldom result in significant effects that require the preparation of an EIR (e.g., the State Clearinghouse, which receives CEQA documents from all public agencies in California, has received only one EIR for a library since December 2009; most library expansions were approved on the basis of categorical exemptions), and impacts tend to be minor. Mitigation, if necessary, would be site and project specific. Because site- and project-specific information is not available about future libraries, mitigation measures cannot be developed at this time.

Future libraries will be subject to CEQA analysis. Potential impacts will be disclosed, and site- and project-specific mitigation measures, if necessary, will be developed at that time. Due to the infrequency of an EIR being required for a library or library expansion, it can be reasonably assumed that these facilities do not result in unavoidable significant impacts. Therefore, this impact is expected to be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

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3.15 Recreation

3.15.1 Introduction

This section discusses the impacts of the plan updates with respect to recreation. It lists the thresholds of significance that form the basis of the environmental analysis, describes the recreation study area and major sources used in the analysis, provides environmental setting information that is relevant to recreation, and assesses whether the plan updates would result significant impacts with respect to recreation.

Study Area

The recreation impact study area for the project is defined as Stanislaus County.

3.15.2 Environmental Setting

This section describes the state and local regulations and policies that are applicable to the plan updates and the existing conditions pertaining to recreation in the recreation study area. The existing conditions constitute the baseline for this analysis.

Regulatory Setting

The provision of parkland is authorized at the state level by California Government Code Section 66477, commonly called the Quimby Act. At the local level, the Stanislaus County General Plan and the Stanislaus County Parks Master Plan guide the dedication and maintenance of recreational facilities within the unincorporated areas of Stanislaus County.

State

Quimby Act

The Quimby Act (California Government Code Section 66477), enacted in 1966, is a state law, applied at the local level, that specifies the parkland dedication requirements for new residential subdivisions. The Quimby Act authorizes local jurisdictions to require developers of new residential subdivisions to dedicate up to three acres of park area per 1,000 persons or, if the amount of existing neighborhood and community park area exceeds that limit, the jurisdiction can require that existing ratio, not to exceed five acres of land per 1,000 persons, or to pay in-lieu fees for park or recreational purposes. The local jurisdiction must adopt Quimby Act provisions as part of its subdivision ordinance in order to impose the exactions allowed by the act. Alternatively, if the local jurisdiction has Quimby Act standards in its general plan, it can impose park and recreation exactions on subdivisions through the requirement that the subdivision be consistent with the general plan (Government Code Section 66474[a]). Although the Quimby Act authorizes the dedication of new parkland, it does not address the development, operation, or maintenance of new park facilities. Therefore, the Quimby Act provides open space needed to develop park and recreational facilities, but does not ensure the development of the land or the provision of a park.

Subdivision Map Act

The Subdivision Map Act (California Government Code Section 66410, et seq.) sets forth the conditions for approval of a subdivision map and requires enactment of subdivision ordinances by which local governments have direct control over the types of subdivision projects to be undertaken and the physical improvements to be installed. The act requires a subdivision's design to coordinate with community plans and ensures that subdividers will properly complete areas dedicated for public purposes.

Local

At the local level, the dedication, operation, and maintenance of recreational facilities on the project site and surrounding area is guided by the County General Plan. Policy Twenty-One, described below, implements the Quimby Act. It sets standards for the acquisition of lands for parks and recreational purposes, or the payments of fees in lieu thereof, on any discretionary residential development project that is subject to land subdivision. At least three net acres of developed neighborhood parks, or the maximum number of acres allowed by law, should be provided for every 1,000 residents through land dedication and development, payment of in-lieu-of fees, or other methods the County Department of Parks and Recreation considers acceptable.

Stanislaus County General Plan

Land Use Element

GOAL 1. Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.

POLICY TWO. Land designated Agriculture shall be restricted to uses that are compatible with agricultural practices, including natural resources management, open space, outdoor recreation and enjoyment of scenic beauty.

POLICY FIVE. Residential densities as defined in the General Plan shall be the maximum based upon environmental constraints, the availability of public services, and acceptable service levels. The densities reflected may not always be achievable and shall not be approved unless there is proper site planning and provision of suitable open space and recreational areas consistent with the supportive goals and policies of the General Plan.

GOAL THREE. Foster stable economic growth through appropriate land use policies.

POLICY SEVENTEEN. Promote diversification and growth of the local economy.

IMPLEMENTATION MEASURE

5. Allow private recreational uses where they are not found to cause land use conflicts.

GOAL FOUR. Ensure that an effective level of public service is provided in unincorporated areas.

POLICY TWENTY-ONE. At least three net acres of developed neighborhood parks, or the maximum number of acres allowed by law, should be provided for every 1,000 residents, through land dedication and development, payment of in-lieu-of fees, or other methods acceptable to the Parks Department.

IMPLEMENTATION MEASURE

1. Continue to implement the strategies identified under Goal Four of the Conservation/Open Space Element.

POLICY TWENTY-TWO. Future growth shall not exceed the capabilities/capacity of the provider of services such as sewer, water, public safety, solid waste management, road systems, schools, health care facilities, etc.

IMPLEMENTATION MEASURE

3. Benefit assessment districts, County Service Areas (CSA's), Mello-Roos Districts, or other similar districts shall be formed as needed to pay for the cost of providing ongoing appropriate services.

Community Plans

Stanislaus County has adopted Community Plans for most of the unincorporated towns in the county. These plans outline the future growth pattern of the town. Each plan is used in conjunction with the general plan to indicate whether the Urban Transition area will be residential, commercial, industrial, etc. Any requests for rezoning of property designated Urban Transition in the general plan must be consistent with the proposed use category in the Community Plan. The actual level of future residential development within the adopted Community Plans is limited by county Measure E. This initiative measure requires a popular vote prior any general plan amendment or rezoning of designated agricultural or open space land to allow residential development.

To develop land within the sphere of influence designated Urban Transition in the Land Use Element of the Stanislaus County General Plan, the developer must request a general plan amendment, rezoning, and submit a tentative map (assuming the land is not designated as agricultural or open space in the general plan). The latter is required only if development of the property is dependent on approval of a tentative map. The combining Urban Service (US) zone shall be used for all such rezoning. Use of this zone will require that the property annex to the appropriate service district (sanitary, water, or community services) prior to development while still requiring that the underlying zone be consistent with the general plan designation.

Denair Community Plan

Public Facilities. The community of Denair contains Hunter's Point Park and Flood Control Basin (2.51 acres) and Sterling Ranch Park (4.2 acres). The County's minimum standard for providing adequate parkland is three acres of parkland per 1,000 residents. The Community Plan diagram depicts the general location of future neighborhood and community park sites. The general locations of future park sites are conceptual and indicative of park locations based on service area radius, major streets and surrounding land uses. Parks should be located in the general vicinity shown in the Community Plan.

The following general standards define the various park designations identified in the Denair Community Plan:

Neighborhood Park – 3 to 5 acres. Neighborhood parks are designed to meet local "neighborhood" needs, and are intended to be within walking or bicycling distance of one-half mile from neighborhood residences. A neighborhood park service area should avoid crossing any major natural or manmade barriers (e.g., railroads, canals, and major roads) that inhibit access to the park. Neighborhood parks usually emphasize child oriented facilities, providing a variety of play spaces and associated amenities.

Community Park – 10 to 15 acres. A community park should serve the community and be developed to serve specific recreational needs such as baseball, softball, hard court areas, swimming pool, recreation center. Patrons of these facilities are expected to drive to the park. As such, community parks should provide adequate parking areas and access from collector and/or major roads. The location of the community park should avoid the need to travel through neighborhoods. Care must be taken when siting a community park to avoid conflicting with nearby residential uses. Community parks can be developed as joint-use facilities able to accommodate seasonal storm drainage basins.

Parks and Recreation. The Denair Community Services District provides park and cultural activity centers services in the community. The community's current parkland inventory does not meet the county standard of three acres of parkland per 1,000 residents. The Community Plan illustrates the general location of future park sites, including 1 community park and 3 neighborhood parks.

GOAL FOUR. Provide for the recreational needs of residents of the Denair Community.

POLICY ONE. New development shall provide the residents of Denair with adequate parkland facilities to meet the County standard of 3 acres per 1,000 residents.

IMPLEMENTATION MEASURE

1. The County shall work to acquire and develop parkland, including adequate facilities to accommodate one community park. The general location of future park sites is portrayed on the Community Plan diagram.

Keyes Community Plan

Parks. Hatch Park and Bonita Ranch Park and Storm Drainage Basin serve the residents of Keyes. Hatch park does not meet the County's minimum standard of providing 3 net acres of parkland/1,000 residents needed to support the community's current population. To accommodate growth, the Community Plan diagram envisions the expansion of Hatch Park into a community park. The Community Plan also identifies the general location of future neighborhood park sites. The neighborhood park symbols do not denote precise park locations, but suggest approximate locations for additional parkland acquisitions.

The following general standards define the various park designations identified in the Keyes Community Plan:

Neighborhood Park – 3 to 5 Acres. Neighborhood parks are designed to meet local "neighborhood" needs, and are intended to be within walking or bicycle distance of one-half mile from neighborhood residences. A neighborhood park service area should avoid crossing any major barriers (e.g., canals, collectors or major roads) that inhibit access to the park. Neighborhood parks should emphasize child-oriented facilities providing a variety of play spaces and associated amenities. Neighborhood parks should also be bound on all four sides by local streets to promote safety and public access.

Hatch Community Park – 15+ Acres. To provide for recreational needs of the community such as baseball, softball, and hard court areas, and family-oriented activities such as picnic areas and an indoor recreation center, Hatch Park should be enlarged to provide a minimum of 15 acres. Patrons are expected to drive to this facility. As such, Hatch Park should be bound by streets to minimize on-site parking requirements. As a highly active center, residential or other noise sensitive land uses should not directly abut the park.

Parks and Recreation. The County provides and maintains two park facilities within the community of Keyes. The community's current parkland inventory does not meet the County standard of 3 acres of parkland per 1,000 residents needed to support the community's present population. The Community Plan includes expanding Hatch Park into a 15 acre Community Park. The Community Plan also depicts the general location of future neighborhood park sites.

GOAL SEVEN. Provide for the recreational needs of the residents of the Keyes Community.

POLICY ONE. The County shall support expansion of Hatch Park as a Community Park.

POLICY TWO. The County should acquire additional parkland, pursuant the Keyes Community Plan, to meet the future parkland needs of the Keyes Community. Total parkland inventory should be consistent with the County standard of 3 acres of parkland per 1,000 residents.

IMPLEMENTATION MEASURES

1. The County shall acquire lands to the north and east of Hatch Park to accommodate expansion of the Hatch Park site and promote development of a 15+ acre community park.
2. The County, in conjunction with the Keyes Municipal Advisory Committee and other interested groups, shall work to upgrade and expand the facilities at Hatch Park to include facilities normally associated with a Community Park (e.g., baseball fields, community center, soccer fields).

Salida Community Plan

The Salida Community Plan ("Community Plan" or "Plan") provides land use planning and guidance for development of approximately 4,600 acres of land in the Salida area. The Community Plan encompasses the existing community of Salida, which was part of the previously approved Salida Community Plan (the "Existing Plan" or "Existing Plan Area"), and an amendment area encompassing approximately 3,383 acres (the "Amendment Area").

Neighborhood Parks. Neighborhood parks are intended to serve residents within one-quarter to one-half mile, be within an appropriate walking or cycling distance, and be connected by a multi-use trail system where possible. The Stanislaus County Parks Master Plan suggests that neighborhood parks be provided at a ratio of at least three acres of park land for every 1,000 people. A population increase of 15,063 people is projected, should the new designated Low-Density, Medium-Density, and Medium High-Density residential areas be build out within the Amendment Area to their maximum potential. If maximum buildout is achieved, 45 acres of neighborhood parks would be needed to meet County standards. Satisfaction of park provision requirements may also be met through payment of park in-lieu fees. However, given the need for local park facilities within local neighborhoods in the Amendment Area, it is anticipated that park requirements will be largely met through provision of parkland. The Community Plan illustrates the general location of potential neighborhood park sites. Where possible, neighborhood parks are placed adjacent to new or existing schools. Co-location of parks and school facilities maximizes the recreational utility of both types of facilities; a full range of complementary recreational opportunities can be provided in one location. Neighborhood parkland may also be designed to serve the dual-uses of recreation and temporary storm water detention. This approach improves land use efficiency.

Conservation and Open Space Element

GOAL FOUR. Provide for the open-space recreational needs of the residents of the County.

POLICY TWELVE. Provide a system of local and regional parks which will serve the residents of the County.

IMPLEMENTATION MEASURES

2. The County Department of Parks and Recreation shall prepare and implement a plan to identify, acquire, and maintain future park site locations. The parks plan should be adopted by June 30, 1996 and should address issues related to neighborhood parks and open space in urban settings as well as regional parks that serve the entire County population.
3. The County shall adopt design standards for urban parks by June 30, 1996.
4. The County shall consider establishing appropriate funding mechanisms for park operations and maintenance, including benefit assessment districts and County Service Areas (CSAs), with appropriate exemptions included for those landowners that provide open space amenities.
5. The County shall encourage the interconnection of recreational areas, open spaces, and parks that are oriented to pedestrian and bicycle travel along public highway rights-of-way while protecting private property to the greatest extent possible.

6. The County Department of Parks and Recreation will cooperate with efforts by the State Parks Department to make Henry Coe State Park more accessible to Stanislaus County residents.
7. The County shall require at least three net acres of developed neighborhood parks to be provided for every 1,000 residents.

POLICY THIRTEEN. Promote the use of water reservoirs for multiple recreational purposes, where appropriate.

IMPLEMENTATION MEASURES

1. The County shall encourage the multiple use of reservoirs as flood control devices, recreational facilities, and wildlife habitats.
2. The County shall, when funds become available, install boat ramps where appropriate.

POLICY FOURTEEN. Provide for diverse recreational opportunities such as horseback riding trails, hiking trails, and bikeways.

IMPLEMENTATION MEASURES

1. In areas where appropriate, equestrian facilities may be provided. (The County should consider equestrian facilities when developing new parks. Also, in large land subdivisions where horses are permitted, the County should encourage the development of equestrian facilities.)
2. Bikeways and pedestrian paths shall be considered when constructing or improving the road and street system within the sphere of influence of cities or other urban areas.

POLICY FIFTEEN. Coordinate the provision of recreation needs with other providers such as the Army Corps of Engineers, the State Resources Agency, school districts, river rafters, horse stable operators, and private organizations such as the Sierra Club and Audubon Society.

IMPLEMENTATION MEASURES

1. The County will pursue various funding options for providing recreational opportunities.
2. The County will assume responsibility for parks, when financially feasible, dedicated to them by state or federal agencies.
3. Prior to the issuance of any building permit on parcels fronting the Stanislaus River, it shall be verified that the building site is outside of Army Corps of Engineers easements.
4. An inventory of recreational facilities shall be maintained for use in park and recreational facilities planning.

Stanislaus County Public Facilities Fee Program

The Public Facilities Fee program imposes a fee on new development per the state Mitigation Fee Act (Government Code Section 66000 et seq.). Revenues from this "impact fee," fund the pro-rata extension of existing County capital facilities to support the new growth created by the development. The use of this fee is limited to capital improvements or facilities, and cannot be for operations (i.e., salaries). The fee reflects the projected cost of needed facilities, as shared by individual new developments. It does not replace, repair or maintain the existing level-of-service provided by the County.

Fees collected under this program pay for capital improvements related to regional and neighborhood parks, among other things. The fees are adjusted on a regular basis to account for changes in cost or in development forecasts.

Stanislaus County Capital Improvement Plan for Fiscal Year 2013–2014

The Stanislaus County Capital Improvement Plan for Fiscal Year 2013–2014 is a companion planning document to the Stanislaus County Budget, approved in its final form by the Board of Supervisors on September 10, 2013. The list of planned major capital expenditures is the culmination of the goals and objectives of each of the county's departments, ranked by the status of each project's readiness to proceed based on funding and board approval status, review and approval of the Board of Supervisors, and evaluation of the consistency of these projects with the County's General Plan and other specific plans. The Capital Improvement Plan, when approved by the board as final, provides a long-range vision of major project initiatives and capital expenditures. The adopted final Capital Improvement Plan consolidates lists of projects from numerous county plans, including transportation and infrastructure projects, and focused departmental plans, such as the Parks Master Plan, Public Safety Center Neighborhood Site Master Plan, and other strategic plans, ranked by their implementation priority. The parks and recreational facilities identified in the Capital Improvement Plan are discussed below.

Stanislaus County Parks Master Plan

The Stanislaus County Parks Master Plan, written in 1999, provides a comprehensive overview to guide the Board of Supervisors, Parks and Recreation Commission, and the Department of Parks and Recreation as they work to meet a variety of goals for parklands and users over the next 20 years. In 1994, Stanislaus County updated its general plan and charged the Parks and Recreation Commission and the Department of Parks and Recreation with the task of accomplishing several goals with the development of a master plan. Development of this long-range plan has included a needs assessment, specific park plans, future planning, development of design standards, and economic and fiscal planning.

Stanislaus County does not have a parks fee, but it does have a "Quimby Act" provision in the general plan that would allow for the collection of a fee or dedication of land for park and recreational facilities as a condition of subdivision approval.

Existing Conditions

Recreational amenities in Stanislaus County include a range of state and local recreational facilities. For the purposes of this EIR, only county-operated facilities related to the general plan are discussed.

County Recreational Facilities

Stanislaus County categorizes parks and recreational facilities as fishing access areas, neighborhood parks, or regional parks. Neighborhood parks, generally one-half to four acres in area, are oriented toward the recreational needs of families and may include sports facilities and picnic areas. Regional parks, ranging from 100 to 6,500 acres, are intended to serve a region larger than an individual community. They may include all of the amenities typically found at neighborhood and community parks but may also feature facilities such as amphitheaters, trails, campgrounds, and interpretive centers. The county has adopted Community Plans for most of the unincorporated communities in the county to outline the future growth pattern of the town.

The county is responsible for managing and maintaining parks (Stanislaus County 2014a and 2014b). Additionally, cities within Stanislaus County operate their own parks, which are available for use by all residents.

Table 3.15-1. Existing Local Parks and Recreational Facilities

Park/Facility Name	Location	Park Operator	Acreage
Fishing Access			
Basso Bridge Fishing Access	Route 132	Stanislaus County	NA
Fox Grove Recreation and Fishing Access	Geer Road	Stanislaus County	NA
Las Palmas Fishing Access	East of Patterson	Stanislaus County	NA
Riverdale Park Fishing Access	Hatch Road and Carpenter Road	Stanislaus County	NA
Shilo Fishing Access	Tuolumne River	Stanislaus County	NA
Turlock Reservoir Fishing Access	Turlock Lake State Recreation Area	Stanislaus County	NA
Neighborhood Parks			
Bonita Park and Pool	Crows Landing	Stanislaus County	1
Bonita Ranch Park and Flood Control Basin	Keyes	Stanislaus County	8
Burbank-Paradise Park	Modesto	Stanislaus County	1
Countrystone Park	Salida	Stanislaus County	8
Empire Tot-Lot	Empire	Stanislaus County	0
Empire Community Park and Regional Water Safety Training Center	Empire	Stanislaus County	6
Fairview Park	Modesto	Stanislaus County	5
Grayson United Community Park	Grayson	Stanislaus County	5
Hatch Park	Keyes	Stanislaus County	5
Hunters Pointe Park	Denair	Stanislaus County	3
John Murphy Park	Salida	Stanislaus County	4
Leroy F. Fitzsimmons Memorial Park	Grayson	Stanislaus County	1
Mono Park	Modesto	Stanislaus County	2
Oregon Drive Park	Modesto	Stanislaus County	2
Parklawn Park	Ceres	Stanislaus County	4
Salida Park	Salida	Stanislaus County	2
Segesta Park	Salida	Stanislaus County	9
Sterling Ranch Park	Denair	Stanislaus County	4
Wincanton Park		Stanislaus County	3
Neighborhood Parks Total			73 acres

Park/Facility Name	Location	Park Operator	Acreage
Regional Parks			
Frank Raines Regional Park	Del Puerto Canyon Road	Stanislaus County	2,040
La Grange Regional Park	La Grange	Stanislaus County	730
Laird Regional Park	East of Grayson	Stanislaus County	97
Modesto Reservoir Regional Park	North of Oakdale	Stanislaus County	6,040
Tuolumne River Regional Park		Stanislaus County	1,246
Woodward Reservoir Regional Park	East of Waterford	Stanislaus County	6,667
Regional Parks Total			16,820 acres
Total			16,893 acres

Sources: Stanislaus County 1999, 2014a, 2014b, 2014d, 2014e; Gomez pers. comm.

According to the Stanislaus County Parks Master Plan, the overall acreage of regional parklands is adequate to serve the future populations. However, the master plan identified a large statistical shortfall in neighborhood parklands (a shortfall of 279 acres, compared with 35 acres in 1999). Since publication of the plan, some parks have been developed, but a shortfall still exists. Existing Policy Twelve of Goal Four of the Conservation/Open Space Element requires the county to provide a system of local and regional parks that will serve county residents by requiring the county to provide at least three net acres of developed neighborhood parks for every 1,000 residents. The County's Quimby Act provision is provided in existing Policy Twenty-One of Goal Four of the Land Use Element, and states that least three net acres of developed neighborhood parks, or the maximum number of acres allowed by law, should be provided for every 1,000 residents, through land dedication and development, payment of in-lieu-of fees, or other methods acceptable to the Parks Department. In addition, the Subdivision Map Act requires that subdivisions must be consistent with general plans in order to be approved. Therefore, subdivisions must be consistent with this ratio. Based on an unincorporated population of 110,236 residents in 2010 (Stanislaus Council of Governments 2014), the county should have 331 acres of existing neighborhood parks. With only 73 acres of neighborhood parks, that leaves a shortfall of 258 acres.[1]

The locations of the current regional parks have left a gap in service in the southwestern portion of the county. To fulfill this need, the Parks Master Plan recommended construction of a regional park to serve the area encompassed by the communities of Turlock, Patterson, Crows Landing, and Newman. The park would focus on the San Joaquin River, with a minimum of 250 acres to accommodate a variety of recreational opportunities and provide dedicated open space to conserve unique resources (Stanislaus County 2014c). This park has not been constructed (Gomez pers. comm.). The Parks Master Plan identified a second area of regional shortages, including access to the Tuolumne River between the existing access points at La Grange/Basso Bridge, Fox Grove, Tuolumne River Regional Park, Riverdale, and Shilo, to improve the opportunities for short day trips on the river. As recommended by the plan, these additional regional facilities could be developed on relatively small parcels (three to 10 acres); together, they would form a larger regional facility.

[1] 110,236 residents/1,000*3 acres= 331 acres

Potential sites included South Appling Way in Waterford and near the Turlock Lake Campground (Stanislaus County 2014c). These facilities have not been constructed (Gomez pers. comm.).

New Recreational Facilities

The Stanislaus County Capital Improvement Plan for Fiscal Year 2013–2014 includes 19 park and recreation projects, including upgrades to existing parks, new playgrounds, new parks, and picnic shelters, which are listed as future project/master planned. These projects are expected to cost approximately $20 million, but the county has identified funding sources for only $8 million (approximately). Additionally, the county has recommended additional projects for inclusion on the list, including the Bonita Pool and Restroom Renovations, Interactive Splash Playground at Bonita Pool, Riverdale Park and Fishing Access (all slated to start in 2014 and end in 2020), and the Woodward Reservoir, T-Island, and Muir Point campsites (expected to have started in 2013 and end in 2016). The estimated cost for these projects is $2,649,740 (Stanislaus County 2013).

3.15.3 Impact Analysis

This section discusses the approach and methodology used to assess the impacts of the plan updates; discusses the individual impacts relative to the thresholds of significance; discusses mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for significant impacts; and indicates the overall significance of the impact with mitigation incorporated.

Major Sources Used in Analysis

The major sources used in this analysis are listed below:

- Stanislaus County General Plan
- County Department of Parks and Recreation (http://www.stancounty.com/er/parks/)
- Stanislaus County Parks Master Plan

Approach and Methodology

The analysis of the proposed project's impacts on recreational resources was conducted using a review of local recreation planning documents, including the Stanislaus County General Plan Land Use and Conservation/Open Space Elements and the Stanislaus County Parks Master Plan. Because the existing population within the unincorporated county will change under buildout of the proposed project, the park and recreation impact assessment in this section is based on a comparison of existing county park and recreation land versus the amount of park and recreation land necessary to serve the population under the proposed project. Therefore, this analysis is an evaluation of the prospective impacts of future recreational facilities or the expansion of existing facilities that would be allowed under implementation of the proposed project to meet the adopted area standards related to parks and recreation.

Thresholds of Significance

Based on State CEQA Guidelines, Appendix G, the plan updates would have a significant impact with respect to recreation if they would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated.

- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Impacts and Mitigation Measures

Impact REC-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated (significant and unavoidable)

The proposed project integrates population projections adopted by StanCOG that extend the planning horizon to 2035. StanCOG's regional growth forecast predicts a population of 133,753 for the unincorporated county jurisdiction in 2035, which represents an increase of approximately 21% from its unincorporated population of 110,236 residents in 2010 (Stanislaus Council of Governments 2014). There is a reasonable expectation that the population and housing within the public services study area will increase. The population and housing increase projected under the proposed project would increase the demands on Stanislaus County parks and recreational facilities.

Table 3.15-2. Shortages in Neighborhood Parks

	Existing	Acres Needed to Meet 2010 Population	Acres Needed to Meet 2035 Population
Neighborhood Parks (acres)	73	331	401
Shortage		258	328

As described in *Regulatory Setting*, above, existing Goal Four, Policy Twelve of the Conservation/Open Space Element requires the county to provide a system of local and regional parks that serve county residents by requiring the county to provide at least three net acres of developed neighborhood parks for every 1,000 residents. The proposed project includes the same requirement. Although the county does not have a Quimby Act provision or parks fee, the Subdivision Map Act requires that subdivisions must be consistent with general plans in order to be approved. Therefore, subdivisions must be consistent with this ratio. To meet this standard, the county should have 331 acres of existing neighborhood parks; it has only 73 acres. This shortfall would increase with an increase in population. Based on the StanCOG predicted population in 2035, the county should have 401 acres of neighborhood parks by 2035.[2] If no additional neighborhood parks are built, the county would face a shortfall of 328 acres of neighborhood parks in 2035. Although the county has recreational facility projects slated for construction in its Capital Improvement Plan for Fiscal Year 2013–2014, as described in the Existing Conditions section, none of the projects are specified in the proposed project. With that shortfall, existing neighborhood park facilities may experience additional use such that substantial physical deterioration of the facilities would occur or be accelerated. To the extent that repairs cannot be funded through the Public Facilities Fee, this physical change in existing facilities would be significant and unavoidable.

Significance without Mitigation: Significant and unavoidable (no mitigation available)

[2] 133,753 residents/1,000*3 acres = 401 acres.

Impact REC-2: Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment (less than significant)

The county has an adequate number of regional parks to serve the existing population and the 2035 population, but it is currently lacking neighborhood parks, as described in Impact REC-1. With the forecast increase in population in the unincorporated parts of Stanislaus County by 2035, this shortfall in neighborhood parks will remain the same because new development will provide required parks for future residents. However, that will not be the result of the General Plan update. To meet the neighborhood parks ratio, as listed in Policy Twelve of the existing general plan, the county would need to provide a total of 401 acres of neighborhood parkland, or an additional 328 acres, between 2014 and 2035 to accommodate StanCOG's anticipated population in 2035. This demand will be met through the Public Facilities Fee, which includes funds for neighborhood parks, and under amended Implementation Measure 1, Policy Twelve, Goal Four of the Conservation Element.

GOAL FOUR. Provide for the open space recreational needs of the residents of the County.

POLICY TWELVE. Provide a system of local and regional parks which will serve the residents of the County,

IMPLEMENTATION MEASURES

1. The County shall consider adoption of an amendment to the Subdivision Ordinance ~~by June 30, 1996~~ to require parkland dedication, ~~or~~ park in-lieu fees, public facility fees, or other methods acceptable to the Parks Department, to be paid by subdividers and developers

Neighborhood parks may include playgrounds, picnic areas, and sports fields (Stanislaus County 1999). If a neighborhood sports park were built, it would require approximately 10 acres of land to accommodate sports fields, parking for 110 cars, concessions, restrooms, picnic areas, and playground equipment; it would also require night lighting (Stanislaus County 1999).

Typical environmental impacts of expanding neighborhood parks include construction noise and temporary disruption of access. The same is true of building new neighborhood parks. When in use, neighborhood parks typically have noise, lighting (if there are lighted ball courts), and minor traffic impacts on their surrounding neighborhoods. They may also disrupt biological resources, depending on their location. Given the small size of neighborhood parks, the impacts are usually not intensive enough to be significant. The State Clearinghouse, which receives CEQA documents from all public agencies in California, has received no EIRs for a neighborhood park since October 2009, and any impacts can be mitigated below a level of significance. Mitigation, if necessary, would be site and project specific. Because site- and project-specific information is not available for future fire stations, mitigation measures cannot be developed at this time.

The general plan also updates the Conservation/Open Space Element as follows.

GOAL FOUR. Provide for the open space recreational needs of the residents of the County

POLICY THIRTEEN. Promote the use of water reservoirs for multiple recreational purposes, where appropriate.

IMPLEMENTATION MEASURES

2. The County shall, when funds become available, install and maintain boating ~~ramps~~ facilities, where appropriate. Responsible Departments: Parks and Recreation, Board of Supervisors.

3 The County shall encourage the development of on-site resort services and accessory sales designed to enhance recreational opportunities, where appropriate. Responsible Departments: Parks and Recreation, Board of Supervisors.

Construction of any future parks would be subject to CEQA analysis. Potential impacts would be disclosed, and site- and project-specific mitigation measures would be developed at that time, if necessary. Based on typical neighborhood parks and the infrequency of the need to prepare an EIR for a neighborhood park, this impact is expected to be less than significant. No mitigation is required.

Significance without Mitigation: Less than significant (no mitigation required)

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Personal Communications

Clark, Thom. Public Services Director. City of Oakdale. Phone and voicemail communication regarding acres of parkland in city.

Gallagher, Kelly. Operations Manager. City of Modesto. Phone communication regarding acres of parkland in Modesto.

Gomez, Cathy. Project Coordinator. Stanislaus County Department of Parks and Recreation. Phone and email communication regarding county parks and fishing access facilities.

3.16 Transportation and Traffic

3.16.1 Introduction

This section describes potential impacts on the transportation system associated with adoption of the 2035 Stanislaus County General Plan update. The impact analysis examines the roadway, transit, bicycle, pedestrian, rail, and aviation components of the overall transportation system. To provide a context for the impact analysis, this section begins by discussing the environmental and regulatory setting that will be the baseline for analysis, then identifies the thresholds of significance against which the plan will be evaluated, followed by an assessment of whether the plan updates would result in significant impacts with respect to transportation and traffic.

Study Area

The transportation and traffic impact study area for the project is defined as Stanislaus County.

3.16.2 Environmental Setting

This section describes the state, regional, and local regulations and policies that are applicable to the plan updates, and the existing conditions pertaining to transportation and traffic in the study area.

Regulatory Setting

This section describes the state, regional, and local regulations related to transportation and traffic that would apply to the plan updates.

State

The California Transportation Commission (CTC) administers the public decision-making process that sets priorities and funds projects envisioned in long-range transportation plans. CTC's programming includes the State Transportation Improvement Program (STIP), a multi-year capital improvement program of transportation projects on and off the State Highway System, funded with revenues from the State Highway Account and other funding sources. The California Department of Transportation (Caltrans) manages the operation of state highways that serve Stanislaus County, including Interstate 5 (I-5), State Route (SR) 4, SR 33, SR 99, SR 108, SR 132, and SR 219.

Caltrans has completed transportation or route concept reports for a number of state freeways and highways in Stanislaus County. These reports identify long-range improvements for specific state freeway and highway corridors and establish the "concept," or desired, level of service (LOS) for specific corridor segments. The reports also identify long-range improvements needed to bring an existing facility up to expected standards needed to adequately serve 20-year traffic forecasts. Additionally, the reports identify the ultimate design concept for conditions beyond the immediate 20-year design period. Stanislaus County freeways and highways with concept reports are I-5, SR 4, SR 33, SR 99, SR 108, SR 132, and SR 219. A limitation of these reports is that they do not consider funding availability.

Senate Bill 743 (Chapter 386, Statutes of 2014)

Under SB 743, the Office of Planning and Research and the Natural Resources Agency are to formulate and adopt amendments to the CEQA Guidelines that replace level of service with "vehicle miles travelled" (VMT) as the metric for measuring traffic impacts. The practical effect of this change, when enacted, will be to switch from a concern over localized traffic congestion to area or regional trip generation. The purpose of SB 743 is to encourage the reduction of VMT and the associated production of greenhouse gases at the individual project level. At this writing, the Office of Planning and Research has not completed drafting the proposed amendments and the Natural Resources Agency has not initiated the administrative rulemaking to adopt the amendments. As a result, the content of the amendments cannot be known and level of service remains the standard for determining the significance of traffic impacts. The CEQA Guidelines amendments are expected to take effect at some time in late 2016 or early 2017.

Regional

Regional Transportation Plan—Sustainable Communities Strategy

The Stanislaus Council of Governments (StanCOG) is responsible for regional transportation planning in Stanislaus County. The *Final 2014 Regional Transportation Plan/Sustainable Communities Strategies* (2014 RTP/SCS) (Stanislaus Council of Governments 2014) is a federally mandated, long-range, fiscally constrained transportation plan for Stanislaus County. "Fiscally constrained" means that the transportation improvements listed in the 2014 RTP/SCS are those that have an existing or expected source of financing.

The 2014 RTP/SCS addresses new requirements, including Senate Bill (SB) 375, which calls for reductions in greenhouse gas (GHG) emissions from automobiles and light trucks through transportation investment and land use planning, as well as new federal mandates under MAP-21 (Moving Ahead for Progress in the 21st Century), the national transportation authorization bill that emphasizes a performance-based planning approach. The 2014 RTP/SCS, which matches transportation investment priorities with desired land uses, represents StanCOG's regional vision for a more sustainable, healthy, and equitable region with multimodal transportation options available for all users. Projects identified in the plan include roadway enhancements, transit expansions, new bicycle and pedestrian facilities, and new programs to better manage the existing transportation network. The 2014 RTP/SCS itself does not control land use within the county or exert power over county land use decisions. Rather, the 2014 RTP/SCS is a steering document for StanCOG's vision (Stanislaus Council of Governments 2014).

StanCOG is the Congestion Management Agency (CMA) for the Stanislaus County region. As the CMA, StanCOG has the responsibility to prepare and maintain a Congestion Management Plan (CMP). The CMP is an integrated component of StanCOG's planning process in which a systematic progression of activities to analyze and address regional congestion is integrated into the plan and Federal Transportation Improvement Program (FTIP) planning processes. The CMP was most recently updated in January 2010.

Future roadway capital improvement projects identified as "Tier I" (financially constrained) and "Tier II" (financially unconstrained) in the 2014 RTP/SCS were determined to still support identified CMP congestion relief needs. Financially constrained improvements are those for which funding has been identified and is expected to be available at the time it is needed. The Tier I improvements

expected to be constructed by 2035 are included in the evaluation of the 2035 Stanislaus County General Plan.

In 2013, StanCOG updated its *Non-Motorized Transportation Plan* (NMTP) to guide the region toward the goal of increasing safe, alternative modes of transportation by providing bikeways and trails for all residents. StanCOG recognized that the NMTP was a necessary component of effective system planning and a critical element of promoting sustainable transportation options. The primary focus of the NMTP is to increase access to important nodes such as neighborhoods, employment centers, shopping areas, schools, and recreational sites by non-auto modes. The NMTP also provides for the expansion of bicycle and pedestrian facilities and infrastructure in the cities and communities. A goal of the NMTP is to make bicycling and walking a viable option for shopping, school, work, and other trips of less than 5 miles in Stanislaus County. It is anticipated that by promoting and providing facilities for bicycle and pedestrian trips, this will result in lower vehicle miles traveled (VMT) and ultimately reductions in GHG emissions for the Stanislaus County region.

Congestion Management Plan

In 1990, California voters approved legislation requiring that a CMP be developed to address congestion on California's highways and roads. A year later, the similar Federal Congestion Management System requirement was first introduced in the Intermodal Surface Transportation Efficiency Act. StanCOG adopted its first CMP in April 1995 based on California state law and proposal federal regulations. StanCOG's adopted 2009 CMP fulfills the legislative requirements of being an integrated component of a Metropolitan Planning Organization's planning process in which a systematic progression of activities to analyze and address regional congestion is integrated in the RTP and FTIP processes. StanCOG's CMP network encompasses state routes and principal arterials within the county.

The CMP is reflected in the 2014 RTP/SCS, as described by StanCOG:

> StanCOG prepared a comprehensive CMP update in 2010 for the development of the 2011 RTP and will prepare a similar update to the CMP prior to the next RTP planning cycle. As an interim step, several key components of the CMP update were performed and are reflected in the 2014 RTP/SCS. These include updating the ADT LOS thresholds to reflect the 2010 Highway Capacity Manual (the 2010 CMP is based on the previous manual) and application of the StanCOG's new MIP travel demand model (the 2010 CMP is based on StanCOG's predecessor model). Future roadway capital improvement projects identified in the Tier I (financially constrained) and Tier II (financially unconstrained) of the 2014 RTP/SCS were determined to still support identified CMP congestion relief needs. (Stanislaus Council of Governments 2014.)

Regional Transportation Impact Fee

Development in the county is subject to the county Regional Transportation Impact Fee (RTIF).The RTIF is part of the public facility fee structure, collected for Public Works projects. RTIF projects are currently planned and programmed through StanCOG. The proceeds of the RTIF are used to fund road improvements to meet future road demand. Regular updates of this fee have occurred, with the last in 2010.

The RTIF program is currently being updated, with July 1, 2017 being the target date for completion. The update is expected to revise the fee amount, revise the list of regional projects funded by the fee, and result in a new agreement between the county and cities.

Local

Stanislaus County Public Facilities Fees

The county collects Public Facilities Fees (PFFs)) from new development to pay for a variety of capital facilities needed to serve the demands of new development. These include facilities for animal services, jails, libraries, and parks.

Stanislaus County General Plan

The adopted Stanislaus County General Plan contains goals, policies, and implementation measures related to transportation and circulation, as described below.

Land Use Element

GOAL FOUR. Ensure that an effective level of public service is provided in unincorporated areas.

POLICY TWENTY-THREE. New development shall pay its fair share of the cost of cumulative impacts on circulation and transit systems.

IMPLEMENTATION MEASURES

1. Benefit assessment districts or other similar districts shall be formed as needed to pay for the cost of providing ongoing appropriate transportation services.
2. Traffic impacts shall be identified and impact mitigation fees shall be paid by the subdivider and/or developer.
3. The level of service (LOS) for all roadways and intersections shall be at least a "C" level, unless they are located within the sphere of influence of a city that has adopted a lower level of service.
4. Applicants for General Plan amendments shall coordinate with the Stanislaus Council of Governments (StanCOG) Congestion Management Program to mitigate traffic impacts.

Community Plans

Denair Community Plan

GOAL THREE. Provide for the non-motorized transportation needs of the Denair Community.

POLICY ONE. Provide safe and convenient pedestrian and bicycle facilities to various destinations throughout the Community of Denair.

POLICY TWO. Provide pedestrian and bicycle facilities that link community residents to schools, parks, civic facilities and the community's downtown core in accordance with the Denair Community Plan diagram.

POLICY THREE. The Community pedestrian and bicycle facilities shall connect to regional pedestrian and bicycle facilities.

Keyes Community Plan

GOAL 5. Provide an interconnected system of streets and roads to distribute traffic and meet the circulation needs of the Community.

POLICY ONE. The County should promote development of a traditional grid circulation system that distributes traffic, provides connectivity and offers multiple-route choices for motorists, as portrayed on the Keyes Community Plan Diagram.

POLICY TWO. Open street patterns that create a network of circulation connections with multiple points of ingress and egress are encouraged.

POLICY THREE. All roadways shall be designed to complement the urban development pattern and coordinate with pedestrian, bicycle and transit routes.

GOAL 6. Provide for the non-motorized transportation needs of the Keyes Community.

POLICY ONE. Provide safe and convenient pedestrian and bicycle facilities to various destinations throughout the community of Keyes.

POLICY TWO. Provide pedestrian and bicycle facilities that link community residents to schools, parks, civic facilities and the community's retail centers in accordance with the Keyes Community Plan diagram.

POLICY THREE. Community bicycle facilities shall connect to regional bicycle facilities.

Circulation Element[1]

GOAL ONE. Provide a system of roads and roads throughout the County that meets land use needs.

POLICY ONE. Development will be permitted only when facilities for circulation exist, or will exist as part of the development, to adequately handle increased traffic.

POLICY TWO. Circulation systems shall be designed and maintained to promote safety and minimize traffic congestion.

POLICY THREE. The County's Capital Improvement Program (CIP) shall be consistent with the General Plan. Section 65103(c) of the California Government Code states that the Capital Improvement Program shall be periodically reviewed. This review ensures that capital improvements are coordinated with land use policies stated in the General Plan.

POLICY FOUR. The circulation system shall provide for roads in all classifications (Freeway, Expressway, Major, Collector, Local, Minor and Private) as necessary to provide access to all parts of the County and shall be expanded or improved to provide acceptable levels of service based on anticipated land use.

POLICY FIVE. Transportation requirements of commercial and industrial development shall be considered in all planning, design, construction, and improvements.

GOAL TWO. Provide a safe, comprehensive, and coordinated transportation system that includes a broad range of transportation modes.

POLICY SIX. The County shall strive to reduce motor vehicle emissions and vehicle trips by encouraging the use of alternatives to the single occupant vehicle.

POLICY SEVEN. Bikeways and pedestrian facilities shall be designed to provide reasonable access from residential areas to major bicycle and pedestrian traffic destinations such as schools, recreation and transportation facilities, centers of employment, and shopping areas.

POLICY EIGHT. Promote public transit as a viable transportation choice.

GOAL THREE. Maintain a balanced and efficient transportation system that facilitates inter-city and interregional travel and goods movement.

POLICY NINE. The County shall promote the development of inter-city and interregional transportation facilities that more efficiently moves goods and freight within and through the region.

POLICY TEN. The Airport Land Use Commission Plan and County Airport Regulations (Chapter 17 of the County Code) shall be updated as necessary, maintained and enforced.

[1] This element has extensive implementation measures relating to transportation. In the interest of brevity, only the goals and policies are printed here. The current circulation element can be viewed at the office of the County Planning and Community Development Department at 1010 Tenth Street in Modesto or online at: http://www.stancounty.com/planning/pl/gp/gp-chapter2.pdf.

Existing Conditions

An efficient, integrated transportation system is essential to maintaining the quality of life and facilitating the economic growth within Stanislaus County. Over the past few decades, the county has been able to sustain its growth and growth in adjacent communities without extensive expansion of county roads and state highways, as sufficient capacity has been available on the existing system to absorb the traffic generated by new growth. However, over the past few years, the rate of traffic growth in the county has started to exceed the available transportation system capacity in some areas, particularly in and around the more urbanized areas. In addition, roughly one-fifth of the workers living in Stanislaus County commute to jobs outside the county each day, placing greater demand on freeways, county roads, and bridges that provide access to adjacent counties (U.S. Bureau of the Census 2013).

According to the 2010 U.S. Census, about 89% of unincorporated county residents traveled from home to work by automobile, 12% of which traveled in a carpool of two or more persons. Active transportation modes to work accounted for approximately 3% of commute travel, while transit accounted for less than 1%. Approximately 6% of unincorporated county residents worked from home (American Fact Finder 2015).

Roadway Network

The roadway network within the unincorporated parts of the county is a grid-based system of rural two-lane roads that connects individual communities and provides access to agricultural fields. Urban development is mainly concentrated in the central and western portions of the county within the incorporated cities of Modesto, Ceres, Turlock, Riverbank, Oakdale, Hughson, Waterford, Patterson, and Newman.

I-5 and SR 99 are the primary transportation corridors extending through the county and serve all of the county's major population centers. Other state highways, county arterials, and a network of local public and private roads constitute the remainder of the roadway system. The roadway network anticipated by 2035 as shown according to operational classification described in the General Plan, is shown on Figure 3.16-1.

I-5 is a four-lane freeway facility that runs along the western side of Stanislaus County and the San Joaquin Valley. It runs entirely in the unincorporated county with interchanges that provide access to the cities and communities in western Stanislaus County, including the cities of Newman and Patterson and the unincorporated communities of Westley, Grayson, and Crows Landing. I-5 is a major federal interstate freeway that extends from the Canadian border to Mexico.

SR 99 is a six-lane freeway facility in Stanislaus County that connects the largest urban areas in the county to other metropolitan areas in the San Joaquin Valley. The three largest cities in the county (Modesto, Turlock, and Ceres) are located on the SR 99 corridor, along with the unincorporated communities of Keyes and Salida. These cities and communities account for approximately two-thirds of the county's total population.

The multi-lane state highways in the county include seven state highways: SR 4, SR 33, SR 108, SR 120, SR 132, SR 165, and SR 219. These highways typically intersect other roadways at grade, do not provide median barriers, and do not have limited access.

- ***SR 4*** is a two-lane east-west facility that runs through the northeastern part of the county. It is primarily a commute and recreational route for traffic traveling to and from communities in Calaveras County and the Sierra Nevada.
- ***SR 33*** is a two-lane north-south highway that parallels I-5 on the western side of the county. SR 33 travels through the cities of Newman and Patterson and the unincorporated communities of Crows Landing and Westley.
- ***SR 108*** is a primarily east-west highway that travels through the center of the cities of Modesto, Riverbank, and Oakdale. Its junction with SR 99 in central Modesto is its current western terminus. To the east, SR 108 continues towards Sonora in Tuolumne County and the recreational areas of Stanislaus National Forest.
- ***SR 120*** runs east-west through the city of Oakdale and near the unincorporated community of Knights Landing in the northeastern part of the county. It is a major recreational route for traffic traveling to and from Yosemite National Park and the adjacent Sierra Nevada areas. It is co-signed with SR 108 between Oakdale and west of Chinese Camp in Tuolumne County.
- ***SR 132*** is one of the primary east-west routes in the county, traveling the width of the county from I-580 and I-5 just west of the San Joaquin County line to Coulterville in Mariposa County. SR 132 passes through downtown Modesto, Empire, Waterford, and La Grange.
- ***SR 165*** is a north-south facility located in the southern portion of the county between the Merced County line and SR 99 in Turlock.
- ***SR 219*** begins at an interchange with SR 99 in Salida, and extends to the east as Kiernan Avenue. The eastern end of SR 219 is at SR 108 in Stanislaus County, due north of Modesto.

A number of arterial and major roadways in Stanislaus County also provide for regional travel and connections between the incorporated cities and unincorporated communities within the county. Most of these are signed county J-Routes, and include Santa Fe Avenue (county Route J7), Geer/Albers Road (J14), Howard/Grayson Road (J16), Keyes Road (J16), West Main Street/Las Palmas Avenue (J17), Crows Landing Road, and a portion of McHenry Avenue (J6).

Traffic Operations

The analysis of traffic operations was conducted based on roadway segments representative of the county's overall transportation network. Traffic volumes on roadway segments are used to determine the overall usage and congestion. Note that the roadway segment analysis is based on traffic counts taken at a single location or link, which is intended to be representative of the entire segment. A link connects two intersections; a segment is a series of links. The segments used in this analysis were developed based on where a series of links had common physical and traffic conditions.

Traffic operations on the study roadway segments were measured using a qualitative measure called Level of Service (LOS). LOS is a general measure of traffic operating conditions whereby a letter grade, from A (free-flow) to F (over-capacity), is assigned. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving, as well as speed, travel time, traffic interruptions, and freedom to maneuver. The LOS grades are generally defined as follows:

- **LOS A** represents free-flow travel with an excellent level of comfort and convenience and the freedom to maneuver.

- **LOS B** has stable operating conditions, but the presence of other road users causes a noticeable, though slight, reduction in comfort, convenience, and maneuvering freedom.
- **LOS C** has stable operating conditions, but the operation of individual users is substantially affected by the interaction with others in the traffic stream. LOS C is the desired level of operations for vehicles on roadways within the unincorporated county.
- **LOS D** represents high-density but stable flow. Users may experience restriction in speed and freedom to maneuver, with poor levels of comfort and convenience.
- **LOS E** represents operating conditions at or near capacity. Speeds are reduced to a low but relatively uniform value. Freedom to maneuver is difficult, with users experiencing frustration and poor comfort and convenience. Unstable operation is frequent, and minor disturbances in traffic flow can cause breakdown conditions.
- **LOS F** is used to define forced or breakdown conditions. This condition exists wherever the volume of traffic exceeds the capacity of the roadway. Long queues can form behind these bottleneck points, with queued traffic traveling in a stop-and-go fashion.

LOS was calculated for each roadway segment in the regional roadway system to evaluate traffic conditions for the base year and 2035 forecast conditions. LOS was determined by comparing traffic volumes for selected roadway segments with peak-hour LOS capacity thresholds. These thresholds are shown in Table 3.16-1 and were calculated based on the methodology contained in the Highway Capacity Manual (HCM) (Transportation Research Board 2010). The HCM methodology is the prevailing measurement standard used throughout the United States. The existing daily LOS results are shown graphically for the regional roadway system on Figure 3.16-2. LOS is calculated using existing traffic count data where available, including counts from the county and city Public Works Departments, Caltrans, and model estimated volumes for locations without existing counts.

Table 3.16-1. Roadway Segment Level of Service Criteria

	Level of Service Thresholds (vehicles/per day/per lane)				
Roadway Capacity Class	A	B	C	D	E
4 Lane Freeway	5,760	9,180	13,500	16,650	18,000
6+ Lane Freeway	5,400	8,820	12,780	15,840	18,000
Principal Arterial	4,500	7,500	10,500	12,600	15,000
Other Principal Arterial	3,750	6,250	8,750	10,500	12,500
4+ Minor Arterial	3,000	5,000	7,000	8,400	10,000
2 Lane Arterial	700	1,900	3,400	5,900	10,000
4 Lane Major Collector	2,520	4,230	5,940	7,110	9,000
2 Lane Major Collector	700	1,900	3,400	5,900	10,000
2 Lane Minor Collector	350	950	1,700	2,950	5,000

Source: Stanislaus County General Plan Circulation Element.

Note: Daily level of service thresholds do not necessarily reflect the added capacity that is provided at intersections to accommodate turn movements.

This traditional methodology used to analyze the roadway system does not consider the potential impact on agricultural roadway users, walking, bicycling, and transit. Pedestrians, bicyclists, and transit riders are all users of the roadway system, but may not be fully recognized in the traffic

operations analysis and the calculation of LOS. The LOS thresholds in Table 3.16-1 are based on driver's comfort and convenience. Identifying the need for roadway improvements based on the resulting roadway LOS can have unintended impacts on other modes, such as increasing the walking distance for pedestrians. In evaluating the roadway system, a lower vehicle LOS may be desired when balanced against other community values related to resource protection, social equity, economic development, and consideration of pedestrians, bicyclists, and transit users.

Most roadways within the county currently operate at LOS C or better on a daily basis, which represents stable conditions for vehicle operations. However, some facilities operate at or near capacity, including portions of SR 99 (through Modesto), SR 108 (near Oakdale), SR 120 (near Oakdale), and SR 132 (near Modesto).

Traffic Safety

The recent accident history for Stanislaus County roadways was reviewed to identify locations with high accident rates. Accident data are used to determine locations where the combination of physical geometrics, traffic controls, and driver behavior may contribute to a safety problem. Many city and county agencies use accident data to determine necessary roadway or intersection modifications to improve traffic safety. In some cases, accidents are caused by driver behavior and cannot be corrected solely by safety improvements.

Data were obtained from the California Statewide Integrated Traffic Records System, as summarized by the University of California, Berkeley Transportation Injury Mapping System and reflective of 2010 to 2012 data. Figure 3.16-3 shows the collision density throughout the county as well as the locations of fatal accidents.

Of the 2,315 reported collisions in unincorporated Stanislaus County between 2010 and 2012, 38% of collisions occurred on the state highway system. Approximately 7% of collisions involved a pedestrian or bicyclist, and 8% involved a truck. The primary collision factors were improper turning or right-of-way related (40%), unsafe speed (25%), and driving under the influence (14%). The most common types of collisions were rear-end (26%), hit-object (22%), and broadside (22%). There were 82 fatal accidents within the unincorporated county between 2010 and 2012 (University of California, Berkeley 2015).

Public Transportation

Public transportation in Stanislaus County consists of bus and rail transit, taxis, and park-and-ride lots that support the formation of carpools and vanpools.

The Stanislaus County Public Works Transit Division is the administrator for the county's intercity public transportation system, called Stanislaus Regional Transit or StaRT. StaRT provides service to 16 cities and communities in Stanislaus County and the cities of Merced and Gustine in Merced County. StaRT operates fixed route, deviated fixed route, intra- and intercity curb-to-curb dial-a-ride transportation services, and provides non-emergency medical transportation to Bay Area medical facilities.

Being the intercity operator, StaRT has connectivity with local transit operators and has transfer points within various cities, including Patterson, Turlock, Ceres, Modesto, Riverbank, and Oakdale. This enables county residents to connect between intracity and intercity transit so they can travel throughout the county. Transit services are supported through the construction and operation of

bus facilities, including shelters, benches, and stop signs. Less than 1% of employed residents in the unincorporated area used transit for their commute trips (U.S. Bureau of the Census 2013).

Commercial bus service is provided by Greyhound, which serves over 3,600 service locations within North America. Greyhound provides service to Stanislaus County with a stop in Modesto.

Taxi services are provided by several local companies primarily located in Modesto, Ceres, Turlock, and Oakdale, and are available on demand or by reservation.

Stanislaus County has access to three passenger rail services—the Bay Area Rapid Transit system (BART), the Altamont-Commuter Express (ACE), and Amtrak. BART service can be accessed by traveling by car to the Dublin-Pleasanton station or taking the Modesto Area Express (MAX) BART Express bus. ACE service can be accessed by traveling by car to the Lathrop/Manteca station or by taking intercity bus service offered by the MAX ACE service. Depending on the destination, Amtrak service may be accessed locally at the Amtrak station on Parker Road in Modesto, or Santa Fe Avenue in Denair, or by traveling to stations in the city of Stockton.

Park-and-ride lots provide a place for commuters in single-occupant vehicles to transfer to public transit or carpools. Stanislaus County has four park-and-ride facilities along the SR 99 corridor, with three in Modesto and one in Turlock.

Bicycle and Pedestrian Circulation

Stanislaus County offers excellent conditions for bicycle and pedestrian transportation. The county is generally flat and has a temperate climate, and major destinations are within an easy ride of most residences. According to the 2010 Census, approximately 3% of workers reported that they used a form of active transportation for their commute trips (U.S. Bureau of the Census 2013). However, relatively few marked bicycle facilities have been constructed in the county. In agricultural areas, the county provides adequate striping and paving in accordance with Caltrans and American Association of State Highway and Transportation Officials standards to safely accommodate bicycle travel whenever a roadway is widened, and, where adequate right-of-way exists, whenever a roadway is resurfaced, restored, or rehabilitated on all routes except minor roads. Marked and/or signed bicycle lanes and paths are provided in accordance with the Regional Bicycle Action Plan adopted by StanCOG, the adopted Community Plans for the urban areas of the county, and the general plans of the cities within the spheres of influence. (Stanislaus Council of Governments 2013)

Rail/Highway Freight

Railroad operations in Stanislaus County include high speed mainline operations on the Burlington Northern and Santa Fe (BNSF) Railway and Union Pacific Railroad (UPRR) and low speed mainline and switching operations on the BNSF Railway, UPRR, Sierra Railroad, California Northern Railroad, Modesto and Empire Traction Company Railroad, and Tidewater Southern Railroad.

- ***Union Pacific Railroad (UPRR):*** The UPRR in Stanislaus County includes operations on the mainline, which passes through Salida, Modesto, Ceres, Keyes, and Turlock. The UPRR also operates on the California Northern Railroad line on the western side of the county, which passes through Westley, Patterson, Crows Landing, and Newman.
- ***Burlington Northern and Santa Fe (BNSF) Railway:*** Operations on the BNSF Railway in Stanislaus County occur on the mainline, which runs through Riverbank, Hughson, Empire, and

Denair and on a branch line, which connects the mainline at Riverbank with the Sierra Railroad in Oakdale.

- ***Sierra Railroad:*** The Sierra Railroad operates between Oakdale and Standard, and includes both freight and passenger trains. Freight trains are operated by UPRR and BNSF and usually operate roughly three times per week. Passenger trips travel between Oakdale and the eastern Stanislaus County line and include entertainment-style railroad travel approximately three to five times per week, with most trips occurring Thursday through Sunday.
- ***Modesto and Empire Traction (M&ET) Company Railroad:*** The Modesto and Empire Traction Company is a short-line railroad that connects switching operations between the UPRR in Modesto and the BNSF Railway in Empire. Train lengths can vary from one locomotive with four cars to up to several locomotives with 60 cars.
- ***Tidewater Southern Railroad:*** The Tidewater Southern Railroad is a branch line operation of the UPRR. The line runs in a general north-south route through Stanislaus County, from the city of Stockton to north Modesto and from the city of Turlock to south Modesto. This line is mostly abandoned.

I-5 and SR 99 are included in the National Network for Service Transportation Assistance Act of 1982 (STAA). The STAA allows large trucks, commonly referred to as STAA trucks, to operate on routes that are part of the National Network. STAA trucks are larger than those allowed on other California highways and are defined in Part 268, Title 23, of the Code of Federal Regulations. SR 4, SR 33, SR 120, SR 132, and SR 219 are designated Terminal Access STAA Routes and also accommodate STAA trucks where so indicated on the road. SR 132 from SR 99 to La Grange Road is a designated California Legal Advisory Route where only California legal trucks are allowed.

Aviation

Air facilities in Stanislaus County serve a number of needs, including scheduled commercial air passenger service, recreational flights, military operations, agricultural crop dusting services, cargo services, and private business flights. There are three major facilities in the county, only two of which are presently active: (1) Modesto City-County Airport (Harry Sham Field); (2) Oakdale Municipal Airport; and (3) Crows Landing Air Facility (inactive). The Modesto-Stanislaus County Airport is currently the only airport that provides regularly scheduled air passenger service. The remaining air fields in the county are either private, not open to the public, or used purely for agricultural purposes.

3.16.3 Impact Analysis

This section discusses the approach and methodology used to assess the impacts of the plan update; discusses the individual impacts relative to the thresholds of significance; discusses mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for significant impacts; and indicates the overall significance of the impact with mitigation incorporated.

Major Sources Used in Analysis

The major sources used in this analysis are listed below:

- StanCOG June 2014 RTP/SCS
- StanCOG Three County Travel Demand Model

- Draft 2035 Stanislaus County General Plan
- StanCOG NMTP, 2013

Approach and Methodology

The transportation analysis for the roadway system followed the methodology described below. For other components of the transportation system, the policy framework and implementation program for the General Plan update were evaluated against the significance criteria.

Transportation Analysis Methodology

The Three-County Model travel demand model (TCM), recently updated as part of the San Joaquin Valley Model Improvement Project and used in the evaluation of the StanCOG 2014 RTP/SCS, was used to forecast daily roadway segment volumes and estimate VMT in the study area. The model was validated to 2008 conditions and forecasts 2014, 2035, and 2040 conditions. The model serves as a tool to implement, manage, and monitor Stanislaus County's plans, projects, and programs and evaluate the potential impacts on the transportation system by proposed land use development.

The following provides a summary of the overall process; detailed model information is provided in Appendix C-1.

Land use inputs for the unincorporated county and incorporated cities from the StanCOG model were reviewed with county staff for reasonableness. This version of the StanCOG model includes the adjacent counties of San Joaquin and Merced. For the incorporated cities in Stanislaus County and counties outside of Stanislaus County, the land use estimates developed by StanCOG were used.

The 2035 land use for unincorporated Stanislaus County was developed based on the assumptions within the StanCOG model, and adjusted to reflect planned land use changes, such as those contemplated around the Crows Landing Airport and other development projects, that are not part of the General Plan Update.

Planned roadway network improvements in the model area were also reviewed and compared to the 2014 RTP/SCS. The base year model and future year model were compared against recent roadway improvements as well as the StanCOG Tier I planned improvements, including the proposed North County Corridor and the Faith Home Road expressway.

Two scenarios were modeled: base year (existing) conditions and 2035 conditions under the General Plan as it is proposed to be amended. The model was used to replicate existing conditions and develop future daily roadway volumes. Volumes were projected using the 2035 land use and roadway network details. Where existing counts are available, the difference between the base year model and the 2035 model was added to the existing traffic count to develop 2035 daily roadway segment forecasts, as detailed in Table 3.16-2. The base year shown in Table 3.16-2 is reflective of 2014 conditions, while the General Plan 2035 year reflects expected conditions in 2035. For roadways where existing counts were not available, the unadjusted model volume was used. Only roadways where existing count data is available are included in Table 3.16-2.

Table 3.16-2. Base Year and Future Roadway Volumes and Levels of Service

	Facility			Scenario			
				Base Year		2035	
No.	Roadway	Cross Street 1	Cross Street 2	Volume	LOS	Volume	LOS
1	26 Mile R	Carter Rd	Eastman Rd	1,500	A	3,200	A
2	26 Mile R	Dunn Ranch Rd	Gilbert Rd	2,300	A	3,200	A
3	9th St	E St	D St	15,900	B	15,200	B
4	August Rd	Prairie Flower Road	Mitchell Road	1,300	A	4,100	A
5	Bacon	Hammett Rd	Toomes Rd	1,000	A	1,900	A
6	Bacon	Hammett Rd	Williams Rd	1,400	A	2,600	A
7	Bacon Rd	Jackson Rd	Hart Rd	800	A	1,400	A
8	Beckwith	Hart Rd	Hammett Rd	3,600	A	4,000	A
9	Beckwith	Finney Rd	Toomes Rd	3,800	A	5,100	A
10	Beckwith Rd	Jackson Rd	Hart Rd	2,100	A	2,600	A
11	Berkeley Ave	Ramson Dr	Paulson Rd	6,100	C	8,500	D
12	Blue Gum Ave	Morse Rd	Dakota Ave	2,700	A	3,000	A
13	Bradbury Rd	Morgan Rd	Crows Landing Rd	1,300	A	4,800	A
14	Bradbury Rd	Blaker Rd	Central Ave	1,800	A	5,200	A
15	Bradbury Rd	Walnut Rd	Soderquist Rd	2,100	A	5,400	A
16	Bradbury Rd	Commons Rd	Washington Rd	2,600	A	5,900	A
17	Bradbury Rd	Tegner Rd	Walnut Rd	2,600	A	6,000	A
18	Brier Rd	Berkeley Ave	Johnson Rd	1,400	B	4,100	C
19	Carpenter Rd	Ruble Rd	Crows Landing Rd	1,500	A	2,600	A
20	Carpenter Rd	Fulkerth Rd	Monte Vista Ave	5,300	A	7,400	A
21	Carpenter Rd	Service Rd	Redwood Rd	6,900	A	9,100	B
22	Central Ave	Hilmar Rd	Bradbury Rd	1,500	A	1,500	A
23	Central Ave	Linwood Ave	Main St	1,500	A	1,500	A
24	Central Ave	Tuolume Rd	Monte Vista Rd	1,600	A	2,600	A
25	Church St	Milnes Rd	Parker Rd	2,800	A	3,100	A
26	Claribel	Albers Rd	Oakdale Waterford Hwy	1,700	A	1,900	A
27	Claribel	Bentley Rd	Albers Rd	5,800	A	6,400	A
28	Claribel	Langworth	Eleanor Ave	6,500	A	6,500	A
29	Crows Lan	Clausen Rd	Harding Rd	5,000	A	14,000	A
30	Crows Landing Rd	Canal Rd	FULKERTH	5,200	A	10,400	B
31	Crows Landing Rd	Bradbury Rd	Ehrlich Rd	5,700	A	18,200	A
32	Del Puerto Canyon Rd	Diablo Grande Pky	West of Del Puerto Canyon	5,500	A	22,500	B
33	E Keyes R	Hickman Rd	Merriam Rd	1,800	A	2,300	A
34	E Keyes R	Geer Rd	Berkeley Ave	2,700	A	2,900	A
35	E Keyes R	Crows Landing Rd	Ustick Rd	4,300	A	5,400	A
36	E Keyes R	Central Ave	Moffett Rd	4,700	A	6,000	A
37	E Keyes R	Pioneer Rd	Mountain View Rd	6,300	A	6,700	A
38	E Marshal	SR 33	Pomegranate Ave	1,900	A	8,600	A
39	E Monte V	Santa Fe Ave	Vincent Rd	1,600	A	1,900	A

	Facility			Scenario			
				Base Year		2035	
No.	Roadway	Cross Street 1	Cross Street 2	Volume	LOS	Volume	LOS
40	E Whitmore	Lockwood Rd	Washington Rd	5,800	A	6,900	A
41	East	Johnson Rd	Oleander Ln	6,500	C	15,700	B
42	East Ave	Santa Fe Dr	Hickman Rd	2,600	A	3,200	A
43	East Ave	Verduga Rd	Daubenberger Rd	3,400	A	4,800	A
44	East Ave	Quincy Rd	Johnson Rd	4,200	A	11,400	A
45	Emerald Ave	Lone Palm Ave	Kansas Ave	5,400	B	5,900	C
46	Faith Home Rd	Tuolume Rd	Monte Vista Rd	1,800	A	2,900	A
47	Faith Home Rd	CR-J17	Clayton Rd	1,400	A	3,300	A
48	Faith Home Rd	Keyes Rd	Barnhart Rd	1,900	A	3,300	A
49	Faith Home Rd	Main St	Fulkerth Rd	1,800	A	4,000	A
50	Faith Home Rd	Keyes Rd	Kaiser Rd	1,100	A	6,800	A
51	Faith Home Rd	Don Pedro Rd	Service Rd	2,300	A	10,100	A
52	Faith Home Rd	Whitmore Ave	Roeding Rd	2,400	A	11,600	A
53	Finch Rd	Garner Rd	Codoni Ave	2,500	A	5,300	A
54	Fink Rd	Ward Ave	Davis Rd	1,700	A	2,100	A
55	Fink Rd	Bell Rd	Medlin Rd	1,800	A	3,600	A
56	Finney Rd	Beckwith Rd	North Ave	1,100	A	1,400	A
57	Finney Rd	Covert Rd	Adams Ave	1,900	B	1,900	B
58	Fulkerth	Central Ave	Moffett Rd	1,900	A	4,200	A
59	Fulkerth	Crows Landing Rd	Bystrum Rd	1,900	A	4,300	A
60	Fulkerth	Prairie Flower Rd	Faith Home Rd	2,600	A	5,000	A
61	Fulkerth	Washington Rd	Commons Rd	3,400	A	7,100	A
62	Garner Rd	Leckron Rd	Finch Rd	7,800	A	15,700	C
63	Geer Rd	Santa Fe Ave	Grayson Rd	10,800	B	10,900	B
64	Geer Rd	Keyes Rd	Barnhart Rd	11,100	B	11,300	B
65	Golden State Blvd	Nunes Rd	Keyes Rd	3,600	A	7,100	A
66	Golf Rd	Glenwood Ave	Linwood Ave	2,500	A	3,700	A
67	Gratton R	Keyes Rd	Barnhart Rd	1,600	A	2,000	A
68	Hammett	Covert Rd	Bacon Rd	1,900	A	2,500	A
69	Harding Rd	Commons Rd	Faith Home Rd	400	A	1,700	A
70	Hart Rd	California Ave	Maza Blvd	2,700	A	3,100	A
71	Hart Rd	California Ave	Paradise Rd	2,600	A	3,200	A
72	Hawkeye Ave	Verduga Rd	Waring Rd	1,800	A	2,100	A
73	Herndon Rd	River Rd	Sorona Ave	3,900	C	4,300	C
74	Hickman R	Delaware Rd	Lake Rd	6,000	A	7,500	A
75	Hickman Rd	Monte Vista Ave	Taylor Rd	2,300	A	2,500	A
76	Hills Ferry Rd	Stuhr Rd	River Rd	5,700	A	8,700	A
77	I-5	Davis Rd	Stuhr Rd	38,100	C	47,700	C
78	I-5	Fink Rd	Davis Rd	38,100	C	47,700	C
79	I-5	Diablo Grande Pky	Oak Flat Rd	38,800	C	47,800	C
80	I-5	Gaffery Rd	Ingram Creek Rd	41,800	C	52,000	C

	Facility			Scenario			
				Base Year		2035	
No.	Roadway	Cross Street 1	Cross Street 2	Volume	LOS	Volume	LOS
81	I-5	Ingram Creek Rd	Diablo Grande Pky	43,900	C	55,000	D
82	Jeffrey Dr	Sylvan Ave	Carl Way	1,400	A	2,500	A
83	Jennings Rd	Service Rd	Grayson Rd	900	A	3,100	A
84	Jennings Rd	Keyes Rd	Grayson Rd	2,800	A	5,000	A
85	Jennings Rd	Keyes Rd	Barnhart Rd	2,900	A	5,500	A
86	Johnson Rd	Merritt St	East Ave	3,500	B	3,900	B
87	Johnson Rd	East Ave	Evelle Ln	2,900	B	5,200	B
88	Keyes Rd	Blaker Rd	Central Ave	4,800	A	6,100	A
89	Kiernan	Stratos Way	SR 108	16,400	C	26,100	B
90	Kiernan	CR 99 Off Ramp	CR 99 On Ramp	33,800	F	41,400	C
91	Langworth Rd	Mesa Dr	Patterson Rd	1,800	A	2,000	A
92	Langworth Rd	Milnes Rd	Rice Rd	2,200	A	2,400	A
93	Lester Rd	Hawkeye Ave	Tuolume Rd	1,700	A	2,200	A
94	Linwood Ave	Paulson Rd	Johnson Rd	1,200	A	5,900	A
95	Main St	Kern St	Fresno Ave	6,000	A	6,700	A
96	Mariposa Rd	Farrar Ave	Finch Rd	2,800	B	3,100	B
97	Maze	Carpenter Rd	Rosemore Ave	14,000	B	15,400	C
98	Maze	Carpenter Rd	Meadow Ln	13,100	B	14,400	B
99	Maze Blvd	Hart Rd	Texas Ave	14,500	B	16,800	C
100	Maze Blvd	McCracken Rd	Kasson Rd	19,000	C	23,700	D
101	McCracken Rd	Gaffery Rd	Spencer Rd	900	A	2,900	A
102	Milnes	Santa Fe Ave	Dewitt Rd	4,600	A	5,400	A
103	Milnes	Church St	Langworth Rd	5,800	A	6,300	A
104	Milton Ro	Dunton Rd	Sonora Rd	1,200	A	2,200	A
105	Mitchell	Harding Rd	Bradbury Rd	1,000	A	2,100	A
106	Mitchell	Clayton Rd	Linwood Ave	1,400	A	2,700	A
107	Mitchell	Hilmar Rd	August Rd	1,400	A	3,700	A
108	Mitchell	August Rd	Williams Ave	1,900	A	4,700	A
109	Morgan Rd	Grayson Rd	Keyes Rd	1,800	A	2,200	A
110	Motsinger Rd	Faith Home Rd	Anna Ave	1,700	B	3,700	B
111	N Santa F	Monte Vista Ave	Vincent Rd	2,100	A	2,700	A
112	N Santa F	Keyes Rd	Barnhart Rd	3,300	A	4,000	A
113	OAKDALE W	Claribel Rd	Rice Rd	3,400	A	5,400	A
114	Oakdale W	Ellenwood Rd	Milnes Rd	5,700	A	8,400	A
115	Orange Bl	Wamble Rd	Lancaster Rd	2,600	A	3,900	A
116	Orange Bl	Rodden Rd	Olive Ave	2,100	B	4,200	C
117	Orange Blossom Rd	Stone Ave	Sonora Rd	1,100	A	3,300	A
118	Paradise	Michigan Ave	Pauline Ave	3,900	A	6,400	A
119	Paradise	Shiloh Rd	Hart Rd	4,500	A	8,100	A
120	Parker Rd	Wellsford Rd	Church St	3,200	A	3,600	A
121	Paulson Rd	Linwood Ave	Daubenberger Rd	2,000	A	4,400	A

	Facility			Scenario			
				Base Year		2035	
No.	Roadway	Cross Street 1	Cross Street 2	Volume	LOS	Volume	LOS
122	Pioneer R	Redwood	Grayson Rd	1,200	A	1,300	A
123	Pioneer R	Keyes Rd	Grayson Rd	1,400	A	1,500	A
124	Quincy Rd	Monte Vista Ave	Valdosta Dr	2,700	B	3,400	B
125	Redwood	Central Ave	Moffett Rd	400	A	3,700	A
126	Riverside Dr	Lapham Dr	Nathan Ave	3,900	A	4,300	A
127	Roselle	Sylvan Ave	Plainview Rd	7,100	A	20,000	B
128	Rosemore Ave	Kansas Ave	Elm Ave	2,300	A	2,400	A
129	Rouse Ave	Alturas Ave	Leon Ave	3,600	B	3,700	B
130	Santa Fe	Service Rd	7th St	6,000	A	7,500	A
131	Santa Fe	Hatch Rd	Leedom Rd	7,700	A	7,900	A
132	Santa Fe Ave	Geer Rd	Redwood Rd	2,600	A	4,200	A
133	Santa Fe Dr	East Ave	Linwood Ave	2,300	A	2,900	A
134	Service Rd	Carpenter Rd	Ustick Rd	1,800	A	1,800	A
135	Service Rd	Mountain View Rd	Tully Rd	1,900	A	2,500	A
136	Service Rd	Ustick Rd	Crows Landing Rd	1,600	A	2,500	A
137	Service Rd	Griffin Rd	Santa Fe Ave	1,900	A	2,600	A
138	Service Rd	Washington Rd	Pioneer Rd	2,100	A	2,700	A
139	Service Rd	Sanders Rd	Vivian Rd	1,000	A	3,100	A
140	Service Rd	Esmar Rd	Faith Home Rd	3,700	A	4,600	A
141	Shoemake	Dakota Ave	Finney Rd	1,400	A	1,700	A
142	Shoemake	Hart Rd	Edsel Ln	700	A	2,200	A
143	Shoemake	Gates Rd	Dunn Rd	900	A	2,500	A
144	Sierra Rd	Laughlin Rd	Wamble Rd	1,100	A	1,200	A
145	Sierra Rd	Stearns Rd	Orsi Rd	3,800	C	4,300	A
146	Sisk Rd	Wallasey Way	Wessex Ln	10,300	B	21,200	D
147	SR 108	St Francis Ave	Ladd Rd	20,000	C	23,300	D
148	SR 108	SR 219	Charity Way	22,700	D	26,200	A
149	SR 120	Sawyer Ave	Walnut Ave	13,700	B	17,600	C
150	SR 120	Pioneer Ave	Sawyer Ave	13,700	B	17,700	C
151	SR 120	Wamble Rd	Orange Blossom Rd	15,600	C	22,100	A
152	SR 120	Dillwood Rd	Orange Blossom Rd	22,600	D	30,400	B
153	SR 120	26 Mile Rd	Rodden Rd	28,500	E	33,600	F
154	SR 120	Rodden Rd	North St	28,200	E	33,700	F
155	SR 33	SR 132	Welty Rd	2,100	A	8,100	A
156	SR 33	D St	E St	3,500	A	10,000	B
157	SR 33	B St	Grayson Rd	4,600	A	12,100	B
158	SR 33	Fruit Ave	Baldwin Rd	5,000	A	12,200	B
159	SR 33	Mulberry Ave	Baldwin Rd	4,600	A	13,600	B
160	SR 33	Eucalyptus Ave	Olive Ave	6,100	A	14,900	B
161	SR 33	I St	El Circulo Ave	7,200	A	15,000	B
162	SR 33	5th St	6th St	5,300	A	15,200	C

	Facility			Scenario			
				Base Year		2035	
No.	Roadway	Cross Street 1	Cross Street 2	Volume	LOS	Volume	LOS
163	SR 33	5th St	4th St	5,500	A	15,300	C
164	SR 33	Inyo Ave	Sanches Rd	8,500	A	15,300	C
165	SR 33	Lundy Rd	Stuhr Rd	6,500	A	15,300	C
166	SR 33	4th St	Ike Crow Rd	5,900	A	15,800	C
167	SR 33	J T Crow Rd	Anderson Rd	6,800	A	15,800	C
168	SR 33	Eastin Rd	J T Crow Rd	7,100	A	16,000	C
169	SR 33	Stanislaus St	Inyo Ave	8,800	A	16,300	B
170	SR 33	6th St	Fink Rd	7,600	A	16,800	C
171	SR 33	Sperry Ave	C St	7,300	A	16,900	B
172	SR 33	El Circulo Ave	E St	8,700	A	18,500	B
173	SR 33	Las Palmas Ave	Salado Ave	10,100	A	19,700	B
174	SR 33	Poppy Ave	Sperry Ave	8,400	A	20,100	C
175	SR 33	Merced St	Kern St	9,900	B	19,300	B
176	SR 33	Mariposa St	Kern St	9,700	B	20,300	C
177	SR 4	Milton Rd	Waverly Rd	7,400	A	13,300	B
178	SR 99	Golf Rd	Griffith Ave	54,400	C	69,500	C
179	SR 99	Lander Ave	Golf Rd	54,400	C	69,500	C
180	SR 99	Linwood Ave	Lander Ave	69,500	C	86,500	F
181	SR 99	Monte Vista Ave	Taylor Rd	70,000	C	88,000	F
182	SR 99	Fulkerth Rd	Tuolume Rd	76,100	C	90,000	F
183	SR 99	Canal Dr	Main St	78,900	D	93,900	D
184	SR 99	Keyes Rd	Taylor Rd	90,200	D	108,800	F
185	SR 99	Service Rd	Pine St	92,500	D	113,000	F
186	SR 99	Whitmore Ave	Pine St	92,600	D	113,700	F
187	SR 99	Service Rd	Mitchell Rd	99,900	E	119,600	F
188	SR 99	Hatch Rd	9th St	100,700	E	122,500	F
189	SR 99	Crows Landing Rd	9th St	100,200	E	122,900	F
190	SR 99	Hatch Rd	Whitmore Ave	101,800	E	123,000	F
191	SR 99	Faith Home Rd	Mitchell Rd	106,200	E	126,000	F
192	SR 99	Pelandale Ave	Beckwith Rd	107,000	E	127,500	E
193	SR 99	Crows Landing Rd	Zeff Rd	108,000	F	132,900	F
194	SR 99	Sierra Dr	Tuolumne Blvd	115,300	F	135,100	F
195	SR 99	Pelandale Ave	SR 219	109,700	F	136,900	E
196	SR 99	Hammett Rd	SR 219	112,100	F	143,600	F
197	SR 99	Kansas Ave	SR 132	123,000	F	144,500	F
198	SR 99	Beckwith Rd	Carpenter Rd	124,100	F	145,800	F
199	SR 99	Carpenter Rd	9th St	124,600	F	146,100	F
200	SR 99	Woodland Ave	9th St	124,600	F	146,100	F
201	Vivian Rd	Grayson Rd	Keyes Rd	1,600	A	4,300	A
202	Vivian Rd	Whitmore Ave	Hackett Rd	2,500	A	7,100	A
203	W Grayson	Morgan Rd	Blaker Rd	1,300	A	3,000	A

	Facility			Scenario			
				Base Year		2035	
No.	Roadway	Cross Street 1	Cross Street 2	Volume	LOS	Volume	LOS
204	W Grayson	Vivian Rd	Carpenter Rd	2,300	A	4,800	A
205	W Grayson	River Rd	SR 33	5,800	A	9,500	B
206	W Keyes R	Crows Landing Rd	Ustick Rd	2,300	A	3,300	A
207	W Monte V	Carpenter Rd	Vivian Rd	600	A	2,500	A
208	W Stuhr R	Bell Rd	Jorgensen Rd	1,300	A	2,300	A
209	W Stuhr R	I-5	Bell Rd	1,300	A	6,000	A
210	Ward Ave	Elfers Ave	Marshall Rd	1,500	A	7,900	A
211	Washington Rd	Idaho Rd	Bradbury Rd	1,400	A	1,700	A
212	Wellsford Rd	Garst Rd	Dusty Ln	1,000	A	1,500	A
213	Yosemite (SR 132)	Old La Grange Rd	SR 132	2,000	A	2,300	A
214	Yosemite (SR 132)	La Grange Rd	Old La Grange Rd	2,500	A	2,900	A
215	Yosemite (SR 132)	Crabtree Rd	Roberts Ferry Rd	3,000	A	3,200	A
216	Yosemite (SR 132)	La Grange Rd	Lake Rd	3,000	A	3,200	A
217	Yosemite (SR 132)	Lake Rd	Rushing Rd	3,000	A	3,200	A
218	Yosemite (SR 132)	Rushing Rd	Crabtree Rd	3,000	A	3,200	A
219	Yosemite (SR 132)	Rushing Rd	Crabtree Rd	3,000	A	3,200	A
220	Yosemite (SR 132)	Baker St	Appling Rd	5,600	A	7,000	A
221	Yosemite (SR 132)	Baker St	E St	5,900	C	8,300	D
222	Yosemite (SR 132)	H St	Root Rd	8,600	A	10,000	B
223	Yosemite (SR 132)	Lincoln Ave	Mariposa Rd	17,900	A	21,500	A
224	Yosemite (SR 132)	Santa Fe Ave	F St	9,800	B	11,500	B
225	Yosemite (SR 132)	Reinway Ave	Pasadena Ave	10,100	B	11,800	B
226	Yosemite (SR 132)	Triangle Ranch Rd	Albers Rd	9,800	B	11,900	B
227	Yosemite (SR 132)	Garner Rd	Creekwood Dr	16,000	B	19,600	B
228	Yosemite (SR 132)	Covena Ave	Santa Cruz Ave	19,900	B	24,100	C
229	Yosemite (SR 132)	El Vista Ave	Colfax Ave	20,400	B	24,500	B
230	Yosemite (SR 132)	G St	H ST	11,300	C	12,700	C
231	Yosemite (SR 132)	Parry Rd	Mitchell Rd	21,000	B	25,300	B
232	Yosemite (SR 132)	C St	E St	22,500	C	27,400	C
233	Yosemite (SR 132)	E St	SR 108	22,500	C	27,400	C
234	Yosemite (SR 132)	Covena Ave	Kerr Ave	24,500	C	29,200	D
235	Yosemite (SR 132)	A St	Santa Fe Ave	16,500	D	18,500	E
236	Yosemite (SR 132)	A St	B St	22,500	F	27,200	F
237	Yosemite (SR 132)	North St	A St	28,300	F	33,100	F
238	Yosemite Ave	B St	C St	22,500	C	27,300	C

Notes: There are no land use or circulation changes between the current General Plan and the General Plan update; therefore, the without project and with project analysis results are the same.

Thresholds of Significance

Based on State CEQA Guidelines Appendix G and Stanislaus County General Plan policies, the plan updates would have a significant impact with respect to transportation and traffic if it would:

- Result in increased VMT on a per capita basis.
- Result in traffic operations below LOS C for Stanislaus County roadways, which is the minimum acceptable threshold according to the current General Plan.
- Result in traffic operations below the minimum acceptable thresholds on roadways outside Stanislaus County's jurisdiction (i.e., Caltrans facilities or within city spheres of influence).
- Create demand for public transit unable to be met by planned services and facilities.
- Disrupt existing, or interfere with planned, transit services or facilities.
- Disrupt existing, or interfere with planned, bicycle or pedestrian facilities.
- Result in transportation network changes that would prevent the efficient movement of agricultural vehicles within the county.
- Result in a change in air traffic patterns, including an increase in traffic levels or a change in location that results in substantial safety risks.
- Create additional vehicle, bicycle, or pedestrian travel on roadways or other facilities that do not meet current county design standards.
- Substantially conflict with applicable plans, policies, and regulations of other agencies and jurisdictions where such conflict would result in an adverse physical change in the environment.
- Result in new policies that would result in significant adverse physical impacts as compared to the current General Plan policies.

Impacts and Mitigation Measures

The following section provides an evaluation and analysis for the potential impacts of the General Plan update for each of the criteria of significance described above. For the roadway system, the results of the analysis reflect 2035 conditions. As there are no land use or circulation network changes contemplated by the General Plan, the 2035 forecasted traffic volumes on roadway segments within the County are reflective of Without- and With-Project conditions. For the transit, bicycle, pedestrian, goods movement, and aviation systems, the analysis was limited to a review of the General Plan policy framework and implementation program associated with the draft General Plan update. If a potential inconsistency was identified, this was considered a significant impact.

During analysis of the potential impacts of the General Plan update, the following proposed substantive amendments to the goals, policies, and implementation measures of that plan were taken into consideration. The proposed amendments are shown in ~~strikeout~~ for deletions and <u>underline</u> for additions.

Land Use Element

GOAL FOUR. Ensure that an effective level of public service is provided in unincorporated areas.

POLICY TWENTY-~~THREE~~<u>FIVE</u>. New development shall pay its fair share of the cost of cumulative impacts on circulation and transit systems.

IMPLEMENTATION MEASURE

2. Traffic impacts not covered under Public Facility Fees shall be identified and impact mitigation fees shall be paid by the subdivider and/or developer.

GOAL SIX. Promote and protect healthy living environments.

POLICY TWENTY-NINE. Support the development of a built environment that is responsive to decreasing air and water pollution, reducing the consumption of natural resources and energy, increasing the reliability of local water supplies, and reduces vehicle miles traveled by facilitating alternative modes of transportation, and promoting active living (integration of physical activities, such as biking and walking, into everyday routines) opportunities.

IMPLEMENTATION MEASURE

1. County development standards shall be evaluated and revised, as necessary, to facilitate development incorporating the following (or similar) design features:

    - Alternative modes of transportation such as bicycle lanes, pedestrian paths, and facilities for public transit…

POLICY THIRTY. New development shall be designed to facilitate the efficient extension of public transportation systems.

IMPLEMENTATION MEASURE

1. Development proposals shall be referred to the appropriate transit authority to determine the types of facilities needing to be provided, if any.

Circulation Element

GOAL ONE. Provide and maintain a transportation system ~~of roads and roads~~ throughout the County for the movement of people and goods that also meets land use and safety needs for all modes of transportation.

POLICY ONE. Development will be permitted only when facilities for vehicle circulation exist, or will exist as part of the development, to adequately handle increased traffic and safety concerns.

IMPLEMENTATION MEASURES

3. ~~Developers~~ Applicants will construct or pay the cost of new roads, including non-motorized elements, necessary to serve the development of all land uses and to mitigate impacts to the existing roads caused by the development.

4. The County shall ensure that new development pays its fair share of the costs of circulation improvements, including non-motorized modes, through a combination of public facility fees, ~~traffic~~ transportation impact fees, and other funding mechanisms. The total cost of required improvements shall be paid for by new development.

6. Applicants shall identify and mitigate, at the sole cost of the applicant, all potential impacts to the transportation system from new development that adversely impact the operations and safety of the circulation system.

7. To identify the potential impacts of new development on traffic transportation service levels, the County ~~shall~~ may require the preparation of a ~~traffic~~ transportation impact study at the sole expense of the ~~developer~~ applicant. ~~for developments determined to be large enough to have a potentially significant impact on traffic. As appropriate, the study may be required to follow the Caltrans' "Guide for the Preparation of Traffic Impact Studies" and/or other procedures specified by the Department of Public Works.~~

10. Access to Expressways**,** ~~and Majors~~ Principal & Minor Arterials and Major Collectors shall be provided in accordance with the road classification definition, except that all existing driveway access and parking approved by the County may remain until otherwise

determined by the Department of Public Works. As development occurs, one driveway with right-in, right-out access only may be provided to an original parcel created, or vested, prior to the adoption of a corridor-specific access plan. Reciprocal access easements and driveways shall be provided when feasible to minimize the number of existing access driveways. ~~onto major collectors and arterials. resolution (such as Resolution 2002-507 for the State Route 219 from SR 99 to SR 108 adopted on June 25, 2002) or the Focused General Plan Amendment, GPA 2004-03 (April 18, 2006) after the Department of Public Works determines that no acceptable alternative access can be provided and that providing access would not adversely impact traffic safety.~~

POLICY TWO: The Circulation system~~s~~ shall be designed and maintained to promote safety by combining multiple modes of transportation into a single, cohesive system. ~~and minimize traffic congestion.~~

IMPLEMENTATION MEASURES

1. The County shall maintain LOS ~~C~~D or better for all County roadways (Daily LOS) and LOS C or better at intersections (Peak Hour LOS), except, within the sphere of influence of a city that has adopted a lower level of service standard, the City standard shall apply. The County may allow ~~adopt~~ either a higher or lower level of service standard for roadways and intersections within urban areas such as Community Plan areas, but in no case shall the adopted LOS fall below LOS D.

11. On-site circulation among adjacent parcels shall include shared driveways and reciprocal access easements to limit the number of egress points onto a public road.

12. Existing and new development shall be designed to provide open street patterns, with multiple points of ingress and egress, to facilitate emergency response, to minimize traffic congestion, and to facilitate use by diverse modes of transportation.

13. Promote the transformation of major transportation corridors into boulevards that are attractive, comfortable, and safe for pedestrians by incorporating wide sidewalks to accommodate pedestrian traffic, amenities and landscaping; on-street parking between sidewalks and travel lanes; enhanced pedestrian street crossings; buildings located at the back of sidewalk; building entrances oriented to the street; transparent ground floor frontage; street trees and furnishings; and pedestrian-scale lighting and signage.

14. A strategy plan should be prepared that includes the identification of areas and/or projects to which new multi-modal transportation guidelines shall apply. New guidelines shall identify strategies for creating communities that increase the convenience, safety and comfort of people using bicycle, pedestrian, and public transit facilities. Existing policies and standards, such as landscaping, parking, and building setback requirements, may require variations on a case by case basis, specifically in Central Business Districts.

POLICY FOUR. The circulation system shall provide for roads in all classifications ~~(Freeway, Expressway, Major Collector, Local, Minor and Private)~~ as necessary to provide access to all parts of the County and shall be expanded or improved to provide acceptable accessibility and mobility ~~levels of service~~ based on anticipated land use.

IMPLEMENTATION MEASURES

1. As required by Federal Transportation Law, the Stanislaus ~~County~~ Council of Governments shall maintain and prepare a Congestion Management ~~Program~~ Process (CMP)~~,~~ ~~t~~The County CMP shall identify alternative strategies such as travel demand management (TDM), traffic operational improvements, public transit options, Intelligent Transportation System (ITS), Non-motorized alternatives (bicycle and pedestrian) and smart growth alternative land use strategies as alternatives to manage congestion. Stanislaus County shall follow the guidance and strategies set forth in the CMP.~~will require applicants for proposed General Plan amendments that would generate 1,000 or more average daily vehicle trips to analyze their potential impacts on the designated CMP system of state highways and principal arterials.~~

~~2. As required by the Stanislaus County Congestion Management Program (CMP) and the city-county agreements, the County will work with StanCOG to prepare an annual cumulative traffic impact analysis of all general plan amendments approved by the cities and the County, focusing on potential impacts on the designated CMP system of State Highways and principal arterials. This analysis shall be used to amend the County's Public Facility Fee to meet the adopted level of service standard, as appropriate.~~

~~3. The County shall develop procedures for conducting traffic impact studies consistent with those adopted by Caltrans and the Stanislaus Council of Governments.~~

2. Transportation facilities will be adequately designed, developed and maintained to provide for current and future transportation needs to protect public health, safety and welfare.

POLICY EIGHT. Promote public transit as a viable transportation choice.

IMPLEMENTATION MEASURES

2. ~~Where appropriate, new development shall include provisions for connecting to or expansion of existing and/or planned public transit systems.~~ The County shall continue to work with the Stanislaus Council of Governments (StanCOG) to seek funding to market and promote rideshare programs and where possible, encourage all County employees to use public transit to commute to work.

4. Where appropriate, new development projects shall promote the coordination and continuity of all transportation modes and facilities, including park and ride facilities at major activity centers. ~~include bus turnouts and shelters and/or park-and-ride lots~~

5. Where appropriate, new development projects shall include bus turnouts and site improvements associated with bus stop accessibility for persons with disabilities, including curb cuts for wheel chair access. Where feasible, developments should be encouraged along established or proposed transit routes. The costs associated with the site improvements are paid by the developer and/or applicant.

6. Where possible, coordinate public transportation with land use planning, transportation planning and air quality policies such that transit investments are complementary to land use planning and air quality policies.

8. The County shall encourage infill development of vacant parcels and redevelopment projects that will align with and improve the overall effectiveness of the public transit system.

9. Increase transit use through higher-frequency service of at least 15-minute headways in downtown areas and along major transportation corridors. Transit and land use will be interconnected to support increased ridership.

Impact TRA-1: Result in increased VMT on a per capita basis (less than significant)

Transportation is a major contributor to GHG emissions. According to the U.S. Environmental Protection Agency, the transportation sector was responsible for nearly 30% of all GHG emissions in the United States (based on 2006 data). In California, transportation is responsible for about 40% of GHG emissions (based on 2004 data). Transportation is the direct result of population and employment growth, which generates vehicle trips to move goods, provide public services, and connect people with work, school, shopping, and other activities. While a number of factors influence daily trip making, the following variables are some of the most influential when it comes to how individuals travel:

- Income
- Age
- Household size

- Workers per household
- Autos available
- Access to transit
- Comfort and convenience of travel modes

A performance measure used to quantify the amount of travel is VMT, which is useful because the amount of travel and conditions under which the travel occurs directly relate to how much fuel vehicles burn. One combusted gallon of gas from a vehicle is equal to approximately 24 pounds of carbon dioxide. Given today's average fuel mileage of vehicles (i.e., approximately 22 miles per gallon), 1 mile of travel equates to about 1 pound of carbon dioxide. As a result, increases in VMT directly cause increases in GHG emissions and air pollution.

Growth in travel (especially vehicle travel) is due in large part to urban development patterns (i.e., the built environment). Over the last half century, homes have been built farther from workplaces, schools have been located farther from neighborhoods they serve, and other destinations, including shopping, have been isolated from where people live and work. A significant portion of new development since World War II has been planned and built in a pattern that is dependent on the use of cars as the primary mode of travel. As a larger share of the built environment has become automobile dependent, vehicle trips and distances have increased, and walking and public transit use have declined. Population growth has been responsible for approximately a quarter of the increase in vehicle travel over the last couple of decades.

VMT measurement has one primary limitation: it is not directly observed. Methods do not exist that can measure the trip distances of all vehicles on a given day. VMT is typically quantified as an output from travel demand models and is calculated based on the number of cars multiplied by the distance traveled by each car. As such, the VMT estimate is dependent on the level of detail in the network and other variables related to vehicle movement through the network. The volume and distance of traffic depends on land use types, density/intensity, and patterns as well as the supporting transportation system. A travel demand model attempts to represent this relationship when forecasting vehicle trips and VMT.

Although the calculation of VMT is simply the number of cars multiplied by the distance traveled by each car, VMT performance measures can be reported differently. For this project, VMT was reported based on the sum of:

1. 100% of VMT associated with vehicle trips originating and terminating within unincorporated Stanislaus County boundaries; plus
2. 50% of VMT associated with trips with an origin or destination outside of unincorporated Stanislaus County; plus
3. 0% of VMT associated with trips that pass through the unincorporated county with neither an origin nor destination.

Trips that have neither an origin nor destination within the county are not included in the VMT total, as county General Plan policies cannot appreciably affect the amount of through traffic in the area within its jurisdiction. The total VMT is then divided by the unincorporated county's total service population, defined as the residential population plus the number of jobs; results are summarized in Table 3.16-3.

The daily VMT for the entire county (including unincorporated and incorporated areas) based on the StanCOG model is projected to grow by approximately 29% by 2035; total population and employment in the unincorporated county is expected to grow at a slightly faster rate. Determining the percentage of VMT for only the unincorporated area is difficult because of the limitations of the travel demand model. Specific limitations of the travel demand model related to the calculation of VMT include the following:

- The structure of the travel demand model is set up so that land uses are represented by areas known as traffic analysis zones (TAZs)). Some TAZs in the model overlap between the unincorporated areas and the incorporated cities. Additionally, the TAZ structure could under- or overstate trip lengths between adjacent TAZs because of the model roadway network.
- The model combines trips from both residential and non-residential land uses before assigning vehicle trips, which makes it difficult to determine the VMT associated with only the new residential population being added.

The regional scale of the model and its limited sensitivity to built environment variables such as land use density and diversity can overstate vehicle trips and VMT for areas that follow "smart growth" land use patterns (i.e., compact, mixed-use, pedestrian-accommodating communities).

Table 3.16-3. Regional Transportation Performance Measures for Stanislaus County

	Base Year (2014) Conditions		General Plan 2035	
Performance Measure	Entire County (including Cities)	Unincorporated Only	Entire County (including Cities)	Unincorporated Only
Households	173,764	29,445	224,132	65,669
Population	514,796	88,915	657,401	192,585
Employment	168,957	44,246	236,535	92,134
Daily VMT	5,818,672[a]	1,485,775[b]	8,246,971[c]	3,096,679[d]
Daily VMT per Household	33.49	50.46	38.80	47.16
Daily VMT per Service Population[e]	8.51	11.16	9.23	10.88

Source: StanCOG RTP/SCS Model as modified to reflect county General Plan updates.

[a] Trucks compose 13.5% of total VMT.

[b] Trucks compose 15.5% of total VMT.

[c] Trucks compose 12.4% of total VMT.

[d] Trucks compose 13.6% of total VMT.

[e] "Service Population" = residential population plus the number of jobs.

The General Plan update includes new population and employment growth that would generate additional VMT, which would result in increased air pollutant and GHG emissions as well as additional energy consumption from vehicle travel. However, the expected location of the employment and household growth results in a slight decline in VMT generated per household and service population.

Based on the average VMT of 50 miles generated per household per weekday base year conditions for the unincorporated area, the existing households generate 1,485,775 miles of vehicle travel per day. Incorporated cities in Stanislaus County such as Modesto and Patterson have lower levels of VMT generated per household, as there are more jobs, goods, and services closer to residential

developments in incorporated cities. This is reflected in the lower VMT per household and per service population in the cities when compared to the unincorporated area.

As illustrated in Table 3.16-3, the total daily VMT is expected to increase within the unincorporated area by 2035. However, the daily VMT in the unincorporated area is expected to decrease slightly on both a per-household and a service population basis, indicating that planned development that could occur under the proposed General Plan update would decrease the average distance between goods and services within the unincorporated county. Therefore, implementation of the General Plan policies described above is expected to have a less-than-significant impact on VMT.

Significance without Mitigation: Less than significant (no mitigation required)

Impact TRA-2: Result in traffic operations below LOS C for Stanislaus County roadways, which is the minimum acceptable threshold according to the General Plan (less than significant)

Figure 3.16-4 displays the daily roadway segment LOS in 2035, reflecting expected conditions with buildout of the land uses and circulation network identified in Draft General Plan; as the Draft General Plan does not propose to change land use designations or the circulation network as compared to the current General Plan, the results are reflective of Without- and With-Project conditions. The General Plan transportation analysis is based on daily conditions to provide an overall assessment of the adequacy of the facility type and number of lanes. Detailed peak hour analysis will be required to assess the impacts of individual land use development projects under the General Plan update (Circulation Element Goal One, Policy One, Implementation Measure 6). Because no specific development projects are proposed with the General Plan update, that level of analytical detail is outside the scope of this program-level analysis, although it will occur for specific projects during general plan implementation.

The impacts identified are due to increases in daily traffic volumes based on future forecasted conditions that include development from build-out of the Draft General Plan (there are no land use or circulation changes between the current General Plan and the General Plan update and the effects of policy changes can be difficult to quantify within a regional travel demand model; therefore, the without project and with project analysis results are the same) and traffic generated within and outside the rest of the StanCOG region. Based on the StanCOG model estimate of vehicle trips in Stanislaus County, build-out of the General Plan to 2035 would result in the unincorporated area generating approximately 34% of the total VMT generated in Stanislaus County (excluding regional through trips). Therefore, the impacts of planned development in the unincorporated area represent only a portion of the total vehicle trips on the roadway network that will contribute to increases in daily traffic volumes. It is the intent of the county to mitigate the fair-share of impacts caused by future development under the General Plan 2035 through developer-funded improvements. However, full mitigation will depend on the remaining fair-share for roadway improvements to be provided by other planned development in the region.

Circulation Element Goal One, Policy Two, Implementation Measure 1 of the current General Plan sets LOS C as the congestion standard for all county roadways and intersections, except within the sphere of influence of a city that has adopted a lower standard; however, in no case is the county standard to fall below LOS D. The general plan update would change the standard to peak hour LOS D for county roadways and LOS C at all county intersections, while retaining the exception for roads within the sphere of influence of a city. Based on the LOS identified in Table 3.16-2, the following roadway is anticipated to operate at worse than LOS C in the unincorporated county on a

daily basis peak hour, assuming buildout of the General Plan combined with future traffic generated within and outside the rest of the StanCOG region by 2035:

- Sisk Road between Wallasey and Wessex (LOS D)
- Berkeley Avenue between Ramson Drive and Paulson Road (LOS D)

The segment of Sisk Road is within the sphere of influence of the city of Modesto. The Modesto Urban Area General Plan allows LOS D on this road (Chapter V. Community Services and Facilities, Policy 8, Circulation and Transportation Policies – Planned Urbanizing Area– V.B.8.b[1]). Therefore, LOS D is considered acceptable for this segment of Sisk Road and the impact is considered less than significant.

The segment of Berkeley Avenue is within the sphere of influence of the City of Turlock. The Turlock General Plan allows LOS D on this road (Circulation Policies 5.2-s and 5.2-c). Therefore, LOS D is considered acceptable for this segment of Berkeley Road and the impact is considered less-than-significant.

This impact also considers the general plan update's contribution to the cumulative impact of future development, as represented in the TCM. The general plan update policies will ensure that traffic levels do not exceed the county and city congestion standards. Therefore, the general plan update would not make a cumulatively considerable contribution to the cumulative traffic impact.

Significance without Mitigation: Less than significant (no mitigation required)

Impact TRA-3: Result in traffic operations below the minimum acceptable thresholds on roadways outside Stanislaus County's jurisdiction (i.e., Caltrans facilities) (significant and unavoidable)

Caltrans permits LOS D conditions on its freeway facilities within urbanized areas, such as SR 99 through Modesto, Ceres, and Turlock. For all other Caltrans facilities evaluated for this study, LOS C was considered the LOS standard. Significant impacts are projected on portions of the following roadways, as shown in Table 3.16-2:

- I-5 between Ingram Creek Road and Diablo Grande Parkway (LOS D)
- SR 99 segments north of Modesto, between Modesto and Ceres, and between Ceres and Turlock (LOS E and F)
- SR-108 between Ladd Road and Saint Francis Road (LOS D)
- SR-120 segments within and north of Oakdale (LOS F)
- SR 132 (Maze Boulevard) segments near the San Joaquin County line (LOS D, E and F)
- SR 132 (Yosemite Boulevard) east of Modesto (LOS D, E and F)

The resulting LOS for each of the identified roadway segments is due to a combination of cumulative traffic assuming build-out of the General Plan combined with traffic generated within and outside the rest of the StanCOG region. The General Plan update special study areas that would evaluate proposed new and upgraded roadway facilities include SR 132 from east of Empire to the San Joaquin County line, the North East Turlock Expressway between Turlock and Patterson, the North and South County Corridor, and the Faith Home expressway. The North County Corridor and Faith Home Road expressways are included in the 2014 RTP/SCS as Tier I projects and are reflected in the

analysis of the General Plan update. Other new roadway facilities do not have funding identified and therefore were not included in the base analysis.

The policies and implementation measures included in the General Plan update are intended to mitigate the county's impact on state facilities from planned development under the General Plan, as amended by the General Plan update. Circulation Element Goal Three, Policy Nine, Implementation Measure 1 of the current General Plan specifies that "[t]he County will coordinate with the Stanislaus Council of Governments (StanCOG), Caltrans, and other appropriate agencies in the implementation of the Regional Transportation Plan, including the development of a system of State Highways and expressways to allow more efficient people and goods movement." The General Plan update retains this implementation measure under Goal Two, Policy Nine, without change. In addition, the General Plan update retains the Circulation Element's requirement that development projects that may affect Caltrans facilities must prepare traffic impact analyses using Caltrans' *Guide for the Preparation of Traffic Impact Studies*.

Land Use Element Goal Four, Policy Twenty-Five provides that "[n]ew development shall pay its fair share of the cost of cumulative impacts on circulation and transit systems." A portion of this this cost will be funded through the PFF program. Implementation Measure 2 under this policy is being expanded by the General Plan update so that traffic impacts not covered under PFFs are to be identified and additional impact mitigation fees paid by the subdivider and/or developer.

However, implementation of future improvements on state facilities is uncertain because the future actions of Caltrans and StanCOG are unknown. Furthermore, the planned development in the unincorporated area of the county only accounts for a portion of the need for future improvements on state facilities, and the remaining cost of necessary improvements associated with regional through traffic or other jurisdictions would need to be collected.

As coordination and payment of regional fees does not guarantee that improvements would be in place, impacts on the state highway system are considered significant and unavoidable.

The Circulation Element of the General Plan update identifies future roadway capacity expansion projects for which full funding is not ensured. Implementation Measures 3 and 4 of Circulation Element Goal One, Policy One require new development to finance and construct a project's off-site circulation improvements and pay a fair share toward cumulative project impacts, using the General Plan update's LOS and other relevant policies as the threshold for mitigation. This approach will be effective for ensuring that new development in the unincorporated county pays a fair share of planned improvements; however, these policies may not result in full funding for improvements because the funding share associated with regional through traffic or from sources not subject to discretionary review and conditioning by Stanislaus County would not be captured.

Development in the county is subject to the county PFF and the RTIF to collect fees from development projects in both cities and unincorporated areas of the county. Regular updates of this fee have occurred, with the last update occurring in 2010. However, as there is no assurance that full funding for the planned roadway improvements can be collected, this impact is considered significant and unavoidable.

Significance with Mitigation: Significant and unavoidable (no mitigation available)

Impact TRA-4: Create demand for public transit unable to be met by planned services and facilities or disrupt existing, or interfere with planned, transit services or facilities (less than significant)

A review of the Circulation Element amendments proposed by the General Plan update did not reveal potential internal policy inconsistencies or inconsistencies with other adopted plans or programs supporting the provision of transit facilities or services in Stanislaus County. The specific plans and programs against which the General Plan update was reviewed are listed in Section 3.16.2, *Environmental Setting*, above.

Goal One, Policy Eight of the Circulation Element promotes transit as a viable transportation choice for county residents and workers. Implementation measures continue support of the existing transit system and look for opportunities to expand the provision of transit in existing and planned development areas.

While implementation of the General Plan, as amended by the General Plan update, would increase demand for public transit service in an area with limited available service, implementation of the policies and programs included in the General Plan update would result in a less-than-significant impact related to transit service by providing the necessary infrastructure for transit service on a project-specific basis.

Significance without Mitigation: Less than significant (no mitigation required)

Impact TRA-5: Disrupt existing, or interfere with planned, bicycle or pedestrian facilities (less than significant)

A review of the Circulation Element amendments contained in the General Plan update did not reveal potential internal policy inconsistencies or inconsistencies with other adopted plans or programs supporting the provision of bicycle and pedestrian facilities in Stanislaus County. The specific plans and programs against which the General Plan update was reviewed are listed in Section 3.16.2 above. The General Plan update incorporates the StanCOG NMTP by reference and includes Land Use Goal Six, Policy Twenty-Nine and Circulation Element Goal One, Policy Four, with supporting implementation measures that encourage the inclusion of bicycle and pedestrian facilities in new development. These are consistent with current General Plan Circulation Element Goal Two, Policy Seven discussing the provision of bikeways and pedestrian facilities. Based on this review, the impact on bicycle and pedestrian circulation with implementation of the General Plan update would be less than significant.

Significance without Mitigation: Less than significant (no mitigation required)

Impact TRA-6: Result in transportation network changes that would prevent the efficient movement of goods within the county (less than significant individual; significant and unavoidable cumulative)

A review of the Circulation Element amendments proposed in the General Plan update revealed no potential internal policy inconsistencies or discrepancies with other adopted plans or programs supporting the provision of goods movement Stanislaus County. Although some existing roadways would experience increased use during peak travel times, there would be multiple hours of the day with sufficient capacity to accommodate agricultural transport and other goods movement on county roads. Current Circulation Element Goal Three, Policy Nine and the associated

implementation measures commit the county to coordinating with other agencies to upgrade existing state highways and other key roadways in the county. In addition, Implementation Measure 1 of Circulation Element Goal One, Policy Two, as proposed to be amended in the General Plan update, identifies a reasonable LOS on the county's roadway system that takes into the account the rural environment and is intended to protect the capacity of the county's roadway network. As a result, implementation of the General Plan update would result in a less-than-significant impact related to goods movement policy conflicts on county roads.

Development under the General Plan, as amended by the project, will contribute to future congestion on the state highway system on segments of SR 120, Hwy 99, and SR 132 exceeding the concept level LOS in the Caltrans "Transportation Concept Reports" for SR 108, SR 120, and SR 132 and the "Corridor System Management Plan" for Hwy 99. (California Department of Transportation 2014a, 2014b, 2011a, 2011b) The forecasted levels of congestion are illustrated in Table 3.16-2. Future congestion on the state highway system will result from traffic generated within the county, including the incorporated cities, and traffic that is traveling through the county. The Project will not have a significant individual impact on the system, but it will make a considerable contribution to the cumulative impact on the state highway system. Current Circulation Element Goal Three, Policy Nine and the associated implementation measures commit the county to coordinating with other agencies to upgrade existing state highways. This will reduce the county's contribution, but not so much that it will not be considerable.

Significance without Mitigation: Less than significant (no mitigation required) individual impact; significant and unavoidable cumulative impact (no mitigation available)

Impact TRA-7: Result in a change in air traffic patterns, including an increase in traffic levels or a change in location that results in substantial safety risks (less than significant)

A review of the Circulation Element amendments in the General Plan update revealed no substantial internal policy inconsistencies or discrepancies with other adopted plans or programs supporting the provision of aviation facilities or services in Stanislaus County (see the discussion under Impact LAN-1 in Section 3.10, *Land Use*). In addition, demand for aviation facilities or services, which may increase slightly with population and employment growth in Stanislaus County, is not expected to cause operational problems at airports in the county that would not be addressed by separate studies of proposed expansion, such as for the Crows Landing Air Facility.

The specific plans and programs against which the General Plan update was reviewed are listed in Section 3.16.2 above and in Section 3.10, *Land Use*. Implementation of the General Plan update would result in a less-than-significant impact related to aviation policy conflicts.

Significance without Mitigation: Less than significant (no mitigation required)

Impact TRA-8: Create additional vehicle, bicycle, or pedestrian travel on roadways or other facilities that do not meet current county design standards (significant and unavoidable)

The Stanislaus County Standards and Specifications (Department of Public Works, July 2, 2014) identify current county design standards, including roadway cross-sections, structural sections, and sight distance requirements. Vehicle, bicycle, and/or pedestrian travel are anticipated to increase on roadways that do not currently meet county design standards with build-out of the General Plan, as amended by the General Plan update. Circulation Element Goal One, Policies 1 and 2 and their appurtenant Implementation Measures, as amended by the General Plan update, will require

applicants for development projects to identify and mitigate impacts on the transportation system, including upgrading the existing county road system as new development occurs and roadway network improvements are needed to accommodate increased travel demand.

However, implementation of upgrades to the county roadway system may be limited by lack of funding sources. For these reasons, this impact would be significant and unavoidable.

Significance: Significant and unavoidable (no mitigation available)

Impact TRA-9: Substantially conflict with applicable plans, policies, and regulations of other agencies and jurisdictions where such conflict would result in an adverse physical change in the environment (less than significant)

StanCOG provides transportation planning and funding for the Stanislaus County region. StanCOG adopted the 2014 RTP/SCS and associated EIR in June 2014 to provide the platform for identifying and funding transportation needs for the next 25 years. The General Plan update incorporates policies from the 2014 RTP/SCS, including the development of a system of state highways and expressways to allow more efficient people and goods movement, and continues to recognize the importance of the cities' general plans in guiding land use (see Land Use Element Goal Four, Policy Twenty-Five). The General Plan update is consistent with the 2014 RTP/SCS.

Significance without Mitigation: Less than significant (no mitigation required)

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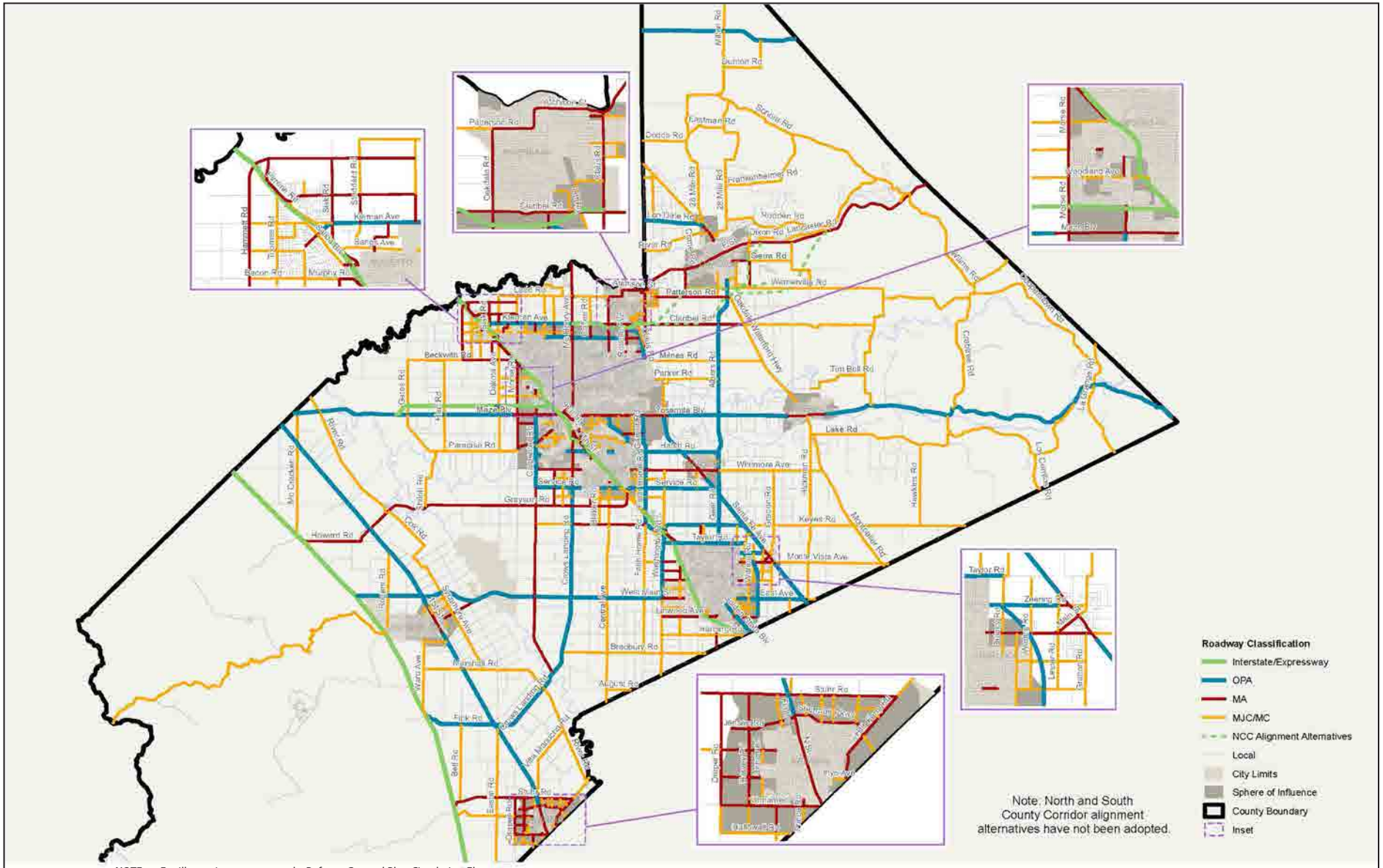
Chen, Arthur. Associate Planner, StanCOG, Modesto, California. July 2014—e-mail correspondence and telephone communication to gain permission to use StanCOG model for the analysis of the Stanislaus County General Plan and to confirm land use inputs.

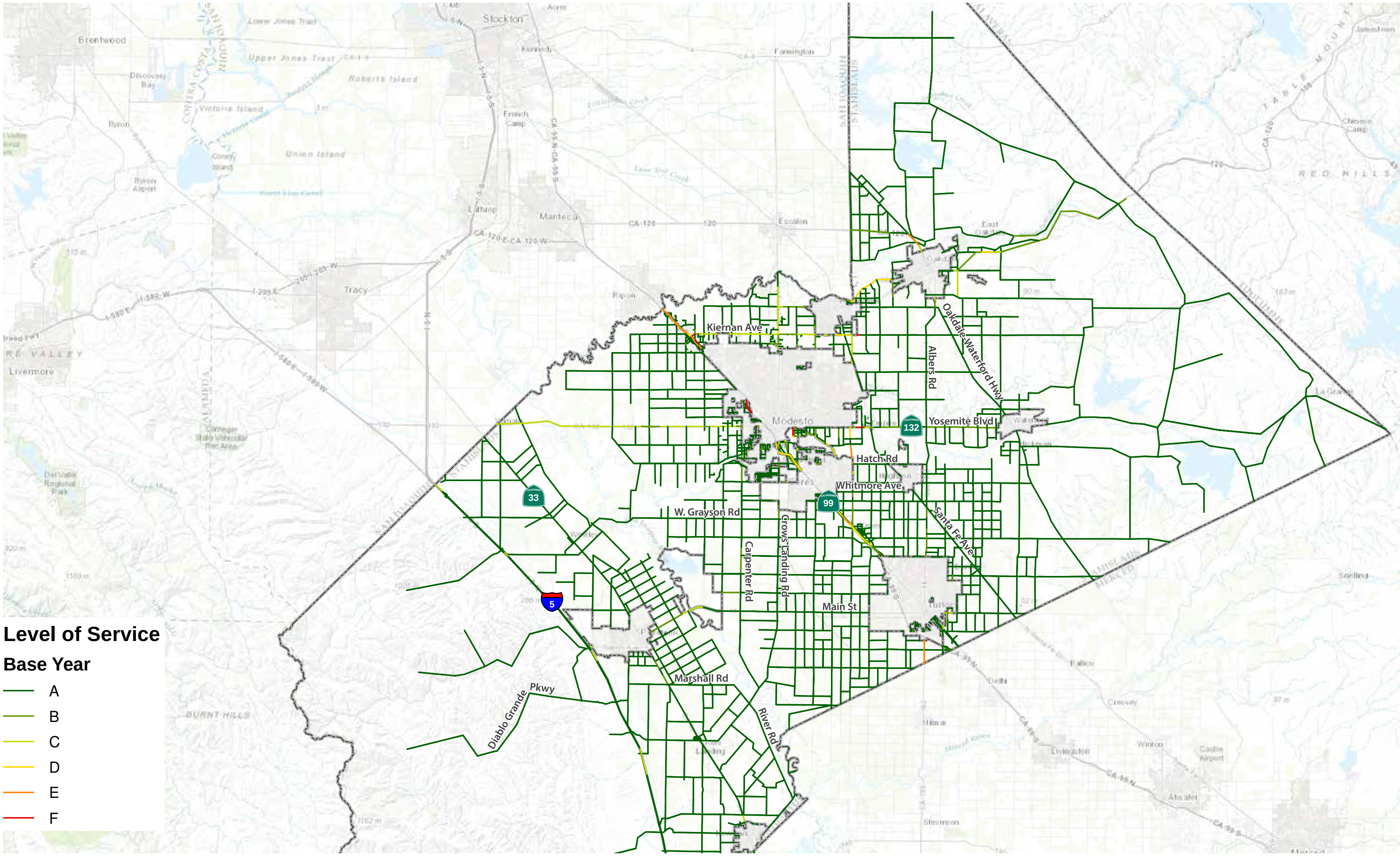


NOTE: For illustrative purposes only. Refer to General Plan Circulation Element. Refer to General Plans of each individual city within Stanislaus County for roadway designations within those jurisdictions.

Source: Fehr & Peers 2015.

Graphics ... 00203.10 (1-8-2016) tm

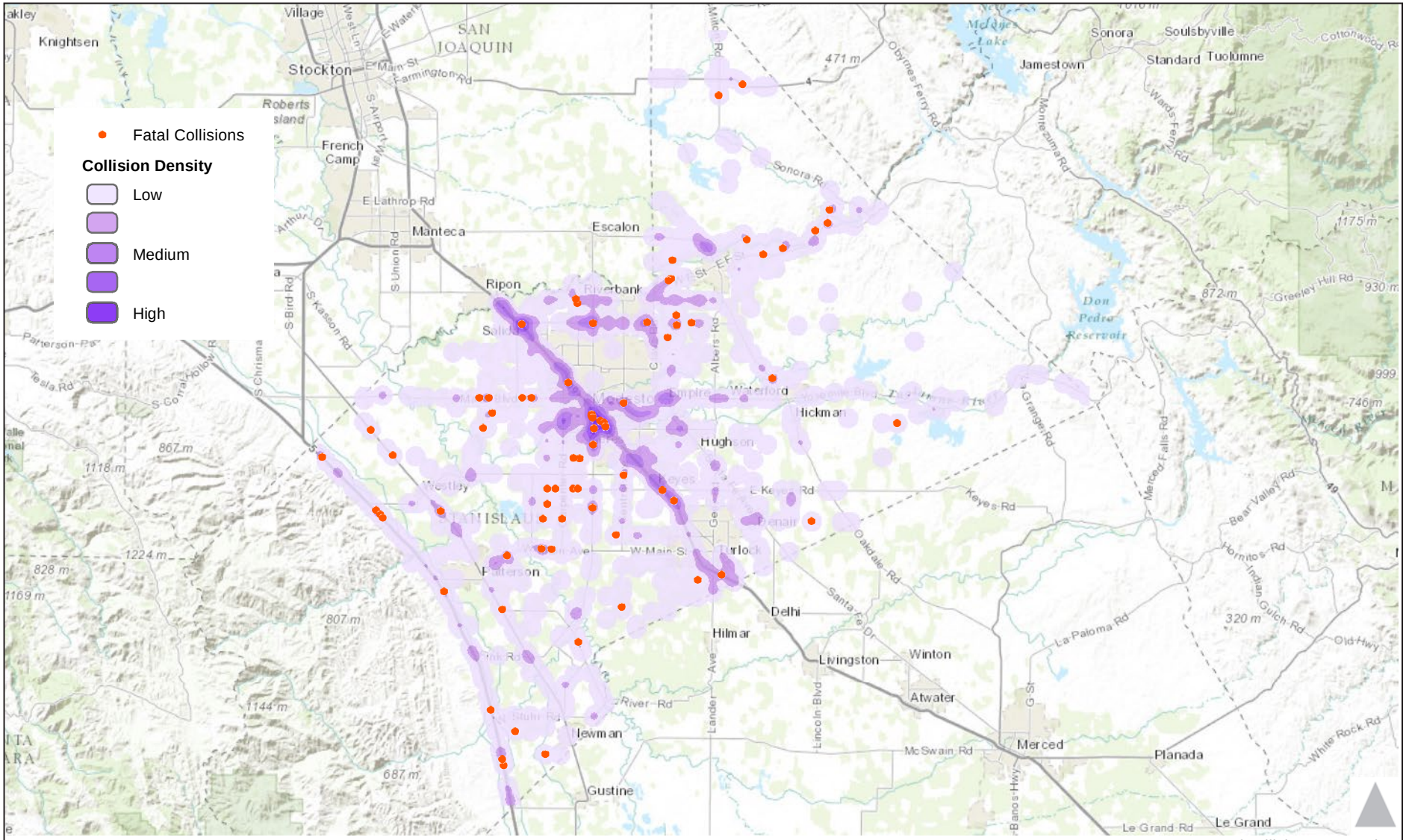
Figure 3.16-1
Roadway Classification



Source: Fehr & Peers 2015.

Graphics ... 00203.10 (4-14-2016) tm

Figure 3.16-2
Base Year Daily Level of Service, Stanislaus County



Note: 88% of collisions mapped
Source: California Statewide Integrated Traffic Records System (SWITRS)
via UC Berkeley Transportation Injury Mapping System (TIMS) reflective of 2010 to 2012

Source: Fehr & Peers 2015.

Graphics ... 00203.10 (6-18-2015) tm

Figure 3.16-3
Collisions 2010–2012, Stanislaus County

3.17 Utilities and Service Systems

3.17.1 Introduction

This section discusses the impacts of the plan updates with respect to utilities and service systems. It lists the thresholds of significance that form the basis of the environmental analysis, describes the utilities and service systems study area and major sources used in the analysis, provides environmental setting information that is relevant to utilities and service systems, and assesses whether the plan updates would result significant impacts with respect to utilities and service systems.

3.17.2 Environmental Setting

This section describes the state, regional, and local regulations and policies that are applicable to the plan updates and the existing conditions pertaining to utilities and service systems in the county. The existing conditions will constitute the baseline for analysis.

Regulatory Setting

This section describes the state, regional, and local regulations related to utilities and service systems that would apply to the plan updates. There are no applicable federal laws or regulations.

State

California Environmental Quality Act

CEQA requires an EIR to discuss whether a project's projected demands are anticipated to exceed the capacity of existing and planned utility and service systems, such as water, wastewater treatment, and solid waste disposal. Under CEQA, an EIR must adequately address the reasonably foreseeable impacts of providing utility and service systems to the project. The EIR must also disclose whether current utility and service systems are inadequate with respect to serving the projected level of development and what the expected impacts of upgrading them would be.

California Water Plan

The California Water Plan, prepared by the California Department of Water Resources, was most recently updated in 2009. The plan provides a framework that water managers, legislators, and the public can use when considering options and making decisions regarding California's water future. The plan, which is updated every five years, presents basic data and information regarding California's water resources, including water supply evaluations and assessments of agricultural, urban, and environmental water uses to quantify the gap between water supplies and uses. The plan also identifies and evaluates existing and proposed statewide demand management and water supply augmentation programs and projects to address the state's water needs. The plan provides resource management strategies and recommendations for strengthening integrated regional water management. The resource management strategies help regions meet future demands and sustain the environment, resources, and economy; involve communities in decision making; and meet various goals. A resource management strategy is a project, program, or policy that helps local

agencies and governments manage their water and related resources. These strategies can reduce water demand, improve operational efficiency, increase water supply, improve water quality, and improve flood management. They can also improve resource stewardship practices.

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989 (Assembly Bill [AB] 939) requires each city and county in the state of California and regional solid waste management agencies to enact plans and implement programs to divert 25% of their waste stream by 1995 and 50% by 2000. The law also requires each county to prepare an Integrated Waste Management Plan that describes the activities the county will undertake to meet these goals and submit an annual report to the California Department of Resources Recycling and Recovery (CalRecycle) that summarizes its yearly progress with respect to implementing waste diversion programs.

AB 341 of 2011 expanded the recycling requirements for commercial businesses and multi-family residences. Any business that generates four cubic yards or more of waste per week and multi-family residences with five or more units are now required to have recycling service.

AB 75 and AB 341

AB 75 (Public Resources Code Sections 42920–4297) required all state agencies and large state facilities to divert at least 25% of all solid waste from landfills by January 1, 2002, and 50% by January 1, 2004. The law also requires each agency to submit an annual report to CalRecycle that summarizes its yearly progress with respect to implementing waste diversion programs.

AB 341 of 2011 established a policy goal of the state that requires "not less than 75 percent of solid waste generated be source reduced, recycled, or composted by the year 2020, and annually thereafter." Unlike AB 75, which focuses on local diversion, AB 341 requires the state, primarily through CalRecycle, to take a statewide approach to decreasing California's reliance on landfills. CalRecycle is developing strategies to implement this goal (e.g., diverting organic waste from landfills, continuing to reform the Beverage Container Recycling Program to improve the level of recycling, expanding recycling/manufacturing infrastructure through permitting/compliance assistance and financing, exploring new models for state and local funding of materials management programs, promoting state procurement of postconsumer recycled-content products, promoting extended producer responsibility) (California Department of Resources Recycling and Recovery 2014a).

Title 27 of California Code of Regulations, Division 2

In accordance with California Code of Regulations (CCR) Title 27, Sections 21600 through 21900, solid and hazardous waste transfer and disposal facilities in Stanislaus County are regulated jointly by the California Regional Water Quality Control Board, Central Valley Region (CVRWQCB) and CalRecycle. Both the CVRWQCB and CalRecycle regulate facilities individually through permits.

Local

Stanislaus County Local Agency Formation Commission

The Stanislaus County Local Agency Formation Commission (LAFCO) is responsible for administering the Cortese-Knox- Hertzberg Local Government Reorganization Act of 2000 (Government Code Section 56000, et seq.). The act establishes the powers and responsibilities of the

LAFCOs in each county and the procedures for local government changes regarding organization, including city incorporations, annexations, and city and special district consolidations. Among the purposes of the LAFCO is to discourage urban sprawl through the orderly formation and development of local agencies. The LAFCO is also responsible for preparing a Municipal Services Review (MSR) that describes the jurisdictional area, services, and service capacity of each of the cities and special districts within the county. The MSRs are important sources of information regarding available services.

Stanislaus County Department of Environmental Resources

The Department of Environmental Resources manages the county's solid waste activities. Its responsibilities include the following:

- Administering the refuse collection agreements for the franchise waste haulers that provide solid waste collection services in the unincorporated county.
- Permitting refuse collectors, recycling facilities, and food processing by-product sites.
- Preparing and updating the county-wide Integrated Waste Management Plan for the county and its nine cities.
- Operating the county's Fink Road Sanitary Landfill, located west of Interstate-5 at the Fink Road exit.
- Administering the service agreement with Covanta Energy for operation of the Stanislaus Resource Recovery Facility and an energy-from-waste project adjacent to the Fink Road Sanitary Landfill.
- Post closure responsibilities of the Geer Road Landfill

Stanislaus County General Plan

Land Use Element

GOAL ONE. Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.

POLICY FIVE. Residential densities as defined in the General Plan shall be the maximum based upon environmental constraints, the availability of public services, and acceptable service levels. The densities reflected may not always be achievable and shall not be approved unless there is proper site planning and provision of suitable open space and recreational areas consistent with the supportive goals and policies of the General Plan.

IMPLEMENTATION MEASURE

1. Residential development shall not be approved at the maximum density if: (1) it threatens riparian habitat; (2) growth-limiting factors such as high water table, poor soil percolation, geological fault areas, and airport hazard areas exist; (3) development is in a designated floodway or does not meet the requirements of Chapter 16.40 of the County Code; (4) it does not comply with the airport height limiting ordinance restrictions; (5) there is lack of, or inadequate, sanitary sewer or public water service; or (6) environmental impacts, including traffic, cannot be mitigated.

POLICY SIX. Preserve and encourage upgrading of existing unincorporated urban communities.

IMPLEMENTATION MEASURE

3. Land within the sphere of influence of a community services district, sanitary district or domestic water district shall be rezoned for development only if the US (Urban Service) combining district is used.

GOAL TWO. Ensure compatibility between land uses.

POLICY FIFTEEN. Uses should not be permitted to intrude into or be located adjacent to areas that are identified as existing and/or potential sites for solid waste facilities if such uses would not be compatible.

IMPLEMENTATION MEASURES

1. Potential conflicts with existing solid waste facilities shall be avoided.
2. When the Countywide Integrated Waste Management Plan is adopted, those sites which are identified as potential solid waste facilities should be protected from land use conflicts.

GOAL THREE. Foster stable economic growth through appropriate land use policies.

POLICY SEVENTEEN. Promote diversification and growth of the local economy.

IMPLEMENTATION MEASURE

4. Encourage the development of new industries and the retention of existing industries that help the community reduce, recycle, and/or reuse waste that would otherwise require disposal.

GOAL FOUR. Ensure that an effective level of public service is provided in unincorporated areas.

POLICY TWENTY-TWO. Future growth shall not exceed the capabilities/capacity of the provider of services such as sewer, water, public safety, solid waste management, road systems, schools, health care facilities, etc.

IMPLEMENTATION MEASURES

2. Only development requests for which sewer service capacity that meets the standards of Measure X and domestic water are available shall be approved.
5. The current level of service of public agencies shall be determined and not allowed to deteriorate as a result of new development.
6. Rezoning of property for development prior to: 1) annexation to a special district; or 2) inclusion of such property into a newly formed special district that will provide urban services (i.e. sanitary sewer district, domestic water district, or community service district) shall be approved only if the US zoning district is used as a combining district or comparable requirements are incorporated into a Community Plan District.
7. Only development requests which have recognized and mitigated any significant impacts on solid waste reduction, recycling, disposal, reuse, collection, handling, and removal shall be approved.
9. The County will coordinate development with existing irrigation, water, utility and transportation systems by referring projects to appropriate agencies and organizations for review and comment.

Conservation/Open Space Element

GOAL TWO: Conserve water resources and protect water quality in the County.

POLICY FIVE. Protect groundwater aquifers and recharge areas, particularly those critical for the replenishment of reservoirs and aquifers.

IMPLEMENTATION MEASURES

4. During the project and environmental review process, encourage new development to incorporate water conservation measures to minimize adverse impacts on water supplies. Possible measures include, but are not limited to, low-flow plumbing fixtures, use of reclaimed wastewater for landscaping when feasible, and use of drought-tolerant landscaping.

6. During the project and environmental review process, encourage new urban development to be served by community wastewater treatment facilities and water systems rather than by package treatment plants or private septic tanks and wells.

POLICY SEVEN. New development that does not derive domestic water from pre-existing domestic and public water supply systems shall be required to have a documented water supply that does not adversely impact Stanislaus County water resources.

IMPLEMENTATION MEASURES

1. Proposals for development to be served by new water supply systems shall be referred to appropriate water districts, irrigation districts, community services districts, the State Water Resources Board and any other appropriate agencies for review and comment.

2. Review all development requests to ensure that sufficient evidence has been provided to document the existence of a water supply sufficient to meet the needs of the project without adversely impacting the quality and quantity of existing local water resources.

POLICY NINE. The County will investigate additional sources of water for domestic use.

IMPLEMENTATION MEASURE

1. The County will work with irrigation and water districts, community services districts, municipal and private water providers in developing surface water and other potential water sources for domestic use.

GOAL SEVEN. Support efforts to minimize the disposal of solid waste through source reduction, reuse, recycling, composting and transformation activities.

IMPLEMENTATION MEASURES

1. Encourage and promote activities, projects, legislation, business and industries that cause solid waste to be reduced at the source, reused, recycled and/or composted.

2. Complete and adopt the state-mandated Countywide Integrated Waste Management Plan by January 31, 1996.

3. Encourage the use of transformation facilities (such as waste-to-energy plants) as a component of the County's integrated waste management system.

4. Actively pursue the identification, siting, permitting and operation of additional landfill capacity to receive solid wastes that are not diverted from disposal and for the disposal of ash from transformation facilities.

5. Encourage and promote activities, projects, legislation, businesses and industries that cause special wastes (e.g., food processing residue, demolition/construction waste, inert wastes, tires, de-watered sludge, household hazardous waste, etc.) to be safely diverted from landfills or transformation facilities, including composting and co-composting operations.

POLICY TWENTY-THREE. The County will protect existing solid waste management facilities, including the waste-to-energy plant and the Fink Road landfill, against encroachment by land uses that would adversely affect their operation or their ability to expand.

IMPLEMENTATION MEASURES

1. Do not approve any discretionary projects within 1,000 feet of existing solid waste management facilities, including the Fink Road landfill and the waste-to-energy plant, unless such projects will have no adverse impact on those facilities or vice versa.
2. Explore the possibility of establishing an appropriate mechanism to preclude issuance of any building permits within 1,000 feet of solid waste management facilities, including the Fink Road landfill and the waste-to-energy plant.

GOAL ELEVEN. Conserve resources through promotion of waste reduction, reuse, recycling, composting, rideshare programs and alternative energy sources such as mini-hydroelectric plants, gas and oil exploration, and transformation facilities such as waste-to-energy plants.

POLICY THIRTY-ONE. The County shall provide zoning mechanisms for locating material recovery facilities, recycling facilities, composting facilities, and new energy producers when the proposed location does not conflict with surrounding land uses.

IMPLEMENTATION MEASURES

1. The County shall include provisions in its zoning ordinance for siting material-recovery facilities, recycling facilities, composting facilities, mini-hydroelectric plants and transformation facilities by June 30, 1997.
2. The County shall actively pursue and implement projects, plans and programs that will effectively protect and conserve existing and future landfill capacity.

Stanislaus County Measure X

Stanislaus County Measure X states that no parcel map, subdivision, rezoning, building permit, or other development entitlement shall be authorized, approved, created, or issued by Stanislaus County for the purpose of urban development unless:

a. Primary and secondary sewage treatment capacity exists and is available to serve said development; and

b. Connection to said sewage treatment system will occur prior to occupancy; or

c. A public emergency exists, based upon findings of fact describing such public emergency.

"Urban development," as defined in this ordinance, expressly excludes the following:

1. One single-family dwelling in a residential lot recorded prior to July 13, 1990
2. Agriculturally related uses for which use permits are required
3. Housing to be occupied by agricultural workers or by very low-income residents, as defined in Health and Safety Code Section 50105; and
4. Public parks and low-density recreational uses
5. Alteration or expansion of any use, provided that the amount of improved square footage existing as of November 8, 1988, is not increased by more than fifty percent (50%).

The Stanislaus County Department of Environmental Resources provides guidelines for implementation of Measure X.

Primary and secondary sewage treatment is needed:

1. For any new residential subdivision approved after July 13, 1990.
2. For any new residential sized parcels created from agricultural parcels after July 13, 1990.
3. For any new commercial or industrial project requiring building permits, or
    - However, existing commercial/industrial subdivision with a "vested" map is exempt from the secondary treatment requirement.
4. For any structural expansion or alteration requiring sewage disposal resulting in greater than 50% expansion of improved square footage existing as of November 8, 1988.

A traditional septic tank and leach field can be used:

1. For one single-family dwelling in an existing pre-July 13, 1990 recorded residential lot.
2. For single-family dwellings appropriate for the agricultural acreage designation (i.e., second dwelling on an A-2 zoned parcel of 20 acres or more).
3. For housing of agricultural workers and their families.
4. For serving an agriculturally related operation (i.e., restrooms for grading stations; hulling/drying operations; agricultural equipment repairs. etc.).
5. For a public emergency situation, as determined by the Board of Supervisors.
6. For low-density recreational use operations generating a low volume of wastewater (i.e., small campgrounds; fish-for-fee ponds, public parks, etc.).
7. For very low-income housing (i.e., 50 percent or less of the area median income, adjusted for family size).

Existing Conditions

Water Supply

The Crows Landing Community Services District (CSD), Denair CSD, Keyes CSD, Knights Ferry CSD, Modesto Irrigation District (MID), Monterey Park Tract CSD, Oakdale Irrigation District (OID), Riverdale Park Tract CSD, Stanislaus County Housing Authority, Turlock Irrigation District (TID), Western Hills Water District, and Westley CSD all provide drinking water to parts of Stanislaus County. Sources of drinking water vary.

- Crows Landing CSD distributes drinking water to residents and businesses in the unincorporated community of Crows Landing.
- Denair CSD provides drinking water to the unincorporated town of Denair.
- Keyes CSD supplies water for domestic and commercial use in the unincorporated town of Keyes.
- Knights Ferry CSD provides domestic water service connections to residential units, businesses, and the Knights Ferry Elementary School District in the unincorporated community of Knights Ferry.
- The City of Modesto serves the unincorporated town of Grayson through the former Del Este Water Company system. The district, together with TID, also provides domestic water service to

the unincorporated community of La Grange. The La Grange water system is co-owned by MID and TID; the system is operated and maintained by TID.

- Monterey Park Tract CSD provides domestic water to the unincorporated Monterey Park Tract.
- OID manages several domestic water systems, part of nine private and publicly owned systems that exist in an unincorporated area east of the city of Oakdale. Two of the systems are owned by OID; seven of the systems are owned by homeowner groups that have entered into an "improvement district" arrangement with OID to manage their water systems for state compliance.
- Riverdale Park Tract CSD provides domestic water services to the residents of the unincorporated Riverdale Park Tract community.
- The Stanislaus County Housing Authority provides municipal water service to the Stanislaus County Housing Authority's Westley Migrant and Farm Labor Housing Complex and the Westley CSD.
- TID, together with MID, provides water for domestic use in the unincorporated community of La Grange. The La Grange domestic water system is co-owned by TID and MID; the system is operated and maintained by TID.
- Western Hills Water District provides water services to residences and businesses in the Diablo Grande Specific Plan area.

Wastewater

Denair CSD, Empire Sanitary District, Grayson CSD, Keyes CSD, Salida Sanitary District, Western Hills Water District, and Westley CSD all provide wastewater collection and sewer services to residences and businesses within their respective service areas.

Stormwater

The Stanislaus County Public Works Department provides storm drainage services to the following County Service Areas: 4 (Bristol Glen – Salida), 5 (Starlite Place – Keyes), 7 (Modesto Auto Center), 8 (Honey Bee Estates – Empire), 9 (River Road/Souza – Ceres), 10 (Salida), 11 (Gilbert Road – Oakdale), 12 (Peach Blossom Estates – Riverbank, 14 (United Pallet – Modesto), 16 (Olive Ranch – Oakdale), 18 (Atlas Park – Oakdale), 19 (Tuolumne/Gratton – Denair), 20 (Summit Corporate Center – Modesto), 21 (Riopel – Denair), 22 (Old School North – Denair), 23 (Hillsborough/Schultz – Oakdale), 24 (Hideaway Terrace – Denair), 25 (Suncrest II – Denair), 26 (Keyes), and 27 (Empire – Phase 1).

Solid Waste Disposal

Residential and commercial garbage service in the unincorporated areas of Stanislaus County is provided by three franchised garbage collection companies: Bertolotti Disposal, Gilton Solid Waste, and Turlock Scavenger.

The Fink Road Sanitary Landfill is a Class III landfill for nonhazardous municipal solid waste; the facility is owned by Stanislaus County and operated by the Stanislaus County Department of Environmental Resources. The landfill provides municipal solid waste services to Ceres, Hughson, Modesto, Newman, Oakdale, Patterson, Riverbank, Turlock, Waterford, and the unincorporated areas of Stanislaus County. It also accepts waste from the public. Stanislaus County's Fink Road

Sanitary Landfill, the sole permitted landfill in the county, has a permitted capacity of 14,640,000 cubic yards and is permitted through 2023. As of April 2015, the facility had a remaining capacity of approximately 5,255,714 cubic yards (California Department of Resources Recycling and Recovery 2014b).

Adjacent to the Fink Road Sanitary Landfill is the Stanislaus Resource Recovery Facility (SRRF), a waste-to-energy plant owned by Stanislaus County and operated by Covanta Stanislaus, Inc. The SRRF is an 800-ton-per-day solid waste disposal, resource recovery, and electric generating facility that accepts waste from the county's franchised garbage collection companies. There are four large-scale transfer facilities in Stanislaus County (Bertolotti, Gilton, Turlock Scavenger, and Covanta), along with numerous composting operations that handle agricultural wastes, sludge, and green waste (California Department of Resources Recycling and Recovery 2014c).

3.17.3 Impact Analysis

This section discusses the approach and methodology used to assess the impacts of the plan updates; discusses the individual impacts relative to the thresholds of significance; discusses mitigation measures to minimize, avoid, rectify, reduce, eliminate, or compensate for significant impacts; and indicates the overall significance of the impact with mitigation incorporated.

Major Sources Used in Analysis

The major sources used in this analysis are listed below:

- Stanislaus County Local Agency Formation Commission – Municipal Service Reviews (http://www.stanislauslafco.org/info/msr.htm)
- Stanislaus County Environmental Resources Department – Solid Waste/Landfills (http://www.stancounty.com/er/solid-waste.shtm)

Approach and Methodology

This qualitative analysis of utilities and service systems relies on the LAFCO MSRs as the primary source of information regarding existing domestic water, sewer, and stormwater service systems. The *Draft Regional Housing Needs Plan for Stanislaus County 2014–2023* (Stanislaus Council of Governments 2014a) and the *Regional Demographic Forecast* (Stanislaus Council of Governments 2014b) were the main sources of projected new housing numbers for unincorporated Stanislaus County. The primary sources of information on solid waste disposal in Stanislaus County were the Stanislaus County Environmental Resources Department and the initial study/mitigated negative declaration (IS/MND) for the Fink Road Sanitary Landfill in-fill project. The main source of information about possible development at the Crows Landing Air Facility was the 2009 Crows Landing Air Facility Project Area Revised Preliminary Redevelopment Plan.

Note that the county is in the process of preparing a new plan for the anticipated Crows Landing Industrial Business Park, which is expected to substantially change the existing redevelopment plan. Preparation and adoption of that new plan is a separate and independent project from the projects (General Plan update and ALUCP Update) for which this EIR is being prepared. Neither the Crows Landing Industrial Business Park plan nor the general plan is dependent upon the other for adoption. A Notice of Preparation was released in October 2013 for the draft EIR for the Crows Landing Industrial Business Park, which will analyze and disclose the potential environmental

impacts of the proposed industrial business park and include mitigation measures for any significant impacts.

The analysis in this EIR takes into consideration proposed general plan policies, described below, to reduce the impact of new development on domestic water, wastewater, stormwater, and solid waste disposal services.

Thresholds of Significance

Based on State CEQA Guidelines, Appendix G, the plan updates would have a significant impact with respect to utilities and service systems if they would:

- Exceed wastewater treatment requirements of the Central Valley Regional Water Quality Control Board.
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?
- Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Comply with federal, state, and local statutes and regulations related to solid waste.

Impacts and Mitigation Measures

Impact UTL-1: Exceed wastewater treatment requirements of the Central Valley Regional Water Quality Control Board (less than significant)

The proposed project incorporates population projections adopted by the Stanislaus Council of Governments (StanCOG) that extend the planning horizon to 2035. StanCOG's regional growth forecast predicts a population for the unincorporated county jurisdiction of 133,753 in 2035, which represents an increase of approximately 21% from its 2010 population (Stanislaus Council of Governments 2014a). There is a reasonable expectation that population and housing within the utilities and service systems study area will increase accordingly. The population and housing increase projected under the proposed General Plan update and ALUCP Update would increase the demands on wastewater treatment facilities in Stanislaus County.

Wastewater treatment facilities will be needed in the future to serve the community plan areas. Implementation Measure 6 of Conservation/Open Space Element Policy Five encourages new urban development to utilize existing or new wastewater treatment facilities. However, because the distribution and timing of projected development is unknown at this time and the specific wastewater treatment requirements (i.e., size of plant, technology, treatment capacity, etc.) cannot

be predicted, the potential environmental impacts of future water and wastewater treatment facilities cannot be known. What is known is that future new or expanded facilities will be subject to CVRWQCB waste discharge requirements. In addition, future water and wastewater treatment facilities will be subject to CEQA analysis. Potential impacts will be disclosed, and site- and project-specific mitigation measures will be developed at that time. The mitigation measures will be made part of the permits issued to the facilities by the CVRWQCB, as required by CEQA.

The CVRWQCB will set the specific waste discharge requirements for any new or expanded wastewater treatment facility as part of its permit for that facility. Future water and wastewater treatment facilities will be required by law to operate in compliance with any and all requirements of the CVRWQCB permits.

This impact would be less than significant. No mitigation is required.

Significance without Mitigation: Less than significant (no mitigation required)

Impact UTL-2: Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (significant and unavoidable)

As stated above, population in unincorporated Stanislaus County is expected to increase—and with it the need for new water and wastewater treatment capacity. The types, number, locations, physical sizes, and designs of future water or wastewater treatment facilities are unknown. The same is true for expansions of existing facilities. As a result, the potential environmental impacts of future water and wastewater treatment facilities cannot be precisely known at this time. Future water and wastewater treatment facilities will be subject to CEQA analysis. Potential impacts will be disclosed, and site- and project-specific mitigation measures will be developed at that time.

Land Use Element

GOAL THREE. Foster stable economic growth through appropriate land use policies.

POLICY EIGHTEEN. Promote diversification and growth of the local economy.

IMPLEMENTATION MEASURES

9. Encourage reuse of the Crows Landing Air Facility as a regional jobs center.

There are currently no water or wastewater treatment facilities in the area of Crows Landing. The nearby Crows Landing CSD has no water treatment facilities; private septic systems provide the only wastewater treatment in the area. The concept of the Crows Landing Industrial Business Park is to establish an infrastructure framework that can support future business development at Crows Landing. Development is expected to take place over a long period, with infrastructure expanded as the need arises. Although no specific time frame is available, a Notice of Preparation has been released for public review and an EIR is in preparation that will analyze the impacts of future basic infrastructure including water and wastewater treatment facilities.

GOAL ONE. Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.

POLICY SIX. Preserve and encourage upgrading of existing unincorporated urban communities.

IMPLEMENTATION MEASURES

4. When feasible, new development shall be designed and built to allow for the upgrading or expansion of services necessary to upgrade existing unincorporated urban communities; however, new development will not be expected to be financially responsible for providing upgrades.
5. The County shall support and assist unincorporated urban communities in their efforts to establish "self-help" programs (such as assessment financing districts) necessary to upgrade their communities.
6. As part of the environmental work The County will review, and if necessary, amend the General Plan to address the infrastructure, housing and public health needs to assist in transforming identified disadvantaged communities into healthy communities.

These measures address infrastructure, housing, and public health needs and assist in transforming identified disadvantaged communities into healthy communities. The State of California is expected to begin funding infrastructure improvements, including water and wastewater treatment facilities, in disadvantaged unincorporated communities through a portion of the proceeds from the "cap and trade" program established by the California Air Resources Board under AB 32, the Global Warming Solutions Act of 2006. Stanislaus County has a number of such communities that would benefit from these infrastructure improvements, including locales such as West Modesto, Riverdale Park, Keyes, Crows Landing, Westley, and Grayson. No specific facilities are currently proposed, but it is reasonable to expect that such facilities could be developed in one or more these locales in the future if funding becomes available.

The impacts from construction and operation of water and wastewater treatment facilities depend on the characteristics of the proposed facility site, its location relative to sensitive receptors, and the design of the facility. Construction of water and wastewater treatment facilities typically results in temporary impacts on noise, traffic, air quality, water quality, biological resources, and cultural resources. Permanent operational impacts typically involve aesthetics, odors, water quality, biological resources, and permanent agricultural land conversion. Odors and other potential air quality impacts generated by future water and wastewater treatment facilities would be regulated by the San Joaquin Valley Air Pollution Control District. Impacts on water quality from discharges would be addressed by CVRWQCB permit requirements.

Water and wastewater treatment facilities are subject to CEQA analysis. Although actual impacts vary, these types of facilities commonly result in one or more significant impacts that require preparation of an EIR. Mitigation measures specific to the facility's impacts would be adopted as part of approval of the facility. Mitigation measures cannot be reasonably developed at this point in time because the characteristics and specific impacts of such future projects are unknown. Without knowing whether those mitigation measures would avoid all significant impacts of future facilities, this impact is considered significant and unavoidable.

Significance without Mitigation: Significant and unavoidable (no mitigation available)

Impact UTL-3: Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (less than significant)

The types, number, locations, physical sizes, and designs of future stormwater drainage facilities are unknown. The same is true for potential expansion of existing facilities. As a result, the potential

environmental impacts of future stormwater drainage facilities cannot be known at this time. Flooding impacts related to stormwater are discussed in Section 3.9, *Hydrology and Water Quality*.

Land Use Element

Goal Three, Policy Eighteen, Implementation Measure 9, of the Land Use Element would encourage re-use of the Crows Landing Air Facility as a regional jobs center (see Impact UTL-2). There is no municipal stormwater drainage and collection system in the area of Crows Landing. The nearby Crows Landing CSD provides no stormwater drainage service. Depending on the level of future development of the industrial business park, stormwater collection and drainage systems could be constructed at some future time.

Goal One, Policy Six, Implementation Measures 4 through 6 of the Land Use Element would encourage providing infrastructure to disadvantaged communities (see Impact UTL-2). As discussed above, these communities lack services and may need drainage facilities as part of general upgrades.

> **GOAL ONE**. Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.
>
> **POLICY SIX**. Preserve and encourage upgrading of existing unincorporated urban communities.
>
> **IMPLEMENTATION MEASURES**
>
> 3. Land within the sphere of influence of a community services district, sanitary district or domestic water district shall be rezoned for development only if ~~the US (Urban Service) combining district is used~~ capacity for connecting to available public services exists and any resulting projects are conditioned to require connection to available services.

Future stormwater drainage facilities will be subject to CEQA analysis. Potential impacts will be disclosed, and site- and project-specific mitigation measures will be developed at that time. Stormwater drainage facilities typically consist of detention and retention ponds, sometimes with associated recreational facilities, as well as curbs/gutters, stormwater drains, pipelines, and pumping facilities. These are not facilities that, by themselves, typically trigger the need for preparation of an EIR but are commonly included in EIRs for subdivision developments or specific plans. Impacts are typically related to excavation for basins and pipeline trenches and the installation of curbs/gutters. These impacts include traffic delays, noise, and dust, all of which can be mitigated through best management practices, such traffic management plans and dust control, pursuant to the San Joaquin Valley Air Pollution Control District requirements, and through mitigation measures. There are typically no operational impacts. It is reasonably foreseeable that standalone stormwater drainage facilities would not result in significant impacts that could not be mitigated to a less-than-significant level.

Significance without Mitigation: Less than significant (no mitigation required)

Impact UTL-4: Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed? (less than significant)

Given the forecast increase in population, there will be the need for expanded water supplies. However, the exact distribution and timing of projected population growth and development is unknown, and the precise location of future increased water demands cannot be predicted at this time. Water providers in areas where future demand is expected to exceed their current water

resources, should additional development occur in the future,[1] include the Keyes and Crows Landing. Service to the unincorporated community of Salida will need to be expanded as new development occurs through the installation of delivery mains and lines by the City of Modesto. Modesto uses a combination of groundwater and surface water supplies to serve its customers and future customers. (City of Modesto and Modesto Irrigation District 2011).

Land Use Element

Goal Three, Policy Eighteen, Implementation Measure 9, of the Land Use Element would encourage re-use of the Crows Landing Air Facility as a regional jobs center (see Impact UTL-2). Implementation of this policy would create the need to provide water service to the Crows Landing Air Facility. The Crows Landing CSD maintains and operates a water system, supplied by two groundwater wells, for the community of Crows Landing, about 1 mile east of the Crows Landing Air Facility, The Crows Landing CSD water system is in need of major upgrades and maintenance and considered to be at capacity. Any major development at Crows Landing Air Facility would require the construction of new water supply infrastructure and possibly major upgrades to the existing Crows Landing CSD water supply system.

See the discussion under Impact UTL-2 for a description of typical water treatment plant impacts. Should new or expanded treatment plants be needed, there is a reasonable probability that one or more could have a significant environmental impact. Because the location, size, design, and other elements of future treatment plants are unknown, no specific mitigation measures can be developed. However, specific mitigation would be part of the CEQA analysis that will be required for any such project in the future.

Portions of the unincorporated county will need new water supplies if development occurs as forecast.

Conservation/Open Space Element

GOAL TWO. Conserve water resources and protect water quality in the County.

POLICY SEVEN. New development that does not derive domestic water from pre-existing domestic and public water supply systems shall be required to have a documented water supply that does not adversely impact Stanislaus County water resources.

IMPLEMENTATION MEASURES

2. Review all development requests to ensure that sufficient evidence has been provided to document the existence of a water supply sufficient to meet the short and long term water needs of the project without adversely impacting the quality and quantity of existing local water resources.

This measure would require the county to review all development requests to ensure that sufficient evidence has been provided to document the existence of a water supply that would be capable of meeting the short- and long-term water needs of the project without adversely affecting the quality and quantity of existing local water resources.

[1] Note that some of these communities, including Westley, Grayson, and the Monterey Park Tract, have limited practical potential for additional growth due to infrastructure limitations. They are included here to indicate that their water systems are near capacity.

POLICY EIGHT. The County shall support ~~continue and, if necessary, expand the water monitoring program of the~~ efforts ~~of the Stanislaus County Department of Environmental Resources~~ to develop and implement water management strategies.

IMPLEMENTATION MEASURES

3. The County will coordinate with water purveyors, private landowners and other water resource agencies in the region on data collection of groundwater conditions and in the development of a groundwater usage tracking system, including well location/construction mapping (within the extent that prevailing law allows) and groundwater level monitoring, to guide future policy development.

4. The County shall promote efforts to increase reliability of groundwater supplies through water resource management tools ranging from surface water protection programs, demand management programs (conservation), continued public education programs, and expanded opportunities for conjunctive use of groundwater, surface water, and appropriately treated wastewater and stormwater reuse opportunities.

5. The County will support and where appropriate help facilitate the formation of an integrated and comprehensive county-wide, and where appropriate regional, water resources management plan which incorporates existing water management plans and identifies and plans for management within the gaps between existing water management plans.

These measures commit the county to efforts to increase the reliability of groundwater supplies through regional coordination and cooperative implementation of water resource management tools.

As discussed in Section 3.9, *Hydrology and Water Quality*, the county's groundwater supplies are facing increased demand, and overdraft conditions are worsening. The general plan policies, including those listed above, offer the means to reduce the impacts of new development on water supplies, particularly groundwater supplies. Groundwater is not subject to entitlement. Therefore, although new development will increase demands on groundwater as discussed in Section 3.9, it will not require new entitlements when it relies on groundwater. As the community of Salida develops it will exert additional demand on the Modesto water system. The City anticipates that future demand within its service area will be met by additional surface water supplied by the Modesto Irrigation District under existing contracts. (City of Modesto and Modesto Irrigation District 2011) Supply is expected to be adequate to meet demand in normal and dry years to 2030. (City of Modesto and Modesto Irrigation District 2011) Therefore, it does not appear that new or expanded entitlements would be needed. This impact is less than significant.

Significance without Mitigation: Less than significant (no mitigation necessary)

Impact UTL -5: Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments (significant and unavoidable)

As stated above, under the proposed project, population in unincorporated Stanislaus County is expected to increase—and with it the need for new wastewater treatment capacity. The CSDs are generally at capacity to supply wastewater treatment, and additional growth would require expanding or building new facilities. See Impact UTL-2 for a discussion of wastewater treatment plants and their potential impacts. Because the location, size, design, and other elements of future treatment plants are unknown, no specific mitigation measures can be developed. However, specific mitigation would be part of the CEQA analysis that will be required for any such project in the future.

Significance without Mitigation: Significant and unavoidable (no mitigation available)

Impact UTL-6: Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs (less than significant)

Although projected population growth in the county under the amended general plan would lead to additional demands for solid waste disposal services, landfill capacity is expected to be adequate for the duration of the project. Implementation of state laws and policy will reduce the future waste stream and extend the lifespan of the existing Fink Road Sanitary Landfill. AB 341 requires the waste stream going to landfills to be reduced by 75% statewide. CalRecycle will implement strategies to meet this statutory goal through state-level measures and requirements. AB 341's broadening of recycling requirements to cover commercial and multi-family residential developments will also reduce the future waste stream going to the landfill.

The Fink Road Sanitary Landfill is permitted to receive 2,400 tons of solid waste a day through 2023; it is currently at approximately 50% of its permitted capacity. In the future, as the landfill reaches capacity, the Environmental Resources Department will apply for the necessary expansion to meet the county's projected demands.

Significance without Mitigation: Less than significant (no mitigation required)

Impact UTL-7: Comply with federal, state, and local statutes and regulations related to solid waste (less than significant)

The county is responsible for the implementation of any and all solid waste regulations through the Department of Environmental Resources. The county operates the Fink Road Sanitary Landfill and is required by the conditions of its permit from CalRecycle to operate in accordance with state laws and regulations. The general plan includes measures (Goal Four, Policy Twenty-Four (renumbered from Twenty-Two), Implementation Measure 7, of the Land Use Element) to facilitate the reduction of solid waste from future development projects (see *Regulatory Setting*).

Significance without Mitigation: Less than significant (no mitigation required)

3.17.4 References Cited

Printed References

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———. 2014b. *Regional Demographic Forecast.*

Chapter 4
Alternatives

CEQA requires that an EIR examine a reasonable range of feasible alternatives to the project or the project location that could substantially reduce one or more of the project's significant environmental impacts while meeting most or all of its objectives. The EIR is required to analyze the potential environmental impacts of each alternative, though not at the same level of detail as the project. However, there must be sufficient detail to be able to compare the respective merits of the alternatives. The key provisions of State CEQA Guidelines Section 15126.6 that relate to alternatives analyses are summarized below.

- The discussion of alternatives shall focus on alternatives to the project or project location that are feasible, would meet most or all of the project objectives, and would substantially reduce one or more of its significant impacts.
- The range of alternatives must include the No Project Alternative. The no project analysis will discuss the existing conditions at the time the NOP was published, as well as conditions that would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. The No Project Alternative is not required to be feasible, meet any of the project objectives, or reduce the project's expected impacts to any degree.
- The range of alternatives required is governed by a "rule of reason." The EIR must evaluate only those alternatives necessary to permit a reasoned choice. An EIR is not required to analyze every conceivable alternative to a project.
- An EIR does not need to consider an alternative that would not achieve the basic project objectives, whose effects cannot be reasonably ascertained, and whose implementation is remote and speculative.

4.1 Project Objectives

The essential goal of the project is to update the Stanislaus County General Plan and ALUCP. This is represented by the following objectives.

- To comprehensively review and amend the general plan to incorporate current requirements of State law related to planning issues.
- To avoid making changes to the General Plan land use diagram.
- To update existing and incorporate new goals, objectives, policies, and implementation measures to reflect local changes in land use policy.
- To update technical data found within the general plan and support documents.
- To update the Airport Land Use Compatibility Plan to ensure consistency with the general plan, incorporate the requirements of the Caltrans' *Airport Land Use Planning Handbook*, and reflect new information relating to noise contours, safety zones, airspace protection zones, overflight areas, and current city general plan provisions.

- To prepare the environmental documentation necessary to support adoption of the general plan update and ALUCP.

4.2 Significant Impacts

Alternatives provide a means of reducing the level of one or more significant impacts that would otherwise result from implementation of the project. The following significant impacts would result from the project.

4.2.1 Aesthetics

- New source of substantial light or glare

4.2.2 Air Quality

- Construction-related emissions in excess of SJVAPCD thresholds

4.2.3 Biological Resources

- Interfere with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

4.2.4 Cultural Resources

- Adverse change in the significance of a historical resource.
- Adverse change in the significance of an archaeological resource.

4.2.5 Geology, Soils, and Paleontological Resources

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

4.2.6 Hydrology and Water Quality

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level.

4.2.7 Noise

- Result in excessive levels of noise in the future at existing residences.

4.2.8 Recreation

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated.

4.2.9 Transportation and Traffic

- Result in traffic operations below the minimum acceptable thresholds on roadways outside the County's jurisdiction.
- Create additional vehicle, bicycle or pedestrian travel on roadways or other facilities that do not meet current design standards.

4.2.10 Utilities and Service Systems

- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

4.3 Methodology and Screening Criteria

A range of potential alternatives was developed and subjected to the screening criteria. The EIR preparers considered several representative alternatives. There was no attempt to include every conceivable alternative. The following criteria were used to screen potential alternatives.

- Does the alternative meet most or all of the project objectives?
- Is the alternative potentially feasible?
- Would the alternative substantially reduce one or more of the significant impacts associated with the project?

Based on the State CEQA Guidelines, "feasible" is defined as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors" (Section 15364). CEQA does not require that an EIR determine the ultimate feasibility of a selected alternative, but rather that an alternative be potentially feasible. Accordingly, no economic studies have been prepared regarding the economic feasibility of the selected alternatives.

The significant effects of the project may include those that are significant and unavoidable, or that are less than significant with mitigation. The alternative should provide a means of reducing the level of impact that would otherwise result from implementation of the project.

Those alternatives that meet the project objectives, that are potentially feasible, and that would reduce one or more project impacts are discussed in greater detail below.

4.4 Alternatives Considered but Rejected

Alternative locations. This prospective alternative would be to approve the general plan elsewhere than Stanislaus County. This alternative is legally infeasible for the following reasons. The general plan and ALUCP updates must occur within Stanislaus County. Both are state-mandated plans that are the County's and County Airport Land Use Commission's responsibilities to adopt and that must address the lands within the county and within the planning areas of the county's airports, respectively. The ALUCP update is further constrained by requirements to integrate noise contours, airport safety, airspace protection zones, and airport overflight areas into the plan for each of the airports in the county. Consideration of alternative airport locations is outside the scope of this update.

Project without ALUCP Amendments. This prospective alternative would carry forth the general plan update only, without the proposed amendments to the ALUCP. Updating the ALUCP to conform to the current *Airport Land Use Planning Handbook* is a fundamental objective of the project. This alternative fails to meet that objective and is rejected for that reason. In addition, it would not provide the County with a legally adequate ALUCP and is therefore infeasible for legal reasons.

4.5 Alternatives Analyzed in this EIR

The following alternatives are analyzed in this EIR. With the exception of the No-Project Alternative, they are variations on the general plan and ALUCP updates that would reduce one or more of the significant effects associated with the updates. As allowed under CEQA, they are analyzed at a lesser level of detail than the plan update itself. The project is oriented toward policy amendments and does not change any general plan land use maps. Similarly, the following alternatives are policy-oriented and do not include changes to the general plan's land use map.

4.5.1 Alternative 1—No Project Alternative

The No Project Alternative would consist of not adopting the proposed general plan and ALUCP updates. The County's future development would continue to be guided by the existing adopted plans and their policies. As with the project, there would be no site-specific changes in existing land use designations or zoning. Because the level and pattern of development would be substantially the same under both the project and the No Project Alternative, the key differences between the two are the proposed new goals, policies, and implementation measures being proposed by the project.

Typically, when the project under CEQA review is a site-specific development project, the no-project alternative has fewer impacts than the project. The proposed updates to the general plan and ALUCP, however, do not include site-specific development projects. With the exception of some changes to the boundaries of airport influence areas under the ALUCP, the project is policy based.

As a result, some of the impacts under the No Project Alternative are more intensive than the project because the alternative lacks project components that help reduce its impacts. These components include such items as complete streets policies, residential rezonings that are conditioned on annexation to service districts, and an implementation measure to include habitat protection mitigation measures where ground-disturbing activities will potentially impact undisturbed riparian habitat and/or vernal pools or other sensitive areas.

Impact Analysis

Aesthetics

Development under the No Project Alternative (i.e., the existing general plan) would result in changes in the visual character of portions of Stanislaus County where residential, commercial, or other land uses replace open agricultural lands. This impact would be significant and unavoidable.

Agricultural Resources

Development under the No Project Alternative would result in the conversion of agricultural land to other uses. The 2010–2012 Land Use Conversion Summary indicates that conversion of agricultural land to urban use is occurring slowly (California Department of Conservation 2013). Much of the conversion is occurring within or adjacent to the incorporated cities. The impact of the No Project Alternative is less than significant. The project would have a similar impact.

Air Quality

The No Project Alternative would allow development in accordance with the existing general plan, resulting in significant and unavoidable impacts on air quality from increased development and traffic. The project would have a similar impact.

Biological Resources

The No Project Alternative would allow development in accordance with the existing general plan. The resultant expansion in the footprint of developed land would result in the loss of wildlife habitat. The impact would be significant and unavoidable. The project would have a similar impact.

Cultural Resources

The No Project Alternative would allow development in accordance with the existing general plan. Development that does not require a discretionary permit can proceed without CEQA analysis and is not subject to the admonishment to avoid destroying significant cultural resources whenever feasible. As a result, the future loss of cultural resources that would be eligible for the CRHR or NRHP and thereby significant for CEQA purposes, but that is not subject to a discretionary permit, cannot be avoided. This would be a significant and unavoidable impact. The project would have a similar impact.

Geology, Soils, and Paleontology

The No Project Alternative would allow development in accordance with the existing general plan. Statutory and regulatory requirements under the California Building Codes will avoid potential impacts due to geology and soils. This alternative would have a less-than-significant impact. The project's impact would be similar.

Greenhouse Gas Emissions and Energy

The No Project Alternative would allow development in accordance with the existing general plan, resulting in additional development and increased traffic. The No Project Alternative's resulting impact on greenhouse gas emissions is reasonably foreseeable to be significant. The proposed project would have a lesser impact, although it would still be significant and unavoidable, due to its

integration of some of the GHG reduction policies of StanCOG's RTP/SCS and policies related to complete streets that will encourage bicycle and pedestrian trips in favor of short vehicle trips.

California's strict statutory and regulatory energy conservation standards have resulted in California having the second lowest per capita energy use in the nation (U.S. Energy Information Administration 2014). Vehicle fuel use will decrease in the future due to increasingly stringent auto and truck fleet fuel efficiency standards. Future development under the general plan will be required to meet these standards and therefore will not be inefficient, wasteful, or unnecessary in its use of energy.

Hazards and Hazardous Materials

The No Project Alternative would allow development in accordance with the existing general plan. This could expose a small number of future residences to 200-year flood hazard, a significant and unavoidable impact. Hazardous materials handling and storage is subject to state and federal requirements, as administered and enforced by the County Environmental Resources Department in its role as the Certified Unified Program Agency. The alternative's impact from hazardous materials would be less than significant. These impacts are essentially the same as the project's.

Hydrology and Water Quality

The No Project Alternative would allow development in accordance with the existing general plan. Development will occur in accordance with the requirements of the Central Valley RWQCB, so impacts on water quality from construction would not likely result in significant impacts. New development would require additional water supplies while the county is in a condition of groundwater overdraft. This would result in a significant and unavoidable impact on groundwater. This is the same impact as under the project.

Land Use and Planning

The No Project Alternative would allow development in accordance with the existing general plan. It would not result in land use conflicts or divide existing communities. The impact would be less than significant. This is the same impact as under the project.

Mineral Resources

The No Project Alternative would allow development in accordance with the existing general plan. The general plan contains policies protecting known mineral resources (see Policies Twenty-Six and Twenty-Seven of the Conservation/Open Space Element). This alternative would not result in a foreseeable impact on mineral resources. This is the same impact as under the project.

Noise

The No Project Alternative would allow development in accordance with the existing general plan. Increased levels of traffic on new and existing roads will increase noise levels along those roads. This will result in significant and unavoidable noise impacts on sensitive receptors that are located close to those roads. This would be a significant and unavoidable impact. This is the same impact as under the project.

Population and Housing

The No Project Alternative would allow development in accordance with the existing general plan. This would result in a significant and unavoidable impact on population growth. The general plan does not require the removal or displacement of any housing. Therefore, that impact would be less than significant. This is the same impact as under the project.

Public Services

The No Project Alternative would allow development in accordance with the existing general plan. New public facilities will need to be built to accommodate the increased population. Some of these facilities have the potential to result in significant and unavoidable impacts. Therefore, this alternative would have a significant and unavoidable impact on public services. This is the same impact as under the project.

Recreation

The No Project Alternative would allow development in accordance with the existing general plan. Because the County imposes requirements for park and recreation facilities on new subdivisions, the impact is expected to be less than significant. This is the same impact as under the project.

Transportation and Traffic

The No Project Alternative would allow development in accordance with the existing general plan. New housing and commercial/industrial development will result in additional vehicles being added to the road system. This would be a significant and unavoidable impact on those portions of the road system where traffic congestion increases to unacceptable levels. This impact would be greater than the Project's impact on transportation and traffic due to the project's inclusion of new road standards, complete streets policies, and conformity with the Sustainable Communities Strategy. All three of those components will encourage the use of alternative modes of transportation and reduce automobile use in comparison to Alternative 1. The impact of the project would be significant, nonetheless.

Utilities and Service Systems

The No Project Alternative would allow development in accordance with the existing general plan. This development is likely to exceed the capacity of water and wastewater treatment facilities in some parts of the county. This impact would be significant and unavoidable. This is the same impact as under the project.

4.5.2 Alternative 2—Reduced Developable Area

This alternative would reduce the area of the county that is designated for residential or urban development. This would reduce the general plan's impacts on agricultural conversion, biological resources, and traffic. Those undeveloped or underdeveloped areas of the county with residential, commercial, and other urban planning designations include the communities of Del Rio, Denair, Diablo Grande, Keyes, Salida, and Westley. Measure E (enacted by voter initiative in 2008) requires that any redesignation or rezoning of land in the unincorporated area from agricultural or open space use to a residential use must be approved by a majority vote of the county voters at a general or special local election. The planning strategies of the Stanislaus County General Plan must reflect

the requirements of Measure E. The unincorporated communities of Crows Landing, Knights Ferry, and La Grange have little or no capacity for additional growth.

Under this initiative, the future development potential for the communities of Del Rio, Denair, Keyes, and Westley would be reduced. Both Diablo Grande and Salida are subject to approved entitlements that limit the County from "down zoning" them to reduce urban densities. Furthermore, the Salida Community Plan was adopted by voter initiative. As a result, it cannot be changed except by another popular vote at a county-wide election. The County cannot reduce development density within Salida through the general plan amendment process.

There are substantial undeveloped areas in Del Rio, Denair, Keyes, and Westley. Alternative 2 would include all of the proposed amendments to the General Plan and ALUCP, but would add new policies to each of these community plans to restrict new residential development projects on all vacant, agriculturally zoned lands to the residential use allowed in the particular agricultural zone. This would effectively preclude large scale residential subdivisions and limit development to single-family residences on lots meeting the minimum parcel size.

- Del Rio is a residential development centered on the Del Rio Golf and Country Club. It is located north of Ladd Road, north of the City of Modesto and west of the City of Riverbank. There is an undeveloped area directly south of the San Joaquin River that is designate for residential use at a density of up to one dwelling per two acres. Lands on the eastern side of the Community Plan are designated for residential use at densities of one dwelling per acre and one dwelling per two acres. However, it is currently in agricultural use. The southern portion of the Del Rio Community Plan area (Area II) is similarly identified for future residential development at those densities and is in agricultural use. It is also zoned for agriculture (A-2-40).
- Denair is an urbanized community located east of the City of Turlock, and separated from the city by agricultural land. In keeping with its small town character, the Community Plan includes commercial, medium-density residential, low-density residential, and estate residential land use designations. Undeveloped parts of the west side of the Community Plan area are designated for residential use at densities of one dwelling per three acres (ER – Estate Residential)and zero to seven dwellings per acre (LDR – Low Density Residential). Substantial portions of these areas are zoned for agricultural use (A-2-10 and A-2-40). Undeveloped areas in the northeast quadrant of the Community Plan are designated for ER and LDR use and are zoned for agricultural use (A-2-10). Similarly, vacant land in the southeast quadrant of the planning area is designated for ER development, but is zoned for agriculture (A-2-10).
- Keyes is an urbanized community located on both sides of Highway 99 located between the cities of Ceres and Turlock. The Community Plan includes a variety of land use designations including industrial, highway commercial, commercial, and medium- and low-density residential. Undeveloped parts of the north side of the planning area are designated for LDR and urban transition land use, but are zoned agricultural (A-2-10 and A-2-40). Vacant lands on the southern side of the planning area are designated for planned industrial and highway commercial land uses, but are zoned A-2-10 and A-2-40.
- Westley is a small, rural community located along Highway 33, about 4 miles north of the City of Patterson. Most of Westley's planning area is designated for residential development, with the portion fronting on Highway 33 designated for commercial and industrial use. The northwest quadrant of the planning area is currently in agricultural use and is zoned for agriculture (A-2-10).

Impact Analysis

Aesthetics

Alternative 2 would result in changes in the visual character of portions of Stanislaus County where residential, commercial, or other land uses replace open agricultural lands. This impact would be significant and unavoidable. However, because the potential for residential development under Alternative 2 is less than the Project, there would be less change in the visual character of Del Rio, Denair, Keyes, and Westley than under the Project and this alternative would have a less severe impact than the Project.

Agricultural Resources

Development under Alternative 2 will result in the conversion of agricultural land to other uses. The 2010–2012 Land Use Conversion Summary indicates that conversion of agricultural land to urban use is occurring slowly (California Department of Conservation 2013). Much of the conversion to urban use is occurring within or adjacent to the incorporated cities. The project discourages development on unincorporated land within Stanislaus County. Alternative 2 would provide additional support for those policies by precluding residential development on substantial amounts of agricultural land within these four community plan areas. New residential development within the community plan areas would be limited to rehabilitation and infill. The impact of Alternative 2 is less than significant. This is a lesser impact than the project.

Air Quality

Alternative 2 would allow new development that would contribute to criteria pollutant emissions. Although, like the project, Alternative 2 would encourage new development that facilitates bicycling and pedestrian travel in place of automobiles for short trips, the effectiveness of the policies to result in a substantial reduction in emissions over what could occur absent those policies is unknown. As a result, Alternative 2 would foreseeably result in significant and unavoidable impacts on air quality from increased development and traffic. However, Alternative 2 would reduce the amount of residential development that could occur within the four community plan areas and thereby marginally reduce traffic and traffic-related air pollutant emissions. Alternative 2 would have a lesser impact than the project.

Biological Resources

Alternative 2 would reduce the area available for residential development in comparison to the project. New development would still occur with the potential to remove wildlife habitat. This alternative would reduce the potential effects of new development in comparison to the project, but would still would represent a significant and unavoidable impact.

Cultural Resources

Alternative 2 would allow development in locations similar to the existing general plan. Development that does not require a discretionary permit can proceed without CEQA analysis and is not subject to CEQA's admonishment to avoid destroying significant cultural resources whenever feasible. As a result, the future loss of cultural resources that would be eligible for the CRHR or NRHP and thereby significant for CEQA purposes, but that is not subject to a discretionary permit,

cannot be avoided. This would be a significant and unavoidable impact. The project would have a similar impact.

Geology, Soils, and Paleontology

Alternative 2 would allow development in accordance with the existing building codes. Statutory and regulatory requirements under the California Building Codes for site testing and geotechnical report preparation where needed to avoid adverse effects on new development will avoid potential impacts due to geology and soils. This alternative would have a less-than-significant impact with Mitigation Measures GEO-2a and 2b. The project's impact would be similar. Alternative 2 would have the potential to disrupt paleontological resources, although to a lesser degree than the project because Alternative 2 reduces the amount of land available for future residential development. With Mitigation Measure GEO-6, the impact of Alternative 2 would be less than significant.

Greenhouse Gas Emissions and Energy

Alternative 2 would incorporate into the general plan those policies of the RTP/SCS that are reasonably within the County's authority to enforce. In addition, because it reduces the potential for residential development in the four community plan areas, this alternative would reduce GHG emissions and energy use in comparison to the project. However, Alternative 2 would still increase net greenhouse gas emissions over existing conditions and therefore have a significant effect.

California's strict statutory and regulatory energy conservation standards have resulted in California having the second lowest per capita energy use in the nation (U.S. Energy Information Administration 2014). Vehicle fuel use will decrease in the future due to increasingly stringent auto and truck fleet fuel efficiency standards. Future development under Alternative 2 would be required to meet these standards and therefore would not be inefficient, wasteful, or unnecessary in its use of energy. This would be the same less-than-significant impact as the project.

Hazards and Hazardous Materials

Alternative 2 would allow development in locations generally in accordance with the general plan. This could expose a small number of future residences to 200-year flood hazard, a significant and unavoidable impact. Hazardous materials handling and storage is subject to state and federal requirements, as administered and enforced by the County Environmental Resources Department in its role as the Certified Unified Program Agency. The alternative's impact from hazardous materials would be less than significant. These impacts are the same as the project's.

Hydrology and Water Quality

Alternative 2 would reduce the extent of development allowed under the existing general plan. Development will occur in accordance with the requirements of the Central Valley RWQCB, so impacts on water quality from construction would not likely result in significant impacts. New development would require additional water supplies while the county is in an existing condition of groundwater overdraft. This would result in a significant and unavoidable impact on groundwater. However, because the amount of development is less than under the project, this alternative would have a somewhat smaller impact than the project.

Land Use and Planning

Alternative 2 would reduce the extent of development allowed under the existing general plan. It would not result in land use conflicts or divide existing communities. The impact would be less than significant.

Mineral Resources

Alternative 2 would allow reduce the extent of development allowed under the existing general plan. The general plan contains policies protecting known mineral resources (see Policies Twenty-Six and Twenty-Seven of the Conservation/Open Space Element). This alternative would not result in a foreseeable impact on mineral resources. Its impact would be the same as the project's.

Noise

Alternative 2 would reduce the extent of development allowed under the existing general plan. Increased levels of traffic on new and existing roads would increase noise levels along those roads, and would foreseeably result in significant and unavoidable noise impacts on sensitive receptors t located close to those roads. This would be a significant and unavoidable impact. Because it the potential for new residential development, the alternative would generate somewhat less traffic, would introduce fewer residences to traffic noise (although traffic noise would not be expected to be severe in these portions of the community plan areas), and therefore have a lesser impact than the project.

Population and Housing

Alternative 2 would reduce the extent of development allowed under the existing general plan. It will not, however, stop growth within Diablo Grande, Salida, and on rural lots. This would result in a significant and unavoidable impact on population growth. The general plan does not require the removal or displacement of any housing. Therefore, that impact would be less than significant. Over time, this alternative's reduction in residential development potential may hinder the county's ability to meet its future regional housing needs allocations. For that reason, the impact of this alternative is greater than the project's.

Public Services

Alternative 2 would reduce the extent of development allowed under the existing general plan. New public facilities would need to be built to accommodate the increased population, but fewer facilities would be needed than necessary to serve the project. Some of these facilities would have the potential to result in significant and unavoidable impacts. Therefore, this alternative would have a significant and unavoidable impact on public services, but to a lesser degree than the project.

Recreation

Alternative 2 would reduce the extent of development allowed under the existing general plan. Because the County imposes requirements for park and recreation facilities on new subdivisions, the impact is expected to be less than significant. This impact would be the same as the project's.

Transportation and Traffic

Alternative 2 would reduce the extent of development allowed under the existing general plan. Nonetheless, new housing and commercial/industrial development would result in additional vehicles being added to the road system. This would be a significant and unavoidable impact on those portions of the road system where traffic congestion increases to unacceptable levels. By virtue of its smaller development potential, Alternative 2 would generate somewhat less traffic than the proposed project.

Utilities and Service Systems

Alternative 2 would reduce the extent of development allowed under the existing general plan. Nonetheless, development would likely exceed the capacity of water and wastewater treatment facilities in some parts of the county, requiring the installation and operation of new facilities that could result in significant effects. This impact would be significant and unavoidable. By virtue of its smaller development potential, Alternative 2 would require fewer facilities than the proposed project and its impact would be proportionally less than the project.

4.6 Environmentally Superior Alternative

CEQA requires an EIR to examine a range of feasible alternatives to the project. State CEQA Guidelines Section 15126.6(e)(2) requires that the EIR identify which of those alternatives is the environmentally superior alternative. If the No-Project Alternative is the environmentally superior alternative, then CEQA requires an EIR to identify which of the other alternatives is environmentally superior.

Based on the assessment included in this chapter, Alternative 2—Reduced Developable Area, would be considered the environmentally superior alternative because it would result in lesser impacts in relation to the project in several resource areas. In comparison to the project, this alternative somewhat reduces impacts on aesthetics, air quality, biological resources, greenhouse gas emissions, hydrology and water quality, noise, public services, transportation and traffic, and utilities and service systems. However, many of those impacts would be significant and unavoidable even under Alternative 2. Table 4-1 compares the impacts of the alternatives (considered to be the change from existing conditions) to the severity of that impact in comparison to the project.

Table 4-1. Comparison of Alternatives' Environmental Impacts

Impact Topic	Alternative 1—No Project		Alternative 2—Reduced Developable Area	
Aesthetics	SU	(S)	SU	(L)
Agricultural Resources	LTS	(S)	LTS	(L)
Air Quality	SU	(S)	SU	(L)
Biological Resources	SU	(S)	SU	(L)
Cultural Resources	SU	(S)	SU	(S)
Geology, Soils, and Paleontology	LTS	(S)	LTS	(S/L)
Greenhouse Gas Emissions and Energy	SU	(G)	SU	(L)
	LTS	(S)	LTS	(S)
Hazards and Hazardous Materials	SU	(S)	SU	(S)
			LTS	(S)
Hydrology and Water Quality	SU	(S)	SU	(L)
Land Use and Planning	LTS	(S)	LTS	(S)
Mineral Resources	LTS	(S)	LTS	(S)
Noise	SU	(S)	SU	(L)
Population and Housing	SU	(S)	SU	(G)
Public Services	SU	(S)	SU	(L)
Recreation	LTS	(S)	LTS	(S)
Transportation and Traffic	SU	(G)	SU	(L)
Utilities and Service Systems	SU	(S)	SU	(L)

(G) = impact greater than the project
(L) = impact less than the project
(S) = impact the same as the project

4.7 References Cited

Printed References

California Department of Conservation. 2013. Division of Land Resource Protection. *Table A-41. Stanislaus County 2010–2012 Land Use Conversion. Farmland Mapping and Monitoring Program*. http://www.conservation.ca.gov/dlrp/fmmp/Pages/Stanislaus.aspx. Accessed: December 28, 2014.

U.S. Energy Information Administration. 2014. *California Energy Profile*. Last updated: July 17, 2014. Available: http://www.eia.gov/state/print.cfm?sid=CA. Accessed: December 30, 2014.

Chapter 5
Other CEQA Considerations

5.1 Overview

This chapter contains discussions of additional topics required by CEQA, including cumulative impacts, growth inducing impact, significant and unavoidable impacts, and significant irreversible environmental changes.

5.2 Cumulative Impacts

Cumulative impacts result from individually minor, but collectively significant, impacts occurring over a period of time. In other words, a cumulative impact results from the collective effects on a resource by numerous activities over time.

State CEQA Guidelines Section 15130 requires that an EIR include a discussion of the potential cumulative impacts of a proposed project. Cumulative impacts are defined as two or more individual effects that, when considered together, are significant. The cumulative impact is the change in the environment that results from the incremental impact of the development when added to the incremental impacts of other closely related past, present, and reasonably foreseeable or probable future activities.

As defined in State CEQA Guidelines Section 15355, "…a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact."

An adequate discussion of significant cumulative impacts is based on either:

- A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or
- A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document, which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

The cumulative impact analysis in this EIR relies upon the projections approach. Unless so stated, it considers the potential for the project to make significant contributions to cumulative impacts at the horizon year of the General Plan in 2035.

The determination of a project's cumulative effects involves identifying the following:

- Significant impacts that are the result of the cumulative contributions of past, present, and reasonably probable future activities. CEQA does not require analysis of cumulative effects that are less than significant.
- Whether the project would contribute to any of those cumulative impacts. The EIR is not required to analyze a cumulative impact to which the project would not contribute.
- Whether, in the context of the cumulative impact, the project's contribution would be considerable – that is, significant, in cumulative terms. A project impact that is less than significant by itself may nonetheless make a considerable contribution in the context of a cumulative impact.

The following significant cumulative impacts are present or will be present in Stanislaus County during the 2035 planning period.

- Agricultural resources—conversion of land to non-agricultural uses
- Air quality—worsening air quality
- Biological resources—habitat and movement corridor losses
- Noise—increase in noise along roads
- Recreation—shortage of park lands
- Traffic—marginal increase in congestion
- Water resources—groundwater overdraft

5.2.1 Agricultural Resources

As discussed in Section 3.2, Agricultural Resources, agriculture is an important part of the economy and environment of Stanislaus County. Since the FMMP began recording changes in land use in 1984, it has documented a steady trend of farmland conversion throughout the San Joaquin Valley. In Stanislaus County, this has largely affected areas adjoining the cities of Modesto, Ceres, and Patterson, including unincorporated Salida.

FMMP data for the period between 1984 and 2012 indicates that a substantial amount of prime farmland was converted to other non-agricultural uses each year. During that period approximately 42,308 acres of prime farmland were converted to other uses. This trend is expected to continue into the future as the cities grow pursuant to their general plans and development occurs in the Salida community. The 2014 Regional Transportation Plan/Sustainable Communities Strategy estimates that by 2040 development within the county, including the incorporated cities, will consume approximately 13,550 acres of prime farmland. (Stanislaus Council of Governments 2014)

In response to the loss of farmland, Stanislaus County has adopted general plan policies intended to minimize the conversion of agricultural land and to encourage continued agricultural activity (see Section 3.2, Agricultural Resources). The Stanislaus County LAFCO has similarly adopted policies to discourage the premature conversion of agricultural land to urban uses. Further, county voters enacted Measure E in November 2007, which provides that land designated as agricultural or open space in the Land Use Element cannot be amended to residential or rezoned to residential use without the approval of a majority of county voters. These policies are intended to direct new

development away from unincorporated agricultural areas and into the cities or lands within cities' spheres of influence.

The provisions of the general plan, Measure E, and the Stanislaus LAFCO policies all act to reduce the potential for development under the general plan to result in the conversion of prime agricultural land to other uses. In particular, Measure E restricts the future conversion of much of the lands adjoining the unincorporated communities. However, future development in the community of Salida, which is located on prime agricultural land, will result in the conversion of that land. Salida's development is based on a 2007 voter-enacted initiative that adopted the Salida Community Plan and related development entitlements. It is not related to, nor can it be altered by, the project.

The project does not propose new zoning or changes to the land use map or the existing boundaries of the land use designations. Additionally, the ALUCP proposes changes to policies that would not affect current land use patterns. Furthermore, any development projects proposed in agricultural areas of the county would continue to be reviewed for consistency, thereby ensuring that they would not lead to the conversion of land from agricultural use to residential, commercial, or other uses that would be inconsistent with existing agricultural production. This review includes abiding by county Measure E, which requires a majority of voters to approve the rezoning or redesignation of land uses from agricultural to residential. Therefore, the project would not make a considerable contribution to the cumulative impact on agricultural resources.

5.2.2 Air Quality

The analysis in Chapter 3.3, Air Quality, is an examination of both the project's individual and cumulative impacts. This is because the analysis considers the project's contribution to future air emissions within the entire San Joaquin Valley Air Basin, based on the air quality planning efforts and thresholds of significance of the SJVAPCD. As discussed in Chapter 3.3, future construction under the General Plan, including the amendments contained in the project, would have a significant and unavoidable impact on air quality. The project would therefore make a considerable contribution to cumulative conditions.

5.2.3 Biological Resources

A significant cumulative impact on fish and wildlife movement exists due to the loss of riparian habitat along the Stanislaus and Tuolumne Rivers as a result of prior development, the narrowing of the movement corridor west of I-5 as a result of that highway, and future projects within the county, including those in the incorporated cities and on lands within the cities' spheres of influence, reflected in the county and city general plans.

The cities' general plans provide for future growth into areas, such as the Stanislaus River, Tuolumne River, and Dry Creek corridors, that are currently undeveloped and provide movement corridors for fish and wildlife. Unincorporated areas planned for future development around East Oakdale, Del Rio, Salida, and the planned highway commercial development at I-5 and Howard Road could interfere with the movement of fish and wildlife through encroachment upon the riparian corridors of the Stanislaus River (East Oakdale, Del Rio, and Salida) and with the movement of wildlife, in particular San Joaquin kit fox, west of I-5 (highway commercial development). Infill development in the unincorporated area adjoining Modesto could affect wildlife movement along the Tuolumne River.

Considering the past and future loss of riparian habitat and the proximity of development and agricultural lands to these rivers, and the already narrow movement corridor west of I-5, the impacts from the project on wildlife movement corridors would be cumulatively considerable.

5.2.4 Noise

Impact NOI-1 in section 3.12 describes the significant cumulative noise impact of future development. The projected traffic noise levels shown in Table 3.12-14 are based on noise modeling that considers future development under the county and city general plans and the related increase in traffic resulting from that planned development. Noise levels along several road segments are forecasted to exceed the county's noise standards, resulting in a cumulative impact.

New residences and other noise-sensitive land uses constructed on roadway segments with traffic that equals or exceeds 60 L_{dn} will not be exposed to excessive noise. Implementation Measure 1 in the general plan Noise Element will limit the exposure of new noise-sensitive development to traffic noise to a level determined to be acceptable by the county. Noise impacts from traffic on new development would be avoided and the project's contribution is therefore not cumulatively considerable.

However, the project, by virtue of increasing traffic and the resultant noise along roadway segments, will expose existing noise sensitive land uses to excessive noise levels along the road segments identified in Table 3.12-14. The County does not have a program for mitigating noise impacts affecting existing sensitive receptors. Therefore, this impact would be cumulatively considerable.

5.2.5 Recreation

Projects that involve residential development would increase the park-user population in the county. To maintain adequate service ratios, the construction or expansion of park facilities would be required, which would have the potential to result in an adverse impact on the environment. Other jurisdictions will also build new or expand existing park and recreation facilities.

Projects that involve residential development have the potential to increase the use of existing neighborhood and regional parks. An increase in the use of existing neighborhood parks would have the potential to accelerate the physical deterioration of recreational facilities substantially. Three of the four largest cities in the county, Modesto, Ceres, and Riverbank, all face a shortfall in neighborhood and/or community parks. Oakdale has an adequate amount of parkland.

Modesto has more total acres of parkland than the city's general plan requires, but it does not meet the minimum acreage requirement for neighborhood parkland. According to the city's general plan, the city should have two acres of neighborhood parks and one acre of community parks per 1,000 residents (City of Modesto 2008a:V30). The city currently has 328 acres of neighborhood parks and 442 acres of community parks, totaling 770 acres (Gallagher pers. comm.). Based on the 2013 population of 204,933 residents (U.S. Census Bureau 2014c), the city should have approximately 410 acres of neighborhood parks and 205 acres of community parks, or a total of 615 acres of parks.[1]

[1] 204,933/1,000=204.93 (204.93*2=409.86 acres of neighborhood parks; 204.93*1=204.93 acres of community parks).

Ceres also faces a shortage in neighborhood and community parks. The city's general plan requires 1.4 acres of neighborhood parks and 2.6 acres of community parks per 1,000 residents (City of Ceres 1997:5-2). It has 38 acres of neighborhood parks and 85 acres of community parks (Butler pers. comm.). With a 2013 population of 46,714 (U.S. Census Bureau 2014a), it should have 65 acres of neighborhood parks and 121 acres of community parks.[2]

Riverbank had approximately 88 acres of city parkland in 2008 but should have had a total of 99 acres to meet its general plan standard of five acres per 1,000 residents (EDAW 2008:4.14-7).

Oakdale has an adequate amount of parkland, with 143 acres of existing parks (Clark pers. comm.). With 21,469 residents (U.S. Census Bureau 2014b) and a general plan standard of five acres per 1,000 residents (City of Oakdale 2013:CS-8), it should have a minimum of 107 acres.[3]

In some instances, such as a regional park, the park has the potential to contribute to a significant cumulative impact, such as a traffic, noise, or biological resources impact. It is reasonably foreseeable that a large park could make a considerable contribution to a cumulative impact, such as a traffic, noise, or biological resources impact, where a cumulative impact exists or would occur. The potential for cumulative impacts is increased by the contributions of future city park and recreation facilities. Thus, this impact of the general plan update would be cumulatively considerable.

Growth within the county would result in a need for additional neighborhood parks. Any new subdivisions would need to comply with Policy Twelve of the general plan and provide three acres of neighborhood parks per 1,000 residents. Implementation of this policy would avoid a cumulatively considerable contribution.

5.2.6 Traffic/Transportation

Based on the StanCOG model estimate of vehicle trips in Stanislaus County, build-out of the General Plan to 2035 would result in the unincorporated area generating approximately 34% of the total VMT generated in Stanislaus County (excluding regional through trips). The impacts of planned development in the unincorporated area represent a portion of the total vehicle trips on the roadway network that will contribute to increases in daily traffic volumes. The general plan update would change the standard to peak hour LOS D for county roadways and LOS C at all county intersections, while retaining the exception for roads within the sphere of influence of a city. Based on the LOS identified in Table 3.16-2, no county roadways would exceed the LOS standard. There is no significant cumulative traffic impact on county roads. Therefore, the contribution of the general plan update is not considerable.

Development under the General Plan, as amended by the project, will contribute to future congestion on the state highway system on segments of SR 120, Hwy 99, and SR 132 exceeding the concept level LOS in the Caltrans "Transportation Concept Reports" for SR 108, SR 120, and SR 132 and the "Corridor System Management Plan" for Hwy 99. (California Department of Transportation 2014a, 2014b, 2011a, 2011b) The forecasted levels of congestion, based on the Three-County Model travel demand model, are illustrated in Table 3.16-2. This is a significant cumulative impact.

[2] 46,714/1,000=46.71 (46.71*1.4 = 65.4 acres of neighborhood parks; 46.71*2.6= 121.45 acres of community parks).
[3] 21,469/1,000=21.47 (21.47*5=107 acres).

Future congestion on the state highway system will result from traffic generated within the county, including the incorporated cities, and traffic that is traveling through the county. The project will not have a significant individual impact on the system, but it will make a considerable contribution to the cumulative impact on the state highway system. Current Circulation Element Goal Two, Policy Nine and the associated implementation measures commit the county to coordinating with other agencies to upgrade existing state highways. This will reduce the county's contribution, but not to the extent that it will not be considerable.

5.2.7 Water Supply

Groundwater overdraft from pumping and drought conditions is an ongoing problem in Stanislaus County. Past increases in population and corresponding increases in groundwater use, combined with agricultural demands on the groundwater supply, have resulted in a lower groundwater table in some areas of the Modesto Subbasin and may have contributed to groundwater degradation, especially within the boundaries of the City of Modesto. The 2014 Regional Transportation Plan/Sustainable Communities Strategy estimates that by 2035 the county population (including the incorporated cities) will increase by 170,000 persons and 52,000 households (Stanislaus Council of Governments 2014). Future development under the county and city general plans, particularly in urban areas and the community of Salida, will result in increased demand and reliance on groundwater to supplement surface water supplies.

Impacts on groundwater from future development would be reduced by implementation of the general plan update. Implementation of the proposed amendment to Goal Two, Policy Eight of the Conservation/Open Space Element and the related amended and new Implementation Measures would result in the development of a groundwater usage tracking system, including well location/construction mapping (within the extent that prevailing law allows) and additional groundwater level monitoring, to guide future policy development. This tracking system would minimize the potential for additional overdraft that could result in subsidence and groundwater quality issues. In addition, statewide groundwater management legislation passed in 2014 (Assembly Bill 1739 and Senate Bill 1168) will result in the preparation of a regional groundwater management plan by water districts and Stanislaus County acting as the regional groundwater sustainability agency. This groundwater sustainability plan is anticipated to specify specific actions to avoid overdraft throughout each of the subbasins within the county within 20 years of the implementation of the plan. (Water Code Section 10727.2[b] and [d]) Proposed Implementation Measures 6 through 8 under Goal Two, Policy Eight would commit the County to regional cooperation in the preparation of the groundwater sustainability plan and the dissemination of groundwater information to guide future planning activities. Government Code Section 65352.5 requires the County to consider the groundwater sustainability plan, once it is adopted, whenever proposing to amend its general plan.

Groundwater depletion is a severe problem. Although most of the forecasted development within Stanislaus County will occur within its cities, development under the general plan and the general plan update will contribute to the ongoing and future problem during the 2035 planning period. Therefore, the project's contribution is considerable.

5.3 Growth Inducing Impact

CEQA requires a discussion of the ways in which the project would be growth-inducing. State CEQA Guidelines Section 15126.2(d) identifies a project as growth-inducing if it fosters economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. The project will not directly authorize new development and therefore will not directly induce growth. However, it could indirectly induce growth by removing barriers to growth, by creating a condition that attracts additional population or new economic activity, or by providing a catalyst for future growth in the area. While these proposals may have a potential to induce growth, they do not automatically result in growth. Growth can happen only through capital investment in new economic opportunities by the public or private sectors.

Typically, the growth-inducing potential of a project is considered significant if it fosters growth or a concentration of population in excess of the existing setting or baseline. Growth may be induced through the provision of infrastructure or service capacity that would accommodate new development.

By law, Stanislaus County is required to adopt "a comprehensive, long-term general plan for the physical development of the county" (Government Code Section 65300). The general plan's housing element is required to include:

> An identification and analysis of existing and projected housing needs and a statement of goals, policies, quantified objectives, financial resources, and scheduled programs for the preservation, improvement, and development of housing. The housing element shall identify adequate sites for housing, including rental housing, factory-built housing, mobile homes, and emergency shelters, and shall make adequate provision for the existing and projected needs of all economic segments of the community. (Government Code Section 65583)

On a regular basis (now every 8 years), the Stanislaus Council of Governments (StanCOG) prepares the Regional Housing Needs Allocation and adopts the associated Regional Housing Needs Plan (RHNP) that establishes the share of projected future housing growth that Stanislaus County must accommodate in its general plan for the period of January 1, 2014, through September 30, 2023. Unincorporated Stanislaus County's regional housing share under the 2014 RHNP totals 2,241 dwelling units for all income categories (Stanislaus Council of Governments 2014). By law, the general plan must include provisions for at least this level of growth. The current housing element is based on the prior assigned RHNP share and will be amended to account for the new allocations.

Based on the definition of growth inducement, a general plan is inherently growth-inducing because it must accommodate at least the projected housing demand set out in the RHNP. The current General Plan and the proposed project will provide the framework by which public officials will be guided in making decisions relative to future development in Stanislaus County.

5.4 Significant and Unavoidable Impacts

Section 15126.2(a)(b) of the State CEQA Guidelines requires an EIR to identify and focus on the significant environmental effects of the proposed project, including effects that cannot be avoided if the proposed project were implemented. Each of the preceding impact sections (3.1 through 3.17) has identified those significant impacts that cannot be reduced below a level of significance. The significant, unavoidable impacts are:

- Impact AES-3: Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area
- Impact AQ-1: Generate construction-related emissions in excess of SJVAPCD thresholds
- Impact BIO-4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (including cumulatively considerable impact)
- Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5
- Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5
- Impact HYD-2: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted) (including cumulatively considerable impact)
- Impact NOI-1: Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies (including cumulatively considerable impact)
- Impact REC-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated (including cumulatively considerable impact)
- Impact TRA-3: Result in traffic operations below the minimum acceptable thresholds on roadways outside Stanislaus County's jurisdiction (i.e., Caltrans facilities)
- Impact TRA-6: Result in transportation network changes that would prevent the efficient movement of goods within the county (including cumulatively considerable impact)
- Impact TRA-8: Create additional vehicle, bicycle, or pedestrian travel on roadways or other facilities that do not meet current county design standards
- Impact UTL-2: Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Impact UTL -5: Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments

The reader is directed to the various impact sections in Chapter 3 of this EIR for a more detailed discussion of each of these significant, unavoidable impacts.

5.5 Significant Irreversible Environmental Changes Which Cannot Be Avoided if the Project is Implemented

State CEQA Guidelines Section 15126.2 requires that the EIR for a general plan amendment must address any significant irreversible environmental change that would result from implementation of that amendment. Specifically, per the Guidelines (Section 15126.2[c]), such an impact would occur if:

- The project would indirectly involve a large commitment of nonrenewable resources;
- Irreversible damage can result from environmental accidents associated with the project; and
- The proposed consumption of resources is not justified.

Approval and implementation of actions related to the project would be typical of these sorts of land use planning and regulatory actions. They will result in an irretrievable commitment of nonrenewable resources such as fossil fuel-based energy supplies and construction-related materials as a result of future development that would occur pursuant to the general plan update. The energy resource demands would be used for construction, heating and cooling of buildings, transportation of people and goods, heating and refrigeration, lighting, and other associated energy needs.

Environmental changes with implementation of the project would occur as the physical environment is altered through continued commitments of land and construction materials to urban and rural development. There would be an irretrievable commitment of labor, capital, and materials used in construction and a permanent loss of open space over time. Nonrenewable resources would be committed primarily in the form of fossil fuels and would include oil, natural gas, and gasoline used to support the additional development associated with implementation of the General Plan.

The consumption of other nonrenewable or slowly renewable resources would result from the development associated with the project. These resources would include, but are not be limited to, lumber and other forest products, sand and gravel, asphalt, steel, copper, and water. Although alternative energy sources such as solar, geothermal, or wind energy are in use in the county, the proportion of energy generated by these sources is so much smaller than the proportion generated by fossil fuel sources that it is unlikely that real savings in nonrenewable energy supplies (e.g., oil and gas) could be realized in the immediate future.

Development in unincorporated Stanislaus County as envisioned by the project would result in the construction of structures, facilities, or infrastructure on lands that are currently undeveloped. Development of lands generally would result in their future and permanent commitment to urban, suburban, or rural uses.

5.6 References Cited

California Department of Conservation. 2013. *Historic Land Use Conversion 1984 to _Present.* Available: http://www.conservation.ca.gov/dlrp/fmmp/Pages/Stanislaus.aspx. Accessed: April 2, 2015.

Stanislaus Council of Governments (StanCOG). 2014. *Final Regional Housing Needs Plan for Stanislaus County 2014-2023*. Modesto, CA. June 18.

Chapter 6
List of Preparers

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David Buehler, Acoustical Engineer. B.S., Civil Engineering, California State University, Sacramento. 34 years of noise analysis experience. Contribution: Noise section.

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Shannon Hatcher, Air Quality, Climate Change, and Noise Project Manager. B.S., Environmental Science, Oregon State University; B.S., Environmental Health and Safety, Oregon State University; 15 years experience. Contribution: Air Quality and Climate Change Peer Review.

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Appendix A

Notice of Preparation

NOTICE OF PREPARATION OF
A DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT (EIR)
AND NOTICE OF PUBLIC SCOPING MEETING
FOR THE
STANISLAUS COUNTY GENERAL PLAN UPDATE
AND STANISLAUS COUNTY AIRPORT LAND USE COMPATIBILITY PLAN

Date: April 29, 2014

The County of Stanislaus (County) will be the Lead Agency under the California Environmental Quality Act (CEQA) for preparation of an Environmental Impact Report (EIR) for the proposed 2014 updates of the General Plan and Airport Land Use Compatibility Plan (ALUCP) (hereafter referred to as "Project") The purpose of this Notice of Preparation is to solicit comments from public agencies and interested parties on the proposed scope and content of the Draft EIR for the project. The proposed Project, its location, and potential environmental effects are summarized below.

Written comments should be submitted at the earliest possible date, but not later than June 6, 2014. Keep in mind that there will be another opportunity to submit detailed comments when the Draft EIR is released for public review. Submittal of electronic copies of comments in MS Word format is appreciated. Please mail or send your comments to:

Kristin Doud, Associate Planner
Stanislaus County
Planning and Community Development Department
1010 10th Street, Suite 3400
Modesto, CA 95354
doudk@stancounty.com

Scoping Meeting On May 19, 2014, the County will conduct two "scoping meetings" on the EIR to provide additional information and to receive verbal and written input from agencies and the public. The scoping meeting for Responsible and Trustee agencies, and other interested agencies will take place at 3 p.m. The scoping meeting for the general public will follow, at 6 p.m. The scoping meetings will include a brief overview of the Project to provide attendees context for environmental concerns, followed by the opportunity to provide comments on what should be included in the EIR to be prepared for the Project. The scoping meetings will be held at the following locations:

Agencies
Harvest Hall (Room DE)
3800 Cornucopia Way
Modesto, CA

Date and Time: May 19, 2014, 3:00 p.m.

General Public
Harvest Hall (Room DE)

3800 Cornucopia Way
Modesto, CA

Date and Time: May 19, 2014 6:00 p.m.

NOTICE OF PREPARATION OF

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Project Location

The proposed 2014 General Plan Update will apply county-wide, with the exception of the incorporated cities and state or federal lands. The County is illustrated in Figure 1.

The Stanislaus County ALUCP contains the individual Compatibility Plan for three airports in Stanislaus County: The Modesto City-County Airport, the Oakdale Municipal Airport, and the former Crows Landing Air Facility. Geographically, the ALUCP pertains to portions of unincorporated areas within Stanislaus County, together with portions of the cities of Modesto, Oakdale, Ceres, and Patterson. Special districts, school districts, and community college districts within those jurisdictions are also subject to the provisions of the ALUCP. The proposed ALUCP will incorporate the existing Compatibility Plan for the Crows Landing Air Facility, which is being updated under a separate process.

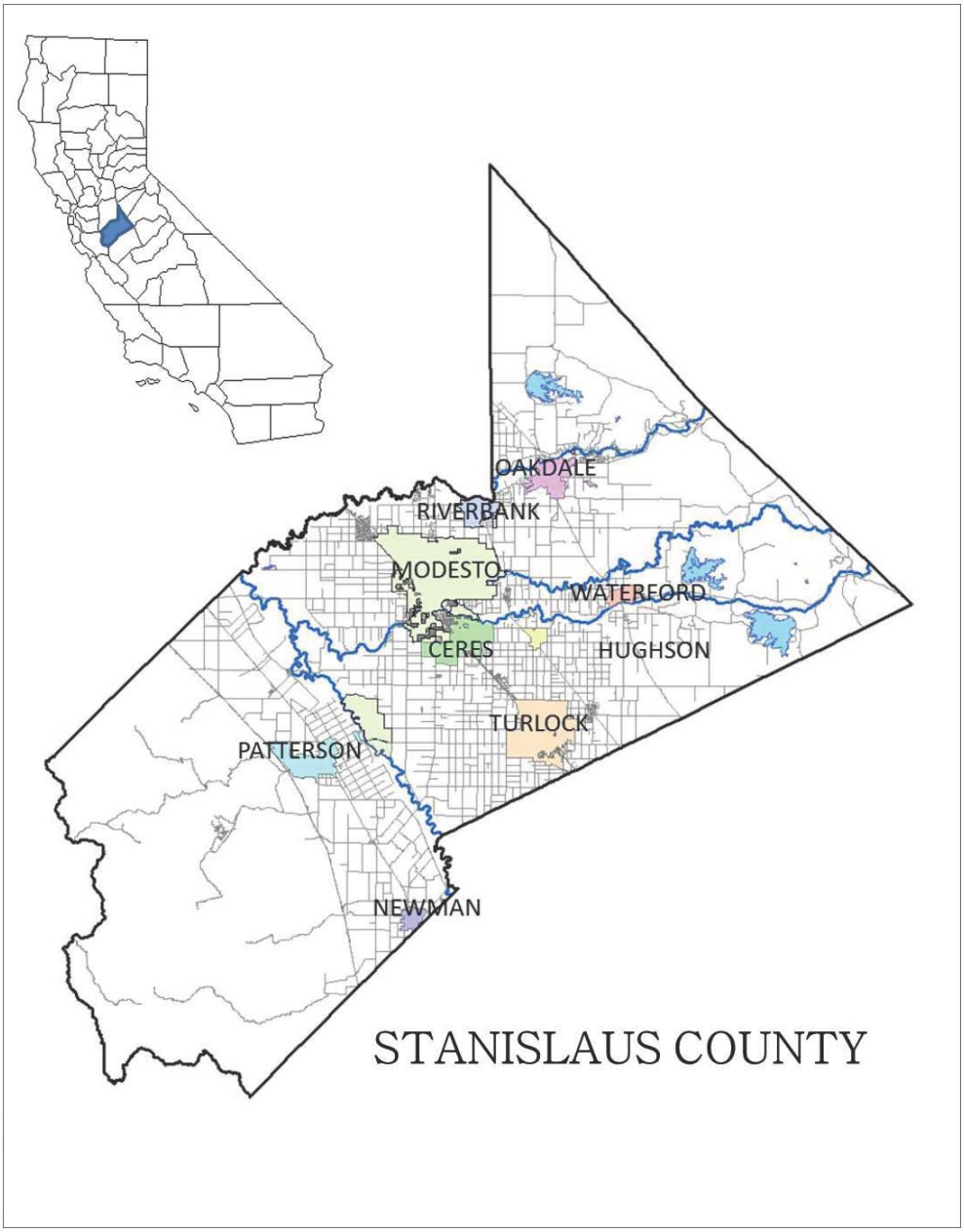

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Figure 1
Stanislaus County

2014 General Plan Update

California Government Code Section 65300 requires every city and every county throughout California to develop and adopt a comprehensive, long-term general plan to guide physical development within that jurisdiction. The general plan elements should be comprised of "integrated, internally consistent and compatible" policy objectives. The general plan must include seven mandatory elements including: Land Use, Circulation, Housing, Open Space, Conservation, Safety, and Noise. Each jurisdiction may opt to include additional elements as needed.

Stanislaus County adopted the most recent comprehensive update to its General Plan in 1994. The General Plan combines the required Open Space and Conservation Elements due to their interrelated content. It also includes one optional element, the Agricultural Element.

The proposed update of the General Plan has a 20-year planning horizon (to 2035) and utilizes the population projections adopted by the Stanislaus Council of Governments (StanCOG) for the 2014 Regional Transportation Plan/Sustainable Communities Strategy. The update does not include any changes in Land Use map designations, but rather is a 'clean up' of the General Plan to incorporate changes in state law, code, and local standards. The update also includes revisions to General Plan language and some new goals/policies/implementation measures designed to enhance and support existing goals/policies/implementation measures. The 2014 General Plan Update is limited to revisions to the following elements:

- Land Use
- Circulation
- Conservation/Open Space
- Noise
- Safety

The current Housing Element, originally adopted in 1992, had a major update/certification in 2012 and the Agricultural Element, originally adopted in 1992, had a major update in 2007. These elements are being updated through separate processes that are not part of the 2014 General Plan Update.

A number of legislative changes that have occurred since the last update to the general plan are being integrated into the 2014 General Plan Update including:

- 2003 Assembly Bill (AB) 170– Air quality and land use
- 2003 AB 32 - Greenhouse gas reduction
- 2007 Senate Bill (SB) 375 – Sustainable Communities Strategy
- 2007 AB 162/SB/AB 5 – 200-Year floodplain protection
- 2011 AB 359 – Groundwater recharge mapping
- 2011 SB 244 – Disadvantaged communities

- 2011 AB 26 – Dissolution of Redevelopment Agencies

In addition to changes addressing agency names/organizational structures/responsibilities, changes to local codes, standards, and management plans, minor language and formatting revisions, and Airport Land Use Compatibility Plan consistency, below is a summary of the changes that are proposed in the 2014 General Plan Update:

Land Use Element

A number of changes in the Land Use Element centering on unincorporated communities are being proposed, including:

- Updating language to reflect the elimination of California redevelopment agencies; however, the General Plan still recognizes the need for "redevelopment" in the context of upgrading existing community infrastructure through the renovation of existing development and new infill development;

- Strengthening the need for adequate service (e.g. water and sewer) capacity for new development;

- Adding policy language to encourage new development to be designed to allow for the upgrading of services;

- Adding policy language to encourage unincorporated communities to establish "self-help" programs (such as assessment districts); and

- Including an assessment of the infrastructure needs of "disadvantaged communities" (to be incorporated with the General Plan Update draft that will be released with the draft EIR).

In addition, policies have been revised and added to:

- Support efforts to direct economic development and job creation centers towards cities, while also considering approval of centers in unincorporated areas of unique character and proximity to transportation infrastructure and to encourage reuse of the Crows Landing Air Facility as a regional jobs center;

- Require effective levels of public service (water and wastewater) for development;

- Encourage coordination with cities in identifying opportunities to develop uniform development standards within city spheres of influence and along major county-defined gateways to cities;

- Requiring discretionary development projects that are located outside the sphere of influence of cities, but within one mile of a city's adopted sphere of influence boundary and within a city's adopted general plan area, to be referred to that city for consideration. However, the County maintains its authority over discretionary actions;

- Encourage County participation in developing a county-wide growth management strategy;

- Promote and protect healthy living environments and to encourage development that:
    - decreases air and water pollution
    - reduces the consumption of natural resources and energy
    - increases the reliability of local water supplies
    - facilitates alternative modes of transportation
    - promotes active living
- Promote the extension of public transportation systems and efforts to improve the siting of local health care options.

In addition, clarifying language has been added to the Salida Community Plan section of the Land Use Element to reflect the Salida Area Planning, Road Improvement, Economic Development, and Farmland Protection Initiative's 2007 date of adoption and term limits, and to clarify the process for making amendments to the Initiative.

Circulation Element

The Circulation Element has been amended to include new "Road Classifications" consistent with the United States Department of Transportation, Federal Highway Administration's (FHWA) naming standard and to incorporate changes to the right-of-way standards to allow Public Works more discretion in constrained rights-of-way. The Standard Specifications for each of the new road classifications will be updated as part of the Environmental Review, as necessary.

Policies have also been added to encourage development with multiple points of ingress and egress to aid in traffic flow and pedestrian accessibility, to encourage alternatives to on-site parking standards, including shared driveways and reciprocal access agreements, and to encourage development that provides a safe, comprehensive, and coordinated transportation system that includes a broad range of transportation modes.

Conservation and Open Space Element

Implementation measures have been revised and added to the Conservation and Open Space Element to encourage the establishment of scenic corridors, riparian habitat/vernal pool mitigation, the development of resort services in recreation areas, landfill waste material diversion, and to meet the requirements of AB 359 (2011) which requires jurisdictions to map groundwater recharge areas.

Revisions have been incorporated to specifically reduce conflicts between habitat areas and Airport Influence Zones for consistency between the General Plan and ALUCP.

Implementation measures have been incorporated to support the development and implementation of water management strategies through monitoring, coordinated data collection, promoting of water resource management tools, and supporting the formation of water management plans.

Noise Element

The Noise Element has been revised to aid in the enforcement of the Noise Ordinance and to ensure consistency between the Noise Element, the Noise Ordinance, and the updated ALUCP.

Safety Element

The Safety Element has been revised to reflect flood protection legislation affecting development of urban areas within the 200-year flood plain. Policy and implementation measures supporting safety hazard overlay zones and air strip easements have also been added.

Background information for each of the General Plan Elements affected by this 2014 General Plan Update is provided in the Stanislaus County General Plan - Support Documentation which will be updated as part of the EIR preparation. The current Support Document is available on-line: http://www.stancounty.com/planning/pl/general-plan.shtm

Airport Land Use Compatibility Plan (ALUCP) Update

The update to the General Plan is taking place in conjunction with an update to the County's ALUCP. The ALUCP protects public health, safety and welfare by: ensuring orderly expansion of airports; and adopting land use measures to minimize public exposure to noise and safety hazards within areas around public airports to the extent that the areas are not already devoted to incompatible uses. The ALUCP provides polices/plans for each public use airport (separate plans). Policies of the ALUCP have been coordinated with General Plan policy. The ALUCP update addresses land uses/changes around each airport and provides a 20-year planning horizon; using the pertinent Airport Layout Plan (ALP), Master Plan, or airport diagram as a foundation.

Level of Detail for the Environmental Analysis in the Draft EIR

The EIR will analyze the reasonably foreseeable direct and indirect physical environmental effects that could result from implementation of the proposed 2014 General Plan and ALUCP Updates. Because no specific development projects are being proposed, the analysis will not be parcel-specific.

Scope of the EIR– Potential Significant Effects

The following list of potentially significant effects is not intended to be comprehensive. The Draft EIR may address additional impacts as a result of the comments received on the Notice of Preparation, the scoping meetings, or new information.

Potentially Significant Impacts to be Addressed in the EIR

At this time, the following issues are anticipated to be addressed in the EIR.

- Aesthetics
- Agriculture Resources
- Air Quality
- Biological Resources

- Cultural Resources
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology/Groundwater Supply
- Land Use/Planning
- Noise
- Population/Housing
- Public Services, Utilities/Service Systems
- Transportation/Traffic

Less Than Significant Impacts That Will Not Be Addressed in the EIR

Based on a preliminary consideration of the 2014 General Plan and ALUCP Updates, the County believes that the proposed Updates will have a less than significant impact or no impact on the CEQA issue areas identified below. This is a preliminary determination only and does not preclude the County from making a different determination upon further analysis.

The primary reasons for these preliminary determinations are as follows:

- Geology/Soils. None of the proposed changes in General Plan policy will result in an increased risk from geologic hazards in that no reduction in safeguards are proposed.
- Mineral Resources. None of the proposed changes in General Plan policy will substantively change mineral resource designations or the regulation of mineral resource recovery.

Alternatives to be addressed in the EIR

In accordance with Section 15126.6 of the State CEQA Guidelines, an EIR must "describe a range of reasonable alternatives to the Project, or to the location of the Project, which would feasibly attain most the basic objectives of the Project, but would avoid or substantially lessen any of the significant effects of the Project, and evaluate the comparative merits of the alternatives." The State CEQA Guidelines also require that the EIR evaluate a No Project Alternative.

No alternatives have been selected at the present time. The EIR will evaluate a reasonable range of alternatives, selected by an alternatives screening analysis consistent with the provisions of Section 15126.6. If there are any potential alternatives rejected from further analysis in the EIR, the EIR will explain the reasons for their rejection.

The alternatives analysis may, in addition to the No Project Alternative, consider one or more of the reduced intensity alternatives for further development and analysis in the EIR. The selected alternatives will be analyzed at a qualitative level of detail for comparison against the impacts identified for the proposed Project, consistent with the requirements of CEQA. Because this is a county-wide project, no alternative will be analyzed that is outside the County.

Requests for Additional Information

If you have any questions, please contact Kristin Doud at the Stanislaus County Planning and Community Development Department at the address above, or by telephone at (209) 525-6330.

Copies of this notice will also be available at the public scoping meetings. The full text of the proposed changes are available from the Planning and Community Development Department and available online at: at www.stancounty.com/planning/.

Appendix B

Proposed Updated Text to the Stanislaus County General Plan and Airport Land Use Compatibility Plan

Note to Readers:

Appendix B of this Draft EIR contains an abbreviated version of the proposed General Plan update. For a full version, please visit the County's general plan website at: http://www.stancounty.com/planning/pl/act-proj/gp-update.shtm

A copy is also available for review at:

Stanislaus County Planning and Community Development
1010 Tenth Street, Suite 3400
Modesto, CA 95354

Chapter One

LAND USE ELEMENT

INTRODUCTION ~~AUTHORITY~~

The Land Use Element provides for the general ~~Section 65302a of the California Government Code requires the County to adopt a "land use element which designates the proposed general~~ distribution ~~and~~ **and general** ~~general~~ location and extent of the uses of the land for housing, business, industry, open space, ~~including~~ agriculture, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, and other categories of public and private uses of land. The land use element~~shall~~ include**s** a statement of standards of population density and building intensity recommended for the various districts and other territory covered by the **P**~~p~~lan.

The goals and policies of the Land Use Element of the Stanislaus County General Plan, supported by implementation measures, are designed to achieve the goals of:

~~The land use element shall identify areas covered by the plan which are subject to flooding and shall be reviewed annually with respect to those areas. The land use element shall designate, in a land use category that provides for timber production, those parcels of real property zoned for timberland production pursuant to the California Timberland Productivity Act of 1982." Stanislaus County does not have any land which falls under the latter category.~~

1) Providing for diverse land use needs,
2) Ensuring compatibility between land uses,
3) Fostering stable economic growth,
4) Ensuring that an effective level of public service is provided,
5) Complementing the general plan of cities within the County,
6) Promoting and protecting healthy living environments, and
7) Providing for direct citizen participation in land use expansions of residential uses into agricultural and open-space areas.

GOALS, POLICIES AND IMPLEMENTATION MEASURES

GOAL ONE

Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic and social concerns of the residents of Stanislaus County.

POLICY ONE

Land will be designated and zoned for agricultural, residential, commercial, industrial, or historical uses when such designations are consistent with other adopted goals and policies of the general plan.

IMPLEMENTATION MEASURES

1. In reviewing proposals for amendments to land use designations, the County shall evaluate how the proposal would advance the long-term goals of the County.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. The zoning district map of the County shall be reviewed **as needed** to verify that no conflicts exist between land use designations**,** ~~and~~ zoning districts**, and other applicable plans or regulations, including but not limited to Airport Land Use Commission / Compatibility Plans.** ~~A report of this review shall be submitted to the Planning Commission not later than January 4, 1996.~~
   Responsible Department: Planning Department

POLICY TWO

Land designated Agriculture shall be restricted to uses that are compatible with agricultural practices, including natural resources management, open space, outdoor recreation and enjoyment of scenic beauty.

IMPLEMENTATION MEASURE

1. Agricultural areas should generally be zoned for 40- to 160-acre minimum parcel sizes. Exceptions include land in a ranchette area so identified because of significant existing parcelization of property, poor soils, location, and other factors which limit the agricultural productivity of the area.
   Responsible Departments: Agricultural Commissioner, Planning Department, Planning Commission, Board of Supervisors

POLICY THREE

Land use designations shall be consistent with the criteria established in this element.

IMPLEMENTATION MEASURE

1. Requests for General Plan amendments shall be carefully reviewed for consistency with the criteria established in the **LAND USE DESIGNATIONS** section of this element for locating these designations. Applications which are inconsistent shall be denied.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY FOUR

Urban development shall be discouraged in areas with growth-limiting factors such as high water table or poor soil percolation, and prohibited in geological fault and hazard areas, flood plains, riparian areas, and airport hazard areas unless measures to mitigate the problems are included as part of the application.

IMPLEMENTATION MEASURES

1. All requests for development which require discretionary approval and include lands adjacent to or within riparian habitat shall include measures for protecting that habitat.
   Responsible Departments: Agricultural Commissioner, Planning Department, Planning Commission, Board of Supervisors

2. Applications for development in areas with growth-limiting factors such as high water table, poor soil percolation, geological fault areas, flood plains, and airport hazard areas shall include measures to mitigate the problems.
   Responsible Departments: Public Works, Environmental Resources, Planning Department, Planning Commission, Board of Supervisors

3. Development within the 100-year flood boundary shall meet the requirements of Chapter ~~16.40~~ **16.50** (Flood Damage ~~Protection~~ **Prevention**) of the County Code and within the designated floodway shall obtain ~~Reclamation Board~~ **Central Valley Flood Protection Board** approval.
   Responsible Departments: Public Works, Planning Department, Planning Commission, Board of Supervisors

4. The County ~~will continue to~~ **shall** enforce ~~the~~ **all applicable codes and regulations, including adopted Airport Land Use Compatibility Plans, restricting** height**s** ~~limiting ordinance~~ near airports.
   Responsible Departments: Planning Department, Board of Supervisors

5. The County shall enforce the provisions of the Alquist-Priolo Earthquake Fault Zoning Act that limits development in areas identified as having special seismic hazards. See Map 5-1 of the Support Documentation for the location of the zone.
   Responsible Departments: ~~Building Inspection~~ Planning Department-Building Permits Division, Planning Department, Public Works, Planning Commission, Board of Supervisors

POLICY FIVE

Residential densities as defined in the General Plan shall be the maximum based upon environmental constraints, the availability of public services, and acceptable service levels. The densities reflected may not always be achievable and shall not be approved unless there is proper site planning and provision of suitable open space and recreational areas consistent with the supportive goals and policies of the General Plan.

IMPLEMENTATION MEASURE

1. Residential development shall not be approved at the maximum density if: (1) it threatens riparian habitat; (2) growth-limiting factors such as high water table, poor soil percolation, geological fault areas, and airport hazard areas exist; (3) development is in a designated floodway or does not meet the requirements of Chapter ~~16.40~~ **16.50** of the County Code; (4) **if** it ~~does not~~ **conflicts** ~~comply~~ with the Airport Land Use ~~Commission~~ **Compatibility** Plan ~~airport height limiting ordinance restrictions~~; (5) there is lack of, or inadequate, sanitary sewer or public water service; or (6) environmental impacts, including traffic, cannot be mitigated.
Responsible Departments: Planning Department, Environmental Resources, Public Works, Planning Commission, Board of Supervisors

POLICY SIX

Preserve and encourage upgrading of existing unincorporated urban communities.

IMPLEMENTATION MEASURES

1. The County shall support State efforts to reestablish redevelopment tools utilizing tax increment for the purpose of upgrading existing unincorporated urban communities. ~~The County in association with the Redevelopment Agency will use redevelopment as a tool to upgrade existing urban areas that meet the requirements of the State of California redevelopment law.~~
Responsible Departments: Planning Department, ~~Stanislaus County Redevelopment Agency~~, Planning Commission, Board of Supervisors

2. The County will apply for federal and state funds to aid in upgrading existing urban areas.
Responsible Department: ~~Redevelopment Agency~~, Planning Department, Parks and Recreation, County Executive Office, Board of Supervisors

3. Land within the sphere of influence of a community services district, sanitary district or domestic water district shall be rezoned for development only if ~~the US (Urban Service) combining district is used~~ **capacity for connecting to available public services exists and any resulting projects are conditioned to require connection to available services**.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

4. When feasible, new development shall be designed and built to allow for the upgrading or expansion of services necessary to upgrade existing unincorporated urban communities; however, new development will not be expected to be financially responsible for providing upgrades.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

5. **The County shall support and assist unincorporated urban communities in their efforts to establish "self-help" programs (such as assessment financing districts) necessary to upgrade their communities.**
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

6. ***As part of the environmental work The County will review, and if necessary, amend the General Plan to address the infrastructure, housing and public health needs to assist in transforming identified disadvantaged communities into healthy communities.***

POLICY SEVEN

Riparian habitat along the rivers and natural waterways of Stanislaus County shall to the extent possible be protected.

IMPLEMENTATION MEASURE

1. All requests for development which require discretionary approval and include lands adjacent to or within riparian habitat shall include measures for protecting that habitat **to the extent that such protection does not pose threats to proposed site uses, such as airports**.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY EIGHT

The County will continue to provide proper ordinances to ensure that flood insurance can be made available to qualified property owners through state and federal programs.

IMPLEMENTATION MEASURE

1. Development within the 100-year flood boundary shall meet the requirements of Chapter ~~16.40~~ **16.50** (Flood Damage ~~Protection~~ **Prevention**) of the County Code and within the designated floodway shall obtain ~~Reclamation Board~~ **Central Valley Flood Protection Board** approval.
Responsible Departments: Public Works, Planning Department, Planning Commission, Board of Supervisors

POLICY NINE

The Land Use Element shall be maintained so that it is responsive to change.

IMPLEMENTATION MEASURES

1. The Land Use Element shall be comprehensively ~~updated~~ **reviewed by the General Plan Update Committee (GPUC)** as found necessary by the Board of Supervisors. Every attempt shall be made to do so at least once every five years.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. All of the community plans shall be reviewed and updated as found necessary by the Board

of Supervisors. Substantial changes to these plans shall be permitted only in conjunction with a complete community plan update unless the Director of Planning and Community Development finds that (1) the plan has been completely updated within the past three years and the proposed changes can be adequately evaluated based on that updated plan or (2) the proposed change will have no major or demonstrable impact on the surrounding area or on the community in general.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

3. An annual report shall be made to the Board of Supervisors on the status of the General Plan and progress in its implementation as required in Section 65400 ~~(b)~~ **(a)** of the Government Code.
Responsible Department: Planning Department

POLICY TEN

New areas for urban development (as opposed to expansion of existing areas) shall be limited to less productive agricultural areas.

IMPLEMENTATION MEASURES

1. Requests for designation of new urban areas shall be reviewed by the County to determine whether the land is located in a less productive agricultural area based on considerations identified in the Agricultural Element.
Responsible Departments: Planning Department, Agricultural Commissioner, Planning Commission, Board of Supervisors

2. Requests for designation of new urban areas shall be accompanied by a plan and implementation methods to provide all appropriate urban services.
Responsible Departments: Planning Department, Environmental Resources, ~~Fire Safety~~ Fire Warden's Office and the Local Fire Agency Having Jurisdiction, Sheriff, Parks, Library, Public Works, Planning Commission, Board of Supervisors

3. Proposed amendments to the General Plan map that would allow the conversion of agricultural land to non-agricultural uses shall be approved only if they are consistent with the conversion criteria stated in the Agricultural Element.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

GOAL TWO

Ensure compatibility between land uses.

POLICY ELEVEN

Development of residential areas shall be adjacent to existing compatible unincorporated urban development or, in the case of remote development, included as part of a specific plan.

IMPLEMENTATION MEASURE

1. The criteria for location of residential areas as described in the **LAND USE DESIGNATIONS** section of this element shall be applied to all requests for residential designation.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY TWELVE

The expansion of urban boundaries of unincorporated communities shall attempt to minimize conflict between various land uses.

IMPLEMENTATION MEASURES

1. The County shall ensure that expansion of urban boundaries of unincorporated communities is accomplished in an orderly manner to limit the area of conflict as much as possible. Substantial changes to community plans shall be permitted only as specified under Policy Nine, Implementation Measure 2.
Responsible Departments: Planning Department, Agriculture Commissioner, Planning Commission, Board of Supervisors

2. Before redesignating land designated Agriculture in the General Plan in the process of expanding an existing unincorporated community, the County shall require that the existing community plan be updated or, if a community plan does not already exist, that one be adopted.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

3. In the process of establishing a new, self-contained community, the County shall require that a specific plan be adopted before approving the redesignation of any land designated Agriculture in the General Plan.
Responsible Departments: Planning Department, Planning Commission, and Board of Supervisors

POLICY THIRTEEN

Expansion of urban boundaries of unincorporated communities should be based on infilling and elimination of existing "islands" and should not permit leapfrog development or create new "islands."

IMPLEMENTATION MEASURE

1. The County shall not approve applications (such as General Plan amendments, rezones, or tentative maps) for expansion of urban boundaries of unincorporated communities that would create "islands" or disregard infilling.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY FOURTEEN

Uses shall not be permitted to intrude into or be located adjacent to an agricultural area if they are detrimental to continued agricultural usage of the surrounding area.

IMPLEMENTATION MEASURES

1. All development proposals that require discretionary action shall be carefully reviewed to ensure that approval will not adversely affect an existing agricultural area.
Responsible Departments: Planning Department, Agricultural Commissioner, Planning Commission, Board of Supervisors

2. Proposed amendments to the General Plan map that would allow the conversion of agricultural land to non-agricultural uses shall be approved only if they are consistent with the County's conversion criteria, as stated in the Agricultural Element.
Responsible Departments: Agricultural Commissioner, Planning Department, Planning Commission, Board of Supervisors

POLICY FIFTEEN

Uses should not be permitted to intrude into or be located adjacent to areas that are identified as existing and/or potential sites for solid waste facilities if such uses would not be compatible.

IMPLEMENTATION MEASURES

1. Potential conflicts with existing solid waste facilities shall be avoided.
Responsible Departments: Environmental Resources, Public Works, Planning Department, Planning Commission, Board of Supervisors

2. ~~When the Countywide Integrated Waste Management Plan is adopted, those sites which are identified as potential solid waste facilities should be protected from land use conflicts.~~
Sites identified as potential solid waste facilities within an adopted Countywide Integrated Waste Management Plan should be protected to the greatest possible extent from land use conflicts.
Responsible Departments: Environmental Resources, Public Works, Planning Dept., Planning Commission, Board of Supervisors

GOAL THREE

Foster stable economic growth through appropriate land use policies.

POLICY SIXTEEN

Agriculture, as the primary industry of the County, shall be promoted and protected.

IMPLEMENTATION MEASURES

1. The County shall require a 10-acre minimum parcel size for parcels requesting inclusion in the Williamson Act.
Responsible Departments: Planning Department, Board of Supervisors

2. As land is designated to accommodate new businesses, the County shall give priority to utilizing less productive agricultural areas.
Responsible Departments: Planning Department, Agricultural Commissioner, Planning Commission, Board of Supervisors

3. Specific plans shall be encouraged when non-agricultural uses are proposed within areas designated for agriculture.

Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

4. The County shall continue to implement the Agricultural Element.
Responsible Departments: Planning Department, Agricultural Commissioner, Planning Commission, Board of Supervisors

5. Where parcels under a Williamson Act contract are divided and result in parcels of less than ten acres, a notice of non-renewal shall be filed for the contract on those parcels. This affects subdivision maps, parcel maps, and lot line adjustments.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY SEVENTEEN

Promote diversification and growth of the local economy.

IMPLEMENTATION MEASURES

1. ~~Encourage the~~ Stanislaus County **shall continue to work with** ~~E~~**e**conomic ~~D~~**d**evelopment **entities** ~~Corporation~~ to promote Stanislaus County as a profitable location for industry.
Responsible Department: Board of Supervisors

2. The Board shall support the use ~~introduction of businesses in the County through consideration~~ of ~~suitable~~ financial mechanisms ~~such as Industrial Revenue Bonds~~ **supporting the introduction and growth of businesses in the county.**
Responsible Departments: Planning Department, Board of Supervisors

3. Continue to implement achievable components of the ~~1989 Economic Strategic Plan~~ **economic strategies recognized and/or adopted by the Board of Supervisors**.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

4. Encourage the development of new industries and the retention of existing industries that help the community reduce, recycle, and/or reuse waste that would otherwise require disposal.
Responsible Departments: Environmental Resources, Board of Supervisors

5. Allow private recreational uses where they are not found to cause land use conflicts.
Responsible Departments: Planning Department, Parks and Recreation, Planning Commission, Board of Supervisors

6. Emphasize the conservation and development of significant mineral resources as identified **in Special Reports prepared by the California Geological Survey,** ~~by the State Division of Mines and Geology in its report entitled Mineral Land Classification of Stanislaus County, California (Special Report, 173)~~ by implementing the policies and implementation measures specified under Goal Nine of the Conservation/Open Space Element.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

7. Strengthen the agricultural sector of the economy by continuing to implement the strategies for agriculture-related economic development identified under Goal One of the Agricultural Element.
Responsible Departments: U.C. Cooperative Extension, Agricultural Commissioner,

Planning Department, Planning Commission, Department of Environmental Resources, Board of Supervisors

8. Encourage tourism in Stanislaus County by **continuing to** participat~~eing~~ in efforts to develop a tourism program, including marketing strategies and objectives.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

9. Encourage reuse of the Crows Landing Air Facility as a regional jobs center.
Responsible Departments: Board of Supervisors, Chief Executive Office

POLICY EIGHTEEN

Accommodate the siting of industries with unique requirements.

IMPLEMENTATION MEASURE

1. The criteria described in the **LAND USE DESIGNATIONS** section of this element shall be applied in the siting of industries with unique requirements.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY NINETEEN

Nonconforming uses are an integral part of the County's economy and, as such, should be allowed to continue.

IMPLEMENTATION MEASURE

1. Maintain current Zoning Ordinance provisions (Chapter 21.80 of the County Code) which permit replacement or expansion of nonconforming uses.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY TWENTY

Facilitate retention and expansion of existing businesses.

IMPLEMENTATION MEASURES

1. The County shall support ~~the Stanislaus County~~ ~~E~~**e**conomic ~~D~~**d**evelopment ~~Corporation~~ **efforts and opportunities of partnership on workforce training activities**.
Responsible Departments: Board of Supervisors, Planning Department, Chief Executive Office

2. The County shall investigate the use of federal and state funds to provide incentives for businesses to locate, expand or relocate in Stanislaus County.
Responsible Departments: Planning Department, Board of Supervisors

POLICY TWENTY-ONE

Support and facilitate efforts to develop and promote economic development and job creation centers throughout the County.

IMPLEMENTATION MEASURE

1. **While supporting efforts to direct economic development and job creation centers towards incorporated areas, the County shall also consider approval of centers in unincorporated areas of unique character and proximity to transportation infrastructure.**
   Responsible Departments: Board of Supervisors, Chief Executive Office, Public Works

GOAL FOUR

Ensure that an effective level of public service is provided in unincorporated areas.

POLICY TWENTY-~~ONE~~TWO

At least three net acres of developed neighborhood parks, or the maximum number of acres allowed by law, should be provided for every 1,000 residents, through land dedication and development, payment of in-lieu-of fees, **public facility fees,** or other methods acceptable to the Parks Department.

IMPLEMENTATION MEASURE

1. Continue to implement the strategies identified under Goal Four of the Conservation/Open Space Element.
   Responsible Departments: Parks Department, Parks Commission, Planning Department, Planning Commission, Chief Executive Office, Board of Supervisors

POLICY TWENTY-~~TWO~~THREE

Future growth shall not exceed the capabilities/capacity of the provider of services such as sewer, water, public safety, solid waste management, road systems, schools, health care facilities, etc.

IMPLEMENTATION MEASURES

1. The County shall continue to implement its Public Facilities Fees Program, which is intended to help finance public facilities needed to maintain current levels of service.
   Responsible Departments: Chief Executive Office, Public Facilities Fees Committee, ~~Building Inspections~~ Planning Department-Building Permits Division, Auditor-Controller, Board of Supervisors

2. ~~Only development requests for which sewer service capacity that meets the standards of Measure X and domestic water are available shall be approved.~~
   Development within a public water district and/or waste water district shall connect to the public water system and/or the waste water treatment facility; except where capacity is limited or connection to existing infrastructure is limiting and an

alternative is approved by the County's Department of Environmental Resources. For development outside a water and/or waste water district, it shall meet the standards of the Stanislaus County Primary and Secondary Sewage Treatment Initiative (Measure X) and domestic water.
Responsible Departments: Environmental Resources, Planning Department, Planning Commission, Board of Supervisors

3. Benefit assessment districts, County Service Areas (CSA's), Mello-Roos Districts or other similar districts shall be formed as needed to pay for the cost of providing ongoing appropriate services.
Responsible Departments: Sheriff, ~~Fire Safety~~ Fire Warden's Office, Local Fire Agency Having Jurisdiction, Library, Public Works, Parks & Recreation, Treasurer-Tax Collector, Auditor-Controller, Environmental Resources, Social Services, Stanislaus Medical Center, Planning Department, Planning Commission, Chief Executive Office, Board of Supervisors

4. The County shall continue to work with independent fire districts to implement fees to help finance public facilities to support their services.
Responsible Departments: ~~Fire Safety~~ Fire Warden's Office, Local Fire Agency Having Jurisdiction, Chief Executive Office, Board of Supervisors

5. The current level of service of public agencies shall be determined and not allowed to deteriorate as a result of new development.
Responsible Departments: Sheriff, ~~Fire Safety~~ Fire Warden's Office, Local Fire Agency Having Jurisdiction, Public Works, Environmental Resources, Parks & Recreation, Library, Social Services, Stanislaus Medical Center, Planning Department, Planning Commission, Treasurer-Tax Collector, Auditor-Controller, Chief Executive Office, Board of Supervisors

6. Rezoning of property for development prior to: 1) annexation to a special district; or 2) inclusion of such property into a newly formed special district that will provide urban services (i.e. sanitary sewer district, domestic water district, or community service district) shall be approved only if the **development is adequately conditioned to restrict development from occurring until annexation to or formation of the required district is complete.** ~~US zoning district is used as a combining district or comparable requirements are incorporated into a Community Plan District.~~
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

7. Only development requests which have recognized and mitigated any significant impacts on solid waste reduction, recycling, disposal, reuse, collection, handling, and removal shall be approved.
Responsible Departments: Environmental Resources, Planning Department, Planning Commission, Board of Supervisors

8. Only development requests which have recognized and reasonably mitigated significant impacts on school facilities shall be approved.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

9. The County will coordinate development with existing irrigation, water, utility and transportation systems by referring projects to appropriate agencies and organizations for review and comment.
Responsible Department: Planning Department

POLICY TWENTY-~~THREE~~FOUR

New development shall pay its fair share of the cost of cumulative impacts on circulation and transit systems.

IMPLEMENTATION MEASURES

1. Benefit assessment districts or other similar districts shall be formed as needed to pay for the cost of providing ongoing appropriate transportation services.
   Responsible Departments: Public Works, Treasurer-Tax Collector, Auditor-Controller, Chief Executive Office, Board of Supervisors

2. Traffic impacts **not covered under Public Facility Fees** shall be identified and impact mitigation fees shall be paid by the subdivider and/or developer.
   Responsible Departments: Public Works, Planning Department, Planning Commission, Board of Supervisors

3. The level of service (LOS) for all roadways and intersections shall be at least a "C" level, unless they are located within the sphere of influence of a city that has adopted a lower level of service.
   Responsible Departments: Public Works, Planning Department, Planning Commission, Board of Supervisors

4. Applicants for General Plan amendments shall coordinate with the Stanislaus Council of Governments (StanCOG) Congestion Management ~~Program~~ **Process** to mitigate traffic impacts.
   Responsible Departments: Planning Department, Public Works, Planning Commission, Board of Supervisors

GOAL FIVE

Complement the general plans of cities within the County.

POLICY TWENTY-~~FOUR~~FIVE

Development, other than agricultural uses and churches, which requires discretionary approval and is within the sphere of influence of cities or in areas of specific designation created by agreement (e.g., Sperry Avenue and East Las Palmas Corridors), shall not be approved unless first approved by the city within whose sphere of influence it lies or by the city for which areas of specific designation were agreed. Development requests within the spheres of influence or areas of specific designation of any incorporated city shall not be approved unless the development is consistent with agreements with the cities which are in effect at the time of project consideration. Such development must meet the applicable development standards of the affected city as well as any public facilities fee collection agreement in effect at the time of project consideration. (Comment: This policy refers to those development standards that are transferable, such as street improvement standards, landscaping, or setbacks. It does not always apply to standards that require connection to a sanitary sewer system, for example, as that is not always feasible.)

IMPLEMENTATION MEASURES

1. All discretionary development proposals within the sphere of influence or areas of specific designation of a city shall be referred to that city to determine whether or not the proposal shall be approved and whether it meets their development standards. If development standards of the city and County conflict, the city's standards shall govern.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. The policies described in the section on **SPHERES OF INFLUENCE** for projects within a city's sphere of influence or areas of specific designation shall be followed.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

3. The County shall limit its approval of discretionary projects in spheres of influence to agricultural uses, churches and projects recommended for approval by the city unless such projects are exempt from this implementation measure as a result of individual city/county agreements (e.g., upper McHenry Avenue, Beard Tract areas).
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

4. Discretionary projects in areas zoned other than A-2 (General Agriculture) prior to the applicable agreement with the city within whose sphere of influence the project lies shall not be allowed to develop consistent with the current zone classification unless they first obtain approval for the project from the city.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

5. Non-discretionary projects in spheres of influence shall be allowed to develop with existing entitlements**. However, the County shall coordinate with the cities to identify opportunities to develop uniform development standards.**
Responsible Departments: Planning Department, ~~Building Inspection Division~~ Planning Department-Building Permits Division, Public Works Department

6. The County shall amend its ordinances as necessary to implement any specific designation created by agreement. All active agreements shall be incorporated into the General Plan as an Appendix to the Land Use Element and upon approval may be incorporated into the General Plan without the need for a General Plan amendment.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY TWENTY-SIX

Development which requires discretionary approval and is outside the sphere of influence of cities but located within one mile of a city's adopted sphere of influence and within a city's adopted general plan area, shall be referred out to the city for consideration. However, the County reserves the right for final discretionary action.

IMPLEMENTATION MEASURES

1. All discretionary development proposals within one mile of a city's adopted sphere of influence boundary and within a city's adopted general plan area, shall be referred to that city.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. **The County shall consider applying city development standards to discretionary projects located within one mile of a city's adopted sphere of influence boundary and within the city's adopted general plan area to the extent such standards are appropriate for the type of development.**
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors, Public Works, Environmental Resources

3. **Encourage joint County and city cooperation in establishing land use and development standards along all major county defined gateways to cities.**
Responsible Departments: Planning Department, Board of Supervisors

POLICY TWENTY-SEVEN

The County shall support a County-wide growth management strategy that is equitable to the needs of the County and all nine cities, taking in consideration land consumption and absorption rates.

IMPLEMENTATION MEASURES

1. **The County shall participate in efforts to develop and implement a County-wide growth management strategy that is consistent with the County General Plan.**
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. **The County shall encourage LAFCO to consider land consumption and absorption rates when evaluating the size of sphere of influence and annexation proposals in order to determine that the proposal does not exceed what is reasonably needed to accommodate the amount and type of development anticipated to occur.**
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

GOAL SIX

Promote and protect healthy living environments

POLICY TWENTY-EIGHT

Support the development of a built environment that is responsive to decreasing air and water pollution, reducing the consumption of natural resources and energy, increasing the reliability of local water supplies, and reduces vehicle miles traveled by facilitating alternative modes of transportation, and promoting active living (integration of physical activities, such as biking and walking, into everyday routines) opportunities.

IMPLEMENTATION MEASURES

1. **County development standards shall be evaluated and revised, as necessary, to facilitate development incorporating the following (or similar) design features:**
    - **Alternative modes of transportation such as bicycle lanes, pedestrian**

paths, and facilities for public transit;

- **Alternative modes of storm water management (that mimic the functions of nature); and**
- **Pedestrian friendly environments through appropriate setback, landscape, and wall/fencing standards.**

Responsible Departments: Planning Department, Board of Supervisors

POLICY TWENTY-NINE

New development shall be designed to facilitate the efficient extension of public transportation systems.

IMPLEMENTATION MEASURES

1. **Development proposals shall be referred to the appropriate transit authority to determine the types of facilities needing to be provided, if any.**
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY THIRTY

The County shall support efforts to improve local health care options through the siting of new facilities in locations with the infrastructure (including, but not limited to, transportation and utility) to support both facility and client needs.

GOAL ~~SIX~~ SEVEN

Provide for direct citizen participation in land-use decisions involving the expansion of residential uses into agricultural and open-space areas in order to encourage compact urban form and to preserve agricultural land.

POLICY ~~TWENTY-FIVE~~ THIRTY-ONE

A. Any decision by the Board of Supervisors of the County of Stanislaus to approve the redesignation or rezoning of land from an agricultural or open space use to a residential use shall require, and be contingent upon, approval by a majority vote of the County voters at a general or special local election. In the event the Board approves the redesignation or rezoning of such land for a residential use, such approval shall not take effect unless and until that decision is approved by an affirmative majority vote of the voters of the County voting on the proposal.

B. The requirement set forth in paragraph (A) shall apply to all such decisions affecting land that is designated for agricultural or open space use on the Land Use Map of the County's General Plan as of the effective date of this policy, even if the affected land is, after the effective date, redesignated or rezoned to a use other than an agricultural or open space use. The intent of this paragraph is to ensure that a developer does not launder land by obtaining County approval for a non-residential use (e.g., an industrial or commercial use),

and then subsequently obtain County approval for a residential use.

C. The Board's decision to approve the redesignation or rezoning of land from an agricultural or open space use to a residential use constitutes the approval of a project for purposes of CEQA. For this reason, the County shall comply with CEQA prior to the Board's decision to approve the redesignation or rezoning, notwithstanding the requirement that the voters approve such redesignation or rezoning.

D. Once the voters have approved a land use map designation or land use entitlement for a property, additional voter approval shall not be required for: (1) subsequent entitlement requests that are consistent with the overall approved development project or land-use designation and zoning; and (2) any requested modification to a land-use or zoning designation that does not decrease the number of permitted dwellings, as specified in the exhibits and plans approved by the voters.

E. Exemptions. The requirement for voter approval set forth in this policy shall not apply to any of the following:

1. After notice and hearing as required by state law and after compliance with CEQA, the Board of Supervisors may, without a vote of the electorate of the County, approve residential development on land designated for agricultural or open space uses if the Board finds, based on substantial evidence in the record, and HCD certifies in writing, that all of the following circumstances exist: (a) the approval is necessary and required to meet the County's legal fair share housing requirement; and (b) there is no other land in the County or the cities in the County already designated for urban use that can accommodate the County's legal fair share housing requirement. The Board shall not redesignate more than ten (10) acres per year for residential use under this paragraph.

2. Additional acreage may be designated for residential use if the Board finds, and HCD certifies in writing, that the additional acreage is necessary to meet the Board's legal fair share obligation based on maximum multi-family densities. Any proposal approved under this subsection shall be required to have all housing units permanently affordable to persons or families of moderate, low and very low income. The intent of this exemption is to provide sufficient land for housing to accommodate moderate, low and very low income housing, as may be necessary over time under State law.

3. Any development project that has obtained a vested right pursuant to state law prior to the effective date of this policy.

4. Any development project consisting entirely of farm worker housing.

F. Definitions.

The following definitions apply to this policy:

1. Residential use means any land-use designation, zoning district or other legislative entitlement authorizing, allowing, or consistent with residential development at a density greater than one (1) dwelling unit per ten (10) gross acres. Such density shall not include (a) caretaker housing or other residential uses incidental to the primary use, or (b) farm worker housing. Residential use includes the following land-use designations set forth in the General Plan (1994), all land-use designations that may be adopted by the County in the future that are comparable to such designations, and all zoning districts compatible with such designations: Estate

Residential, Low-Density Residential, Medium-Density Residential, Medium High-Density Residential, Planned Development, and Specific Plan.

2. Agricultural or open space use means any land-use designation or zoning district authorizing, allowing, or consistent with residential development at a density of equal to or less than one (1) dwelling unit per ten (10) gross acres. Agricultural or open space use includes the following land-use designations set forth in the General Plan (1994), all land-use designations that may be adopted by the County in the future that are comparable to such designations, and all zoning districts compatible with such designations: Agriculture, Urban Transition, Mineral Resources.

3. General Plan means the Stanislaus County General Plan adopted in or about October 1994, as amended through the effective date.

4. Effective date means the effective date of the Citizen's Right to Vote on Expansion of Residential Areas initiative measure, as established by the California Elections Code.

5. Board or Board of Supervisors means the Stanislaus County Board of Supervisors.

6. County means Stanislaus County.

7. CEQA means the California Environmental Quality Act.

8. HCD means the California Department of Housing and Community Development.

G. Duration; Amendment. Goal Six and Policy Twenty-five, shall remain in effect until December 31, 2036, and may be amended or repealed only by the voters of the County at an election held in accordance with State law.

SPHERES OF INFLUENCE

BACKGROUND

In 1973, Stanislaus County adopted a new General Plan concept called Urban Transition. This designation was placed on property outside the city limits but within the city's general plan boundary. One of the reasons for development of this designation was ongoing conflicts between the County and the cities. The County routinely approved development of land within a city's general plan boundary without regard to consistency with the city's plans. This caused a variety of problems for a city. First, although rare, development sometimes occurred which was not acceptable to the city, therefore, no attempt was made to annex the property resulting in islands of unincorporated area within a city. Second, if the County permitted urban development within the County, there was no incentive for the property owner to annex. This often prevented annexation. Third, even if the city wanted to annex the property and the property owner agreed, the development seldom met city standards with respect to street improvements, landscaping, signage, etc. At this point, there was no recourse for the city to upgrade the requirements.

With the adoption of the Urban Transition designation, development in most instances was required to annex before approval. Development which was allowed by ordinance without annexation was referred to the appropriate city for comment. The intent of the referral was to gain city input on whether or not a proposal was consistent with the city's plans and, if so, did the proposed development standards equal what the city would require if development were to occur in the city.

Originally, referrals were only made if the general plan designation was Urban Transition although the Urban Transition area is only a portion of the area within a city's general plan boundary. Gradually, referrals were made of all applications within a city's general plan boundary regardless of whether or not the property was designated Urban Transition.

In late 1984, the Local Agency Formation Commission (LAFCO) adopted spheres of influence for each city as required by state law. These spheres are "a plan for the probable ultimate physical boundaries and service area of a local agency." (Section 56425 of the California Government Code.) Since a sphere of influence is usually the general plan boundary of a city, the term more accurately describes the area in which referrals have been made.

POLICY

Whenever an application is to be considered which includes property within the sphere of influence of a city or special district (e.g., sewer, water, community services) or areas of specific designation created by agreement between County and City, the following procedures should be followed:

1. Development, other than agricultural uses and churches, which requires discretionary approval from incorporated cities shall be referred to that city for preliminary approval. The project shall not be approved by the County unless written communication is received from the city memorializing their approval. If approved by the city, the city should specify what conditions are necessary to ensure that development will comply with city development standards. Requested conditions for such things as sewer service in an area where none is available shall not be imposed. Approval from a city does not preclude the County decision-making body from exercising discretion, and it may either approve or deny the project.

2. Agricultural uses and churches which require discretionary approval should be referred to that city for comment. The County Planning Commission and Board of Supervisors shall consider the responses of the cities in the permit process. If the County finds that a project is inconsistent with the city's general plan designation, it shall not be approved. Agricultural use and churches shall not be considered inconsistent if the only inconsistency is with a statement that a development within the urban transition area or sphere of influence shall be discouraged (or similar sweeping statement). The city shall be asked to respond to the following questions:

   (a) Is the proposed project inconsistent[1] with the land use designation on the city's general plan? If so, please include a copy of the map (or that portion which includes the subject property) and the text describing uses permitted for the general plan designation. All findings of inconsistency must include supporting documentation.

   (b) If the project is approved, specifically what type of conditions would be necessary to ensure the development will comply with city development standards such as street improvements, setbacks and landscaping?

In the case of a proposed project within the sphere of influence of a sanitary sewer district, domestic water district or community services district, the proposal shall be forwarded to the district board for comment regarding the ability of the district to provide services. If the district serves an unincorporated town with a Municipal Advisory Council (MAC), the proposal shall also be referred to the MAC for comment.

[1]The question is specifically phrased to ask if a proposed project is inconsistent with the General Plan designation. This is intended to (a) encourage a city to specifically designate all land within its Sphere of Influence if it wants to oppose development proposals within the Sphere, and (b) to assure that tangible proof is submitted if denial is requested. This will eliminate the County's dilemma of trying to prove something is consistent with an inadequate General Plan.

LAND USE DESIGNATIONS

The following land use designations shall be used in the unincorporated area of the County. They are intended to further the Land Use Element goals and policies. If any of these designations fall within the sphere of influence of a sanitary sewer district, domestic water district, or community services district that provides services to an unincorporated town, it will be necessary to consult the **COMMUNITY PLANS** section to determine if any modification of the designation applies. For areas within such a sphere of influence, the community plans indicate the proposed future General Plan **Land Use D~~d~~**esignations.

State of California requirements for the Land Use Element state the General Plan should designate general distribution and location of land for various kinds of uses. Most of these, such as housing, industry and agriculture, are identifiable by the obvious nature of their specific **land use** designations. There are, however, certain kinds of uses which are not so obvious. These uses are education, public buildings and grounds, and solid and liquid waste disposal facilities. In addition, the Land Use Element must identify areas that are subject to flooding. Information follows regarding specific land uses and areas which are subject to flooding.

ESTATE RESIDENTIAL

Intent. The intent of the Estate Residential designation is to satisfy the desires of people who wish to live on a relatively small parcel in a rural setting and are willing to accept less than the full range of urban services. It should be applied only to land which is beyond the projected ultimate (or 20-year) service area of a city or special district which provides urban services and which is outside the adopted sphere of influence for a community.

Zoning. The R-A (Rural Residential) zone is appropriate within this designation. PD (Planned Development) zoning may also be appropriate provided the development does not exceed the established building intensity of this designation. Building intensity normally is zero to one dwelling unit per three acres. Building intensity may increase to two dwellings ~~per three acres for properties with temporary mobile homes~~ as allowed by zoning regulations. Population density averages approximately one to two persons per acre.

Appropriate Locations. The Estate Residential designation is appropriate in areas beyond the sphere of influence of a city (or special district which provides urban services) which is a less productive agricultural area but capable of supporting rural residential development. Among the factors to be considered in making this determination are: (1) existing and potential agricultural suitability (availability of irrigation facilities, crop history and potential); (2) surrounding land use (impacts caused by possible intrusion of rural residential uses and non-agricultural uses); (3) septic tank suitability (Environmental Resources standards for minimum area requirements and potential impacts of a concentration of septic tanks); (4) surrounding parcel size (conformity to adjacent parcel sizes); (5) soil type (soil grade and Storie rating); (6) public road access (length of necessary accesses, condition of existing public roads and future plans for both public roads and private access roads as determined by the Department of Public Works); (7) aesthetic characteristics (removal of natural vegetation, impairment of scenic view, introduction of uses or structures not in the same character as the surrounding area); and (8) anticipated environmental impact (removal of habitat of rare or endangered plant or animal, removal of riparian areas and impacts on natural resources).

LOW-DENSITY RESIDENTIAL

Intent. The intent of this designation is to provide appropriate locations and adequate areas for single-family detached homes, in either conventional or clustered configurations. Single-family detached dwellings are the predominant housing type in areas so designated, and would remain so under this designation. Semi-detached dwellings and manufactured housing would be consistent with this designation.

Zoning. R-A (Rural Residential), R-1 (Single-Family Residential), SCP-R-1-ST (Salida Community Plan, Single-Family Residential Special Treatment Zone) and SCP-R-1 (Salida Community Plan, Single-Family Residential) zones are appropriate within this designation. PD (Planned Development) zoning may also be appropriate, provided the development does not exceed the established building intensity of this designation. The use of the US (Urban Service) combining district in conjunction with any of the above zones would be appropriate for areas adjacent to unincorporated towns so that annexation to and service from the adjoining sanitary sewer district or community services district is required prior to development. Residential building intensity when served by a community services district or sanitary sewer district and public water district is zero to eight units per net acre. Building intensity for areas not served by public water and sewer service is zero to two units per net acre. Population density ranges from zero to 25 persons per net acre in areas served by public water and sewer and zero to six persons per net acre in other areas. Small second units, as permitted by State Law, may increase both the building intensity and the population density to a limited degree within this designation.

Appropriate Locations. The Low-Density Residential designation is appropriate in established residential areas characterized by single-family dwellings. It would also be appropriate in areas: (a) designated by the Board of Supervisors for ranchettes of 1/2 to one acre in size if the area is a less productive agricultural area but capable of supporting rural residential development based on the eight factors to be considered in locating "Estate Residential" land; or (b) adjacent to unincorporated towns which can serve the development after annexation to and service by a sanitary district or community services district.

MEDIUM-DENSITY RESIDENTIAL

Intent. The intent of this designation is to provide appropriate locations for single- and multi-family units, primarily in semi-detached or clustered arrangements. Typical housing types would be single-family detached manufactured houses, duplexes, triplexes and low-mass multi-family units (townhouses and garden apartments). All lands within this designation shall be within the boundaries of a community services district, sanitary district or similar public district which provides urban services except where such designation existed at the time of adoption of this plan.

Zoning. The R-2 (Medium-Density Residential) and SCP-R-2 (Salida Community Plan, Medium Density Residential) zones are appropriate within this designation. PD (Planned Development) zoning may also be appropriate provided the development does not exceed the established building intensity of this designation. PD zoning which allows sewage generated on site to be metered into the disposal system during non-peak hours is encouraged in communities with limited system capacity. Residential building intensity varies from zero up to 14 units per net acre. Population density ranges from zero to 45 persons per net acre.

Appropriate Locations. The Medium-Density Residential designation would be appropriate in areas adjacent to unincorporated towns where the Board of Supervisors has determined, pursuant to a community plan, that medium-density residential use is needed. These areas will be developed only after annexation to and service by a sanitary district or community services district.

MEDIUM HIGH-DENSITY RESIDENTIAL

Intent. The intent of this designation is to provide appropriate locations for housing types including duplexes, triplexes, fourplexes, and apartment buildings. This designation shall be within the boundaries of a community services district, sanitary district or similar public district which provides urban services.

Zoning. The R-3 (Multiple-Family Residential) and SCP-R-3 (Salida Community Plan, Multiple Family Residential) zones are appropriate within this designation. PD (Planned Development) zoning may also be appropriate provided the development does not exceed the established building intensity of this designation. PD zoning which allows sewage generated on site to be metered into the disposal system during non-peak hours is encouraged in communities with limited system capacity. Residential building intensity varies from zero to 25 units per net acre. Population density ranges from zero to 85 persons per net acre.

Appropriate Locations. The Medium High-Density Residential designation is appropriate in established residential areas characterized by duplexes, triplexes, fourplexes, and apartment buildings. It would also be appropriate in areas adjacent to unincorporated towns where the Board of Supervisors has determined, pursuant to a community plan, that medium high- density residential use is needed. These areas will be developed only after annexation to and service by a sanitary district or community services district.

COMMERCIAL

Intent. The intent of this designation is to indicate areas best suited for various forms of light ~~or~~ **to** heavy commercial uses, including~~, but not limited to,~~ retail, service and wholesaling operations. **This designation also allows for residential development in limited situations or when connected to both public sewer and water service.** The County has one designation to correspond to the various commercial zoning districts. This designation is intended for lands which demonstrate a valid supportive relationship to other existing or projected urban development.

Zoning. C-1 (Neighborhood Commercial), C-2 (General Commercial), H-I (Highway Frontage Commercial), SCP-C-1 (Salida Community Plan, Neighborhood Commercial) and SCP-C-2 (Salida Community Plan, General Commercial) zones shall be considered consistent with this designation. PD (Planned Development) zoning may also be appropriate provided the development does not exceed the established building intensity of this designation. The building intensity shall be determined by Zoning Ordinance development standards for setback, landscaping, height, parking and other requirements except that residential building intensity shall not exceed 25 units per net acre. In no case shall buildings exceed 75 feet in height, nor shall they cover so much of the lot that insufficient area remains for parking, landscaping, etc. In commercial zones which allow dwelling units, population density can range from zero to 85 persons per net acre.

Appropriate Locations. The Commercial designation is appropriate in areas already committed to commercial use. In unincorporated towns this designation is appropriate for Central Business Districts and other areas within the sanitary sewer or community services district in sufficient amount to serve the needs of the community. Areas adjacent to community services district may also be appropriate if the US (Urban Service) combining zone is utilized. **This designation shall allow uses that are deemed compatible with adjacent development through the use of discretionary permits**

INDUSTRIAL

Intent. The intent of this designation is to indicate areas for various forms of light or heavy industrial uses, including, but not limited to, manufacturing and warehousing. Generally, the Industrial designation shall be used in areas where public sewer and water are available or where the restrictions of the Planned Industrial designation are inappropriate. The Planned Industrial designation shall be used instead of the Industrial designation unless (a) the property to be designated is intended for a single-use applicant not permitted in the Planned Industrial designation and the applicant needs a very large site (see discussion under **Designating New Industrial Areas** or (b) the property is adjacent to an existing industrial area which is reaching capacity and whose services can be extended to serve the expansion.

Zoning. The LM (Limited Industrial), M (Industrial) and PI (Planned Industrial) zones shall be consistent with this designation. PD (Planned Development) zoning may also be appropriate provided the development does not exceed the established building intensity of this designation. Building intensity is governed by the fact that the Zoning Ordinance prohibits more than 75% coverage of the property by buildings. Buildings for human occupancy shall not exceed 75 feet in height. Population density is almost nonexistent as only one residential unit per parcel is allowed and then only if it is secondary to the industrial use of the property.

~~**Existing Locations.** Nearly all existing industrial areas are within or adjacent to the sphere of influence of a city or special district which serves an unincorporated town. Only one industrial area (on the northwest corner of Claribel and the Oakdale/Waterford Highway) is removed from an established urban area. Although new areas to be designated Industrial should be chosen based on the criteria discussed in the following section **(Designating New Industrial Areas),** the following areas already are established and shall remain as being appropriate:~~

> ~~The cities/towns of Crows Landing, Denair, Riverbank, Turlock and Westley have industrial areas along railroads which parallel their boundaries. Keyes, Modesto, and Turlock have industrial areas along Highway 99. Oakdale has industrial land around the Hershey plant south of town and near Riverbank is the Norris Industries Plant. Newman has one parcel on the south side of Inyo, east of the city limits designated Industrial, and the southeast corner of Kiernan Avenue and Sisk Road in Salida is also designated Industrial. There are several industrial areas in the Modesto area including (a) the Beard Tract on the south side of Yosemite Boulevard; (b) south 7th Street between Hatch Road and the Tuolumne River; (c) the east side of Crows Landing Road on both sides of Whitmore Avenue**.** and (d) a portion of the North Modesto Industrial Park on the south side of Kiernan Avenue, west of McHenry.~~

~~**Designating New Industrial Areas.** The amount of land designated as Industrial in the County has changed very little in the past 10 years, decreasing slightly through annexation to cities. Although a great deal of land is still available for industrial development, more than 70% is located in the Beard Tract.~~

Designating New Industrial Areas. The criteria listed below shall be used in evaluating potential areas, both for general Industrial designation and for designating sites for industries that need very large sites. There are few industries with the need for extremely large parcels, but they do exist. It is not practical to designate a large industrial area because a large amount of land might lay idle for an extended period of time. If an industry requiring a large site approaches the County or if more industrial sites are needed, the following criteria shall be used in determining whether or not a site is suitable for being designated Industrial:

a. **Access.** The proposed site should have adequate access to handle the type and quantity of traffic associated with industrial uses without impacting existing facilities. This shall usually mean that the area will be located on a major road at a minimum, with location on a state highway preferred.

b. **Sewage disposal.** Public sanitary sewer service should be available and a written commitment for service received. (Lands suitable for industrial development but without public sanitary sewer service should more appropriately be designated Planned Industrial.)

c. **Water.** An adequate supply of potable water should be available for industrial usage including water needed for fire suppression. Generally this will require a public water supply in order to meet fire flow standards.

d. **Infrastructure.** Other utilities (such as natural gas, electricity) shall be reasonably available to the site as might be required by the proposed uses.

e. **Topography.** The site is physically suitable for industrial development.

f. **Williamson Act and other constraints to development.** The site should be free from constraints such as valid Williamson Act Contracts that would inhibit rezoning and development of the area.

g. **Conflicts.** The proposed site development ~~shall~~ **should** not cause land use conflicts with surrounding properties. From this viewpoint, expansion of existing areas is more desirable than designating totally new areas.

h. **City general plan land use designation.** Any new areas proposed for industrial designation shall ~~not~~ be ~~in~~consistent with the General Plan of any city in whose sphere of influence they lie.

I. **Countywide Integrated Waste Management Plan.** Any new areas proposed for industrial designation shall be consistent with the Countywide Integrated Waste Management Plan.

PLANNED INDUSTRIAL

Intent. The intent of this designation is to provide locations for light industrial development. Such locations may be so designated on the initiative of the County or may be requested by a property owner or group of property owners. The Planned Industrial designation shall be preferred to the Industrial designation as it allows more control of development to ensure that impacts on adjoining properties are reduced. It shall be used largely in areas without public sewer and/or water service but shall only be used if it is practical, both physically and financially, to provide sewage disposal and water service as needed by the proposed development.

Zoning. Building intensity will be determined by the County on an individual basis, depending upon the nature and location of the proposed planned development. However, no buildings shall cumulatively occupy more than 70% of the area of any parcel. Population density is almost nonexistent as only one residential unit per parcel is allowed if it is secondary to the industrial use of the property. The A-2 (General Agriculture), PI (Planned Industrial), LI (Light Industrial), IBP (Industrial Business Park), SCP-PI (Salida Community Plan, Planned Industrial) and all industrial or business park related PD (Planned Development) zones shall be consistent with this designation.

Annexation. Areas designated Planned Industrial on the General Plan and rezoned for development which are located within the adopted **S**phere of **I**nfluence of a city shall include the requirement that an agreement be signed in a form satisfactory to the city attorney of the affected city and Stanislaus County Counsel guaranteeing that the property on which the planned industrial

designation is applicable will be annexed to the affected city upon demand by the city and with the approval of the Stanislaus County Board of Supervisors.

Appropriate Locations. Appropriate locations for the Planned Industrial designation shall be based on the same criteria as used for designating new industrial areas. The Planned Industrial designation shall be more appropriate than Industrial in locations with limited or no sanitary sewer capacity or in other locations where restricting the permitted uses is desirable.

INDUSTRIAL TRANSITION

Intent. This designation is intended for lands within spheres of influence which for the most part are not zoned or developed for industrial usage, but lie in the path of a valid expansion of a contiguous industrial area. Land falling within this designation may continue to be zoned and used for non-industrial purposes pending demand for such industrial expansion. Rezoning for industrial usage should not be approved for less than an entire block or an area adjacent to an existing industrial zone and must be based on evidence of industrial development capability and a program for adequate relocation of any persons to be ultimately displaced.

Zoning. Property within this designation shall retain its present zoning until such time as conversion to Industrial is desirable. At such time as a General Plan amendment to Industrial is processed, property will then be rezoned to be consistent with the Industrial General Plan designation. Population density and building intensity within the Industrial Transition areas shall correspond to that of the General Plan designation which most closely matches the zoning of the property in question.

Appropriate Locations. The Industrial Transition designation is appropriate in areas within the sphere of influence of a city or town which lie in the path of an expanding industrial area.

BUSINESS PARK

Intent. The intent of this designation is to accommodate development of modern, employment-intensive uses within the Salida Community Plan. Principal development and employment-generating uses allowed within this designation are characterized by research, product development, professional office, commercial, and business services **in a campus park like setting**. A full range of other uses may be permitted within the Business Park designation in conformance with the trends of successful contemporary business parks in Northern California.

Zoning. The SCP-IBP (Salida Community Plan, Industrial Business Park) and PD (Planned Development) zones shall be consistent with this designation.

Appropriate Locations. Appropriate location for the Business Park designation is within the Salida Community Plan Amendment Area **and the former Crows Landing Air Facility**.

AGRICULTURE

Intent. The major portion of Stanislaus County is productive and potentially productive agricultural land. These lands are of economic importance not only to Stanislaus County, but to the state and nation as well, as evidenced by the fact that Stanislaus County ranks very high nationally in production of agricultural commodities.

This designation recognizes the value and importance of agriculture by acting to preclude

incompatible urban development within agricultural areas. It is intended for areas of land which are presently or potentially desirable for agricultural usage. These are typically areas which possess characteristics with respect to location, topography, parcel size, soil classification, water availability and adjacent usage which, in proper combination, provide a favorable agricultural environment. This designation establishes agriculture as the primary use in land so designated, but allows dwelling units, limited agriculturally related commercial services, agriculturally related light industrial uses, and other uses which by their unique nature are not compatible with urban uses, provided they do not conflict with the primary use. The Agriculture designation is also consistent with areas the overall General Plan has identified as suitable for open space or recreational use and for ranchettes.

Zoning. This designation is consistent with an A-2 (General Agriculture) zoning district. PD (Planned Development) zoning may also be appropriate, provided the development does not exceed the established building intensity of this designation. Residential building intensity normally ranges from zero to two dwellings per 40 acres in the A-2-40 zone and up to one dwelling per three acres in A-2-3. Building intensity may increase to two dwellings per three acres for properties with temporary mobile homes as allowed by zoning regulations. Appropriate intensities would correspond for any land zoned A-2-5, A-2-10, A-2-20, A-2-160 or any other agricultural zoning designation. Building intensity for agricultural buildings is virtually unlimited, provided setbacks as listed in the A-2 zoning district are maintained. Based on a ~~1980~~ **2010** countywide census figure of ~~2.77~~ **3.08** persons per unit, population density is low, **and only slightly more** ~~less~~ than one person per acre even in the A-2-3 zone, and much lower than that in A-2-10 or A-2-40 zones. A Planned Development (PD) zone may also be consistent with this designation when it is used for agriculturally-related uses or for uses of a demonstrably unique character, which due to specific agricultural needs or to their transportation needs or to needs that can only be satisfied in the agriculture designation, may be properly located within areas designated as agricultural on the General Plan. Such uses can include, facilities for packing fresh fruit, facilities for the processing of agricultural commodities utilized in the County's agriculture community, etc.

Appropriate Locations. The Agriculture designation is appropriate in areas where the agricultural land is productive or potentially productive. It is also appropriate in these areas as suitable for open space, recreation uses or ranchette uses such as the Valley Home, Orange Blossom, South Ceres, South Turlock, and Oakdale/Riverbank areas.

URBAN TRANSITION

Intent. The purpose of the Urban Transition designation is to ensure that land remains in agricultural usage until urban development consistent with a city's (or unincorporated community's) general plan designation is approved. Generally, urban development will only occur upon annexation to a city, but such development may be appropriate prior to annexation provided the development is not inconsistent with the land use designation of the General Plan of the affected city. If this is to occur, a change in the General Plan designation consistent with the adopted goals and policies to some other land use designation shall be required.

Zoning. Until Urban Transition lands within a sphere of influence are annexed, they should be zoned General Agriculture (A-2). PD (Planned Development) zoning may also be appropriate, provided the development does not exceed the established building intensity for this designation. Building intensity and population density will be the same as under the Agriculture designation.

Appropriate Locations. The Urban Transition designation is appropriate for undeveloped land located within the LAFCO-established sphere of influence of a city or town.

PLANNED DEVELOPMENT

Intent. The Planned Development designation is intended for land which, because of demonstrably unique characteristics, may be suitable for a variety of uses without detrimental effects on other property.

Zoning. Land within a Planned Development designation should be zoned A-2 (General Agriculture) until development occurs through Planned Development zoning. A PD (Planned Development) zone (which, with the A-2 zone, are the only zoning districts consistent with this designation) is applied through application and submission of specific development plans. Building intensity and population density would be determined by the County on an individual basis, depending upon the nature and location of the proposed planned development.

Appropriate Locations. The Zoning Ordinance indicates that all applications for planned development should be consistent with the General Plan. The following are considered to be valid uses of the planned development designation consistent with the intent of this element:

a. Application for uses of unique character (not otherwise allowed as proposed in other zoning districts) for which findings can be made as to the appropriateness of the location and the absence of detrimental effect to the surrounding area.

b. Applications falling within an area designated by this element as a Planned Development area, subject to those resolutions within the appendix of this element that define special policy for planned development uses in the following areas:

(1) Upper McHenry Avenue, Resolution No. 87-01 (See Appendix 1-1).

(2) East F Street, Highway 108/120, Oakdale, Resolution No. 87-02 (See Appendix 1-2).

(3) Freeway Interchange and Frontage Roads adjacent to major highways and freeways, Resolution No. 87-03 (See Appendix 1-3).

~~**(4) The former Crows Landing Air Facility property.**~~

Appendix references above will be updated during final format.

HIGHWAY COMMERCIAL PLANNED DEVELOPMENT

Intent. This designation is intended for land located at freeway interchanges where it is necessary to provide services to highway travelers.

Zoning. Land within this designation shall be zoned for General Agriculture (A-2) until rezoned to Planned Development (PD). Population density and building intensity will be determined on a case-by-case basis.
Uses within this designation shall be limited to the following as principle uses:

Truck Stops
Restaurants
Motels
Service Stations
Overnight R.V. Camping

Fruit Stands

The following uses may be permitted, but only when accessory to the uses listed above:

Towing Service
Minor Emergency Automobile Repair
Convenience Market
Wine Tasting

Appropriate Locations. The Highway Commercial Planned Development designation is appropriate only for parcels adjacent to a freeway interchange. No property shall be designated Highway Commercial Planned Development and rezoned PD unless findings are made that the change will not be detrimental to the agricultural productivity of the surrounding property and that the subject property is not considered to be one of the County's Most Productive Agricultural Areas.

HISTORICAL

Intent. The Historical designation is intended to preserve areas of local, regional, state or national historical significance. Historical areas should be protected by zoning controls emphasizing the need for new development (or rehabilitation) to be compatible with the historic nature of the area. When a community plan has been adopted for a designated historic area, guidelines for development shall be followed as established within that plan. Development standards which are applicable elsewhere should be waived if such waiver is consistent with the intent of the Historical designation and does not endanger the public health, safety or welfare.

Zoning. This designation shall be considered to be consistent with the County H-S (Historical Site) zoning district. Due to the unique nature of this kind of designation, population density and building intensity for any new projects must be reviewed on an individual basis. For residential uses, however, building intensity should normally be from one to ~~seven~~ **eight** units per net acre with a population density of two to 25 persons per net acre. For other uses, building intensity ~~should be consistent with existing development in the area~~ **should be determined by the County on an individual basis, depending upon the nature and location of the proposed use**.

Appropriate Locations. The Historical designation is intended for areas which are of local, regional, state or national historical significance.

MINERAL RESOURCES

Background. ~~In December 1993, after more than a decade and a half of requests from the County, the State of California completed its classification of mineral resources in Stanislaus County. This classification was done as part of what will eventually be a statewide series of classifications required by the Surface Mining and Reclamation Act of 1975 (SMARA)~~ **The State of California has established a classification of mineral resources in Stanislaus County as required by the Surface Mining and Reclamation Act of 1975 (SMARA).** The classification is a ~~very~~ detailed inventory of known and/or presumed locations of a wide variety of mineral resources throughout Stanislaus County.

The SMARA classification process is designed to implement the basic intent of the State Legislature to create and maintain an effective surface mining and reclamation policy with regulation of surface mining operations to ensure that:

1. Adverse environmental effects are prevented or minimized and mined lands are

reclaimed to a usable condition that is readily adaptable for alternative land use.

2. The production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment.

3. Residual hazards to public health and safety are eliminated. (Public Resources Code, Sec. 2712)

SMARA mandates that, ~~upon completion of the State's inventory,~~ the County as Lead Agency must amend its General Plan to recognize the mineral information classified by the State, assist in the management of land uses that affect areas of statewide and regional significance, and emphasize the conservation and development of identified mineral deposits.

The State's findings are published in **Special Reports prepared by the California Geological Survey,** ~~by the State Division of Mines and Geology in a report entitled Mineral Land Classification of Stanislaus County, California (Special Report 173).~~ The classification maps and mineral information contained in ~~that~~ **the** report**s** are incorporated in this General Plan by reference, together with Public Resources Code Section 2710 et seq. (SMARA) and state policy.

As indicated in the State's inventory, key minerals commercially excavated in Stanislaus County are construction aggregates, primarily sand and gravel. Significant aggregate areas are shown on the General Plan maps entitled "Aggregate Resource Areas," which are based on more detailed maps provided by the State Division of Mines and Geology. To a large extent, aggregate areas are located in flood plains of rivers and streams, particularly the Tuolumne and Stanislaus Rivers and Orestimba Creek.

These significant aggregate resource areas are protected by the Mineral Resources plan designation, coupled with policies and implementation measures under Goal Nine in the Conservation/Open Space Element that emphasize their conservation and development. County zoning regulations (Chapter 21.88) also regulate surface mining permits and reclamation plans in a manner consistent with the intent and requirements of SMARA.

Intent. The Mineral Resources designation is an overlay designation intended to protect mineral deposits that have been identified by the state as being of regional or statewide significance. Development of land designated Mineral Resources will be restricted to those kinds of development that will not interfere with the ultimate excavation of the minerals identified by the State as being in the area.

Zoning. Land with this overlay designation shall be zoned for General Agriculture (A-2) or a Planned Development (PD) that is consistent with the underlying designation (Agriculture) and will not interfere with the ultimate excavation of the minerals from the area. Building intensities and population densities shall be consistent with those specified for the Agriculture designation. Surface mining permits and reclamation plans shall meet the requirements established in Chapter 21.88 of the Zoning Ordinance.

Appropriate Locations. The Mineral Resources designation shall be located where the State Division of Mines and Geology has designated land as having a mineral deposit of statewide or regional significance. It also may be located in those areas identified as containing significant deposits but which have not been formally designated by the state.

SPECIFIC PLAN

Intent. A specific plan is a detailed plan for a specific area of the County. It is guided by and must conform to the General Plan, but its scale permits a relatively detailed level of examination and planning not normally possible in the General Plan.

A specific plan is appropriate where major new development or redevelopment is envisioned as spelled out in the Stanislaus County Specific Plan Guidelines. This designation may serve as either an overlay to other General Plan designations, or in the case of more complex and/or larger projects, it may stand as a separate designation.

Zoning. Land designated Specific Plan shall be zoned S-P (Specific Plan) for development under an approved specific plan, or the S-P zone may be an overlay zone used in conjunction with other zoning designations. Population density and building intensity standards for different portions of the S-P zone shall be determined by the specific plan approved by the County, as determined on an individual case basis, except where it is used as an overlay, in which case density and intensity shall not exceed that allowed in the underlying designations.

Appropriate Locations. The Specific Plan designation is to be used for areas where it is anticipated that a specific plan will be adopted immediately following the General Plan redesignation. The Specific Plan designation is appropriate for areas which exhibit the following characteristics:

1. Rapidly urbanizing areas with significant new demand for public facilities and services; such a site should be at least 100 acres.

2. Unique physical conditions (including unusual natural resources to be conserved).

3. Complex mixture of uses proposed.

4. Multiple ownership in complex developing area.

5. Need to revitalize a marginal or deteriorated area.

6. Large industrial and/or commercial complexes.

7. Very large single-ownership land developments where a significant new community is to be developed in a presently non-urban area.

8. Special study areas.

The Director of Planning and Community Development shall determine when a given project will require that a specific plan be prepared.

LAND USE ELEMENT

DIAGRAMS

(Insert the following diagrams into this Section)

1. Stanislaus County Legend for Land Use Map
2. Stanislaus County Index
3. A, B, C, D, E, F & G to Index
4. Crows Landing
5. Del Rio
6. Denair
7. Empire
8. Grayson
9. Hickman
10. Hughson
11. Keyes
12. Knights Ferry
13. La Grange
14. Newman
15. Modesto
16. Modesto/Ceres
17. Oakdale
18. Patterson
19. Riverbank
20. Turlock
21. Valley Home
22. Waterford
23. Westley
24. Salida

COMMUNITY PLANS

Stanislaus County has adopted Community Plans for most of the unincorporated towns in the County. These plans outline the future growth pattern of the town. ~~Each plan is used in conjunction with the General Plan to indicate whether the Urban Transition area will be residential, commercial, industrial, etc.~~ Any requests for rezoning **of** ~~of property designated Urban Transition on the General Plan~~ **land within a plan area** must be consistent with the proposed use category on the **Community Plan** . ~~**Plan amendments**~~ **and shall be processed as a General Plan amendment.**

Community Plans are incorporated in the Appendix of this element. In circumstances where the circulation/transportation designations of a Community Plan are not consistent with those of the General Plan, the General Plan designation, with the exception of the Salida Community Plan, shall govern unless determined otherwise by the Director of Public Works.

~~In order to develop land within the sphere of influence which is designated Urban Transition on the Land Use Element of the Stanislaus County General Plan, the developer must request a general plan amendment, rezoning, and submit a tentative map. The latter is only required if development of the property is dependent on approval of a tentative map. The combining "Urban Service (US)" zone shall be used for all such rezoning. Use of this zone will require that the property annex to the appropriate service district (sanitary, water, or community services) prior to development while still requiring that the underlying zone be consistent with the General Plan designation.~~

~~(PLEASE NOTE: ALL CIRCULATION/TRANSPORTATION DESIGNATIONS IN THE COMMUNITY PLANS, WITH THE EXCEPTION OF THE SALIDA COMMUNITY PLAN WHICH WAS ADOPTED AUGUST 7, 2007, HAVE BEEN SUPERCEDED BY THE FOCUSED GENERAL PLAN UPDATE, GPA 2004-03, ADOPTED ON APRIL 18, 2006, REFER TO CHAPTER 2)~~

Community Plans below will be merged with the Plans in the Support Document and integrated in the appendix of this element. All Community Plan text and maps will be reformatted for visual consistency as part of the Comprehensive General Plan Update, however, no content will be amended.

CROWS LANDING

It is not anticipated that Crows Landing will experience significant growth in the coming years. Constraints with the existing water systems, lack of sanitary sewer, and existing Williamson Act contracts will keep its growth to a minimum. Projected 2010 population is only 475 compared to the 1980 population of 436. It is anticipated that this growth will be due to infilling rather than community expansion. ~~The Community Plan shown on Map 1A-1 reflects this expectation.~~

DEL RIO COMMUNITY PLAN

In 1992 the County approved a major expansion of the Del Rio Community Plan, extending the community south to Ladd Road and from Carver Road east to McHenry. The two-tiered plan requires that a detailed Specific Plan be completed prior to any development in the undeveloped Tier Two area, which lies south of the current developed area of Del Rio. ~~(The Del Rio Community Plan is available as a separate document.)~~

DENAIR COMMUNITY PLAN

Land Use. One of the primary land use changes involves establishing an urban buffer area around the community. To achieve an urban buffer, parcels located on the periphery of the Plan Area have been designated as Estate Residential (ER). The Estate Residential land use designation will allow

for the gradual blending of urban development with surrounding agricultural uses. Estate Residential also promotes a well-defined rural small town characteristic edge between the City of Turlock and the Community of Denair where agricultural operations may no longer continue as a viable land use option.

The future growth forecasted for Denair translates into demand for a variety of housing types. Vacant and underutilized parcels within the existing Denair Community Plan Area offer the potential for meeting the forecasted population growth housing needs. Suitable locations for Medium-Density Residential (MDR) and Medium High-Density Residential (MHDR) housing is within the interior of communities, providing residents convenient access to public services, retail shopping and public transit opportunities. Development of housing at medium and medium high densities in and around the community's commercial district would positively influence the overall appearance of the community and add new residents who are likely to shop in Denair's commercial district. As such, Medium- and Medium High-Density land use designations have been moved from Denair's periphery to its interior.

With the community's small size and the proximity to competing commercial centers outside the community (City of Turlock), the community's downtown commercial core takes on a neighborhood convenience and specialty commercial focus that meets the convenience goods and services needs of local residents. In addition, the downtown commercial area can become a gathering place for local community events. To provide an opportunity for the revitalization of Denair's historical urban core, the community's commercial area has been centralized and compacted.

Circulation. Waring Road, Taylor Road (west of Waring Road) and Zeering Road (west of Waring Road) are classified as Major Roads. Class II bike lanes are designated along major roadways consistent with the Stanislaus Area Association of Governments' *Regional Bicycle Transportation Master Plan.* Additional Class II bike lanes provide connectivity to downtown, school and recreational facilities and to the multi-purpose trail system.

A multi-purpose trail, offering access to a variety of users, including pedestrians, cyclist and equestrians is planned along the canals on the plans eastern and northern edges. The multi-purpose trail ties into the community's bikeway network.

Public Facilities. The Community of Denair is devoid of parks and other public outdoor areas for recreating, gathering, and socializing. The County's minimum standard for providing adequate parkland is 3 acres of parkland / 1,000 residents. The Community Plan diagram depicts the general location of future neighborhood and community park sites. The general locations of future park sites are conceptual and indicative of park locations based on service area radius, major streets and surrounding land uses. Parks should be located in the general vicinity shown in the Community Plan.

The following general standards define the various park designations identified in Denair Community Plan:

Neighborhood Park - 3 to 5 acres. Neighborhood parks are designed to meet local neighborhood" needs, and are intended to be within walking or bicycling distance of one-half mile from neighborhood residences. A neighborhood park service area should avoid crossing any major natural or manmade barriers (e.g., railroads, canals, and major roads) that inhibit access to the park. Neighborhood parks usually emphasize child oriented facilities providing a variety of play spaces and associated amenities.

Community Park - 10 to 15 acres. A community park should serve the community and be developed to serve specific recreational needs such as baseball, softball, hard court areas,

swimming pool, or recreation center. Patrons of these facilities are expected to drive to the park. As such, community parks should provide adequate parking areas and access from collector and/or major roads. The location of the community park should avoid the need to travel through neighborhoods. Care must be taken when siting a community park to avoid conflicting with nearby residential uses. Community parks can be developed as joint-use facilities able to accommodate seasonal storm drainage basins.

Setting. The Community of Denair is located in the south central portion of Stanislaus County, east of the City of Turlock. Most of the community is surrounded by productive farmland, though residential development within the City of Turlock lies only a mile to the west. The community is bisected by the Burlington Northern-Santa Fe Railroad.

Development History and Pattern. Originally a Quaker settlement, the Denair community was first called Elmwood Colony and then Elmdale. In the early 1900s, the Modesto Bank subdivided 640 acres as a townsite. John Denair, a railroad superintendent, subsequently purchased the townsite, and the town's name was changed, fittingly, to Denair.

The original townsite was surveyed and developed at right angles to the Burlington Northern-Santa Fe Railroad, which runs in a northwest/southeast direction. More recent development patterns have been on the traditional north/south grid, leaving Denair's historic core physically offset from newer development.

Land Use. The Denair Community Plan area encompasses 1,013 acres between Taylor Road on the north and Tuolumne Road on the south. The Turlock Irrigation District Main Canal binds Denair on the east while Waring Road generally forms the community's western boundary. The Denair community is buffered by land designated as Estate Residential. This residential land use designation provides a transition from the urbanized environment of the town to surrounding agricultural uses. In the southwest portion of the plan, an agricultural buffer is established between the Denair community and the City of Turlock.

Denair's commercial core area is compact to maximize development opportunities. Higher density residential development is located near the downtown commercial core for easy access to downtown services. The Denair Community Plan contains adequate land to support a population of approximately 8,000 residents. Table 1 provides a summary of land uses within the Denair Community Plan area.

Table 1: Denair Community Land Use Profile

Land Use	*Developed Acreage*	*Vacant Land*	*Total Acreage*	*Percent Of Total*
Estate Residential (ER)	*132*	*153*	*285*	*28%*
Low Density Residential (LDR)	*275*	*263*	*538*	*53%*
Medium Density Residential (MDR)	*17*	*0*	*17*	*2%*
Medium High Density Residential (MHDR)	*6*	*11*	*17*	*2%*
Commercial (C)	*12*	*24*	*36*	*4%*
Industrial (I)	*5*	*0*	*5*	*1%*
*Parks**	*0*	*34*	*34*	*3%*
*Schools***	*61*	*20*	*81*	*8%*
Total	*508*	*505*	*1,013*	*100%*

Notes:

Parks vacant land acreage is based upon a calculation need of 3 acres / 1,000 population projected in the Community Plan

***** School vacant land acreage assumes two additional elementary schools will need to be provided.***

Circulation. Primary roadways within the community are Monte Vista Avenue, Main Street, Zeering Road, Lester Road and Santa Fe Avenue. Traffic within the community is relatively light, with most of Denair's roadways operating at LOS C or better. Signalization of the community's main intersections (Lester Road at Monte Vista Ave/Main Street, Santa Fe Avenue at Main Street and Zeering Road at Gratton Road) will improve traffic flow. Non-motorized transportation is encouraged via a system of recreational trails and bicycle lanes that connect the Community's residential areas with downtown, recreational and school facilities and along the irrigation canals at the Community's edge.

Public Services

Wastewater Collection and Treatment. The Denair Community Services District provides wastewater service. Wastewater is conveyed to the City of Turlock Wastewater Treatment Plant for treatment. For the past 13 years, growth in Denair has been ~~retarded~~**restricted** due to the capacity of the sewer interceptor between Denair and Turlock.. Wastewater collection system improvements are underway to improve delivery of wastewater to the City of Turlock Wastewater Treatment Plant.

Water Service. The Denair Community Services District provides potable water service to the Denair community. Domestic water is supplied by wells that pump groundwater. Water quality is good and no treatment is provided

Law Enforcement. Law enforcement is provided by the Stanislaus County Sheriff's Department that maintains a sheriff's substation within the Denair community. The California Highway Patrol shares space with the County Sheriff's Department in the substation located on East Main Street.

Fire Protection. The Denair Fire District (DFD) has the responsibility for fire protection, paramedic services and emergency rescue services to Denair and surrounding areas. The DFD is a volunteer fire department. Response time within the Denair community is 3 to 5 minutes.

Schools. Denair is located within the Denair Unified School District. The District has one elementary school (K-4), one middle school (5-8) and one high school (9-12). To accommodate growth, the Community Plan identifies general locations for future school sites.

Parks and Recreation. The Denair Community Services District provides park and cultural activity centers services in the community. The community's current parkland inventory does not meet the County standard of 3 acres of parkland per 1,000 residents. The Community Plan illustrates the general location of future park sites, including 1 Community Park and 3 neighborhood parks.

Goals, Policies and Implementation Measures

The following goals, policies and implementation measures are directed specifically toward the Denair community and are intended to guide development within the Denair Community Plan Area:

GOAL ONE

Reinforce Denair's small rural town character.

POLICY ONE

The County shall work with the Denair Municipal Advisory Committee, and other interested groups, to develop a Downtown Master Plan for the planning and implementation of programs to support the vitality of the downtown area. The Master Plan should include detailed development guidelines for downtown.

POLICY TWO

Promote the vitality of Denair's central business district and preserve Denair's small town character by encouraging it to become a unique shopping district and community events area with a variety of retail commercial, office residential, civic, cultural and recreational uses.

POLICY THREE

Reduce the area currently designated for commercial uses in the community as a means of concentrating retail activity in a focused area.

IMPLEMENTATION MEASURES

1. Develop gateway treatments to mark the entries to the downtown at Santa Fe Avenue and Main Street and at Gratton Road and Main Street.

2. Create a pleasant pedestrian street environment through attractive streetscape design and features including street trees, lighting, sidewalks and planters.

3. Develop design guidelines for new and existing building renovation in the downtown, in keeping with a small town, pedestrian oriented street character.

~~4. Consider use of Redevelopment Agency funds for enhancement projects.~~

GOAL TWO

Provide a well-defined community edge between Denair and adjacent agricultural land, as well as between Denair and the City of Turlock.

POLICY ONE

Create a greenbelt / buffer around the perimeter of the Community that provides clear sense of identity for the Community of Denair.

POLICY TWO

The Denair Community Plan should promote very low density residential uses along the Community's edge or periphery in order to reduce conflicts with surrounding agricultural uses, as well as to establish and define a permanent buffer between Community of Denair and the City of Turlock.

IMPLEMENTATION MEASURES

1. Estate Residential shall be designated along the northerly, westerly and easterly periphery of the Denair Community Plan Area to reduce urban density toward the edge of the Community Plan Area.

2. The sizing of sewer and water lines should be reduced as they approach the northerly, westerly and easterly periphery of the Denair Community Plan Area to limit growth influences beyond the Plan Area.

3. Landscape design requirements shall be considered for new projects, which develop along the entryways to the Community of Denair, in particular to Waring Avenue, Monte Vista Avenue, Gratton Road and Santa Fe Avenue. Landscape design should promote a sense of transition from the surrounding agricultural area to urban setting. Utilization of trees to screen urban uses along these entryways is encouraged.

4. Within the Community Plan area, properties designated Low Density Residential and located outside the boundaries of the Denair CSD, may be designated, "Low Density Residential" or "Estate Residential" on the General Plan. (This will allow development of ½ acre lots with public water or 1 acre lots without public water or public sewer.)

GOAL THREE

Provide for the non-motorized transportation needs of the Denair Community.

POLICY ONE

Provide safe and convenient pedestrian and bicycle facilities to various destinations throughout the Community of Denair.

POLICY TWO

Provide pedestrian and bicycle facilities that link community residents to schools, parks, civic facilities and the community's downtown core in accordance with the Denair Community Plan diagram.

POLICY THREE

The Community pedestrian and bicycle facilities shall connect to regional pedestrian and bicycle facilities.

IMPLEMENTATION MEASURES

1. Develop irrigation canals as non-motorized transportation enhancement to promote the walking, cycling and other non-motorized means of transportation.

2. The County shall explore a cooperative agreement with the Turlock Irrigation District to use canal right-of-way / easement for multi-purpose recreational trails, as identified on the Denair Community Plan diagram.

3. Bicycle facilities shall be included as part of road improvement projects where said roadways are identified as bike lanes on the Denair Community Plan.

GOAL FOUR

Provide for the recreational needs of residents of the Denair Community.

POLICY ONE

New development shall provide the residents of Denair with adequate parkland facilities to meet the County standard of 3 acres per 1,000 residents.

IMPLEMENTATION MEASURES

1. The County shall work to acquire and develop parkland, including adequate facilities to accommodate one community park. The general location of future park sites is portrayed on the Community Plan diagram.

HICKMAN COMMUNITY PLAN

Significant population growth is not anticipated in Hickman. Presently, the service area is mostly developed and there has been little demand for expansion. Some growth is expected in existing lots, but there are a limited number of vacant lots that front on County roads.

KEYES COMMUNITY PLAN

Land Use. Growth forecasted for Keyes translates into a demand for a variety of housing types. Vacant and underutilized parcels within the existing Keyes Community Plan Area, along with a northward expansion of the Community Plan Area offer the potential for providing the forecasted population growth housing needs. Growth, in the form of residential development, has been directed east of State Route 99 to avoid conflicts with industrial uses west of State Route 99. With the exception of an established mobile home park located north of Turlock Irrigation District's Upper Lateral 2½, Medium - and Medium High-Density land use designations are moved from the periphery of Keyes to the interior of the community. Establishment of medium and medium high-density housing adjacent to the community's commercial districts and public amenities will accommodate long-range housing needs for the community and County, while encouraging a compact community form.

With the community's small size and proximity to competing commercial centers outside the community (Cities of Ceres and Turlock), the community's commercial designations take on a neighborhood convenience focus. The Commercial designations within the community are intended to provide essential community retail goods and services. Activities may range from a single commercial use to a neighborhood shopping center. The Highway Commercial land use designation adjacent to the State Route 99 / Keyes Road Interchange is intended to provide for and promote concentration of commercial uses serving the needs of the traveling public. The State Route 99/Keyes Road Interchange also serves as an important gateway into the community.

Industrial and Planned Industrial land uses west of State Route 99 are buffered from sensitive land uses to the east of the highway. Industrial and Planned Industrial uses are afforded direct access to heavy rail service, and vital regional north-south and east-west transportation corridors.

The Community Plan includes an area designated Urban Transition. The Urban Transition land use designation recognizes the lands current commitment to Williamson Land Conservation Act contracts. The Urban Transition land use designation also recognizes the importance of this area in the overall development of community-wide circulation improvements and relationship to adjacent planned urban land uses. It is anticipated this area will, in the future, be developed as Low Density Residential.

Community Character. Community character is crucial for establishing the overall vision of what constitutes a desirable and viable community. The present appearance of the community along the State Route 99 corridor, as with many corridor communities, is unattractive. A lack of urban landscaping, key community entryways and unsightly land uses adjacent State Route 99 contribute to a negative image which discourages interest in investing in the community.

The residents of Keyes envision a cohesive small town that encourages social interaction among its community members. The Plan along with its goals, policies and implementation measures address neighborhood character, community edge and entryways into the community. The community core along 7th Street has its own unique character as a pedestrian-oriented concentrated area of residential, commercial, and public and quasi-public uses. Future development should enhance the vitality of the community core along 7th Street while retaining a diversity of residential, commercial and public and quasi-public uses.

Circulation. Faith Home Road (north of Keyes Road), Keyes Road (east of Faith Home Road) and Golden State Boulevard (south of Keyes Road) are classified as Major Roads. Rohde Road, 7th Street, Nunes Road, and Washington Road are classified as Collectors. To promote a traditional local street pattern that evenly disperses traffic throughout the community, the Plan identifies the alignments for future roadway extensions. The Community Plan includes future easterly roadway extensions of Hollywood Drive, Anna Street, Esmail Avenue, Maud Avenue and Norma Way to serve east-west circulation. The Community Plan also includes future northerly roadway extensions of Jennie Avenue and Stella Avenue to serve north-south circulation.

To optimize Highway Commercial opportunities and accommodate forecasted traffic volumes on Washington Road, Ninth Street between Nunes and Keyes Roads should be abandoned. In its place, Washington Road should be extended to Keyes Road, opposite Golden State Boulevard. These modifications will improve circulation within the community and create a clear distinction between highway commercial and community related commerce, while establishing an opportunity for a prominent gateway for the community. The broad open area of the highway on- and off-ramps provides an opportunity for establishing a distinctive landscaped entry into the community.

The Community Plan encourages bicycling and walking. Two forms of non-motorized transportation routes are depicted on the Community Plan Diagram. Bike lanes are designated along major roadways consistent with the Stanislaus Council of Governments' (formally Stanislaus County Area Association of Governments) *Regional Bicycle Transportation Master Plan*. Bike lanes provide connectivity to neighborhoods, commercial centers, school and recreational facilities.

A multi-purpose trail, offering access to a variety of users including pedestrians, cyclists and equestrians, is planned along Turlock Irrigation District's Upper Lateral No 2½ right-of-way. The multi-purpose trail, which ties into the community's bikeway, provides a completely separated right-of-way with minimum cross flows by motorists.

Parks. Hatch Park is the only park available to all residents of Keyes. This park does not meet the County's minimum standard of providing 3 net acres of parkland/1,000 residents needed to support the community's current population. To accommodate growth, the Community Plan diagram envisions the expansion of Hatch Park into a community park. The Community Plan also identifies the general location of future neighborhood park sites. The neighborhood park symbols do not denote precise park locations, but suggest approximate locations for additional parkland acquisitions.

The following general standards define the various park designations identified in the Keyes Community Plan:

Neighborhood Park – 3 to 5 Acres. Neighborhood parks are designed to meet local "neighborhood" needs, and are intended to be within walking or bicycle distance of one-half mile from neighborhood residences. A neighborhood park service area should avoid crossing any major barriers (e.g., canals, collectors or major roads) that inhibit access to the park. Neighborhood parks should emphasize child-oriented facilities providing a variety of play spaces and associated amenities. Neighborhood parks should also be bound on all four sides by local streets to promote safety and public access.

Hatch Community Park – 15+ Acres. To provide for recreational needs of the community such as baseball, softball, and hard court areas, and family-oriented activities such as picnic areas and an indoor recreation center, Hatch Park should be enlarged to provide a minimum of 15 acres. Patrons are expected to drive to this facility. As such, Hatch Park should be bound by streets to minimize on-site parking requirements. As a highly active center, residential or other noise sensitive land uses should not directly abut the park.

Schools. Keyes is served by two school districts providing elementary and secondary education. The Keyes Unified School District provides for elementary (grades K-8) education. The Turlock Joint Union High School District provides for secondary (grades 9-12) education. Existing, planned and proposed school sites are shown on the Community Plan diagram. The proposed elementary school symbol does not denote the precise school site location, but suggests an approximate location for an additional elementary school.

Development History and Pattern. Keyes dates back to 1871 when it was a railroad siding of the Central Pacific (now Union Pacific) Railroad. The siding was named Keyes Switch, after Thomas J. Keyes, a state senator who resided nearby. The community grew slowly, consisting of only 16 families when the Keyes Grammar School was established in 1905-1906. The construction of the school and a church spurred additional growth, which slowed once more during the Great Depression. In the 1990s, the community grew faster than the County on average and reached an estimated 3,400 residents by 1998.

Like many other Central Valley towns, Keyes' original townsite was laid out at right angles to the northwest/southeast trending railroad. More recent development patterns have been on a traditional north/south grid, leaving Keyes' historic core physically offset from newer development. State Route 99 parallels the Union Pacific Railroad corridor to the east. The State Route 99 bypass, constructed in the mid-1980s, physically divides the community.

Land Use. The Keyes Community Plan area contains adequate land to support a population of approximately 9,300 residents. The Community Plan accommodates future growth in the most efficient manner possible. The Community Plan is aimed toward maintaining a compact urban form, preserving surrounding agricultural lands.

The Plan area encompasses 857 acres between the Turlock Irrigation District Lateral Number 2-1/2 on the north and Keyes Road on the south. Faith Home Road serves as the community's western boundary. Washington Road serves as the community's eastern boundary. The majority of commercial and residential land uses lie east of State Route 99 while industrial uses are located to the west of State Route 99.

New residential development is targeted for the community's northern and eastern areas. The Community Plan also includes land designated as Urban Transition. This land is presently under Williamson Land Conservation Act contract. Should the Williamson Act contracts not be renewed in the future, the land may be developed as Low Density Residential.

The Community Plan encourages the development of commercial areas which conveniently serve residential population, provide employment opportunities, form an attractive segment of the community and contribute to the County's tax base. Commercial development opportunities are provided at the northwest intersection of Washington Road and Keyes Road, and at the planned intersection of Faithhome Road and Hollywood Drive. In addition, the Keyes Community Plan designates land adjoining Golden State Boulevard, Keyes Road and State Route 99 for highway commercial development. Industrial uses are primarily located west of State Route 99.

Table 1 provides a summary of land uses within the Keyes Community Plan area.

Table 1: Keyes Community Land Use Profile

Land Use	Development Acreage	Vacant Land	Total Acreage	Percent of Total
Low Density Residential (LDR)	**191**	**159**	**350**	**41%**
Medium Density Residential (MDR)	**57**	**34**	**91**	**10%**
Medium High Density Residential (MHDR)	**17**	**13**	**30**	**3%**
Commercial (C)	**22**	**17**	**39**	**4%**
Highway Commercial	**18**	**90**	**108**	**13%**
Industrial (I)	**52**	**32**	**84**	**10%**
Planned Industrial (PI)	**33**	**7**	**40**	**5%**
Urban Transition (UT)	**-**	**48**	**48**	**6%**
Parks*	**5**	**20**	**25**	**3%**
Schools**	**12**	**30**	**42**	**5%**
Total	**407**	**450**	**857**	**100%**

Notes:
***Parks vacant land acreage is based on a calculation need of 3 acres/1,000 residents projected in the Community Plan. Vacant parkland is representative of the Community Polan "Proposed Parks" symbol which denotes general location.**

****Schools vacant land acreage includes the planned middle school to be developed adjacent to Washington Road, and for on additional elementary school that will be needed.**

Circulation. The Community Plan identifies the location and extent of existing and proposed major roads, collector streets and local streets, as well as bikeways and rail lines. The Keyes Road interchange provides a vital link to the community from State Route 99. Keyes Road, Faith Home Road, Rohde Road/7th Street, Washington Road and Esmail Avenue are the community's primary roadways. Non-motorized transportation is encouraged via a system of recreational trails and bicycle lanes that connect the community's residential neighborhoods with retail centers, recreational and school facilities, and other public facilities.

Public Services

Wastewater Collection and Treatment. The Keyes Community Services District provides wastewater collection. Wastewater is conveyed to the City of Turlock wastewater treatment plant for treatment. Population growth in Keyes has been impeded due to capacity limitations of the sewer interceptor between Keyes and the City of Turlock wastewater treatment plant. Wastewater collection system improvements are underway to improve delivery of wastewater to the City of Turlock wastewater treatment plant.

Water Service. The Keyes Community Services District provides water service to the Keyes community. Domestic water is supplied by wells that pump groundwater. The groundwater is treated at the well head prior to being conveyed to customers.

Law Enforcement. Law enforcement is provided by the Stanislaus County Sheriff's Department. The County maintains a Sheriff's substation within the Keyes community. The California Highway Patrol shares space with County's sheriff's Department in the sub-station located on 7th Street.

Fire Protection. The Keyes Fire Protection District provides fire protection and paramedic services to the Keyes and surrounding areas. The District is a volunteer fire department. The average response time is two minutes.

Schools. Keyes is located within the Keyes Unified School District and the Turlock Joint Union High School District. The Keyes Unified School District has three schools, one charter school (K-8), one elementary school (K-8) and one pre-school all located on one campus site. Improvements are underway for a new middle school (Grades 6 – 8). The new middle will be located in northeast section of the community plan area, adjacent to Washington Road. The

Community Plan Diagram depicts the general location of a future elementary school site. High school-aged students (Grades 9 – 12) currently attend Turlock High School. Construction is underway for a new high school (Pitman High School) between Taylor Road and Christofferson Parkway. Once completed, it is anticipated that Keyes' high school-aged students will attend Pitman High School.

Parks and Recreation. The County provides and maintains one park facility within the community of Keyes. The community's current parkland inventory does not meet the County standard of 3 acres of parkland per 1,000 residents needed to support the community's present population. The Community Plan includes expanding Hatch Park into a 15 acre Community Park. The Community Plan also depicts the general location of future neighborhood park sites.

Goals, Policies and Implementation Measures

The following goals, policies and implementation measures are directed specifically toward the Keyes community and are intended to guide development within the Keyes Community Plan Area:

GOAL ONE

Achieve a harmonious relationship between the urban environment and surrounding agricultural setting.

POLICY ONE

Provide a land use pattern that is compatible with surrounding land uses and which provides an effective transition between the built environment and agricultural uses along the periphery of the community.

POLICY TWO

Discourage the designation/rezoning of residential land uses on land sharing a boundary with agriculture designated lands outside the Community Plan Area.

POLICY THREE

Provide adequate setbacks and/or non-residential improvements between residential development and adjacent agricultural land uses outside the Community Plan Area.

POLICY FOUR

Cooperate with the City of Ceres to the north and the City of Turlock to the south in establishing definitive community separator policies/implementation measures.

IMPLEMENTATION MEASURES

1. Residential land use designations/rezoning that share a boundary with agricultural designated lands outside the Community Plan area shall demonstrate that a 200 foot building setback or other comparable development setback can be provided. Setbacks may include physical improvements such as roads and canals.

2. Commercial, Highway Commercial, and Planned Industrial development shall be buffered from adjacent agricultural land uses outside the Community Plan Area by landscaping elements.

GOAL TWO

Improve the visual appearance of the Keyes community.

POLICY ONE

Encourage the development of identifiable community boundaries to establish a sense of community identity.

POLICY TWO

Encourage the development of "Gateway" treatments at major entryways to the community.

POLICY THREE

Encourage the upgrading, beautification and revitalization of existing commercial areas along 7th Street.

POLICY FOUR

Develop and Implement Design Guidelines for new development and for revitalization of existing development within Keyes.

POLICY FIVE

Promote alternative design solutions to reduce the negative visual impact of walled developments within Keyes.

IMPLEMENTATION MEASURES

1. The County should adopt Design Guidelines for the Keyes Community. The guidelines should address residential subdivision design and connectivity, non-residential development, and design/establishment of a gateway/entry features for Keyes.

2. "Gateway" treatments should be established at the State Route 99/Keyes Road Interchange, and at Rohde Road and the crossing of the Turlock Irrigation District's Upper Lateral No 2 ½.

3. Develop positive, high quality landscaped edges along State Route 99 and major roads leading into the community

4. The County shall approve development proposals which include walls only if walls are necessary in order to mitigate the negative impacts of noise, visual separation from traffic, or to provide a barrier between incompatible land uses. Where walls are necessary, the County shall require separation from the roadway by a curb-adjacent sidewalk and a six-foot landscaped planter strip. A combination of walls, berming and vegetation is considered more desirable than walls used alone.

GOAL THREE

Encourage attractive and orderly development which preserves a small town atmosphere.

POLICY ONE

Provide a diverse community that integrates residential, commercial and industrial land uses supported by public facilities.

POLICY TWO

Create an enhanced streetscape environment through the use of landscape and pedestrian access along arterial and collector streets.

POLICY THREE

Medium and High Density Residential should be located along collectors, and be designed and oriented in order to function as part of the overall neighborhood.

POLICY FOUR

Provide adequate lands to accommodate the development of commercial areas which will conveniently serve current and future residential needs.

POLICY FIVE

Minimize conflicts between industrial and planned industrial land uses by concentrating industrial activity west of State Route 99.

POLICY SIX

Provide convenient and accessible neighborhood commercial areas within the community to minimize vehicular trips needed for frequently used retail services.

POLICY SEVEN

Multi-family residential land uses shall be developed with a balance of open space, landscaping, and shall be accessible to commercial and recreational areas and public transportation facilities.

IMPLEMENTATION MEASURES

1. Commercial development shall be consistent in scale and character with surrounding neighborhood.

2. Commercial sites shall be developed in such a manner to not preclude direct access from residential areas for pedestrian and bicycle traffic.

3. County shall encourage and seek the revitalization of existing housing stock within the central core of the community.

4. County shall encourage and assist the commercial revitalization of 7th Street.

5. Walled and isolated residential enclaves shall be discouraged.

6. Residential areas shall be designed to create a pattern of activity that promotes community interaction within and with abutting neighborhoods.

7. Parks and schools shall be located and designed as neighborhood focal points.

8. Residential rear yards with walls shall be discouraged along collector streets within the interior of the community to avoid walled subdivisions. In situations where collectors with walls adjoin residential areas, cul-de-sacs should be used to create wall openings with pathway connections to encourage pedestrian access.

9. Development adjacent to Turlock Irrigation District Upper Lateral No 2½ shall maintain an open edge along the Lateral rather than backing against the Lateral.

GOAL FOUR

Promote highway-oriented commercial development in the State Route 99 corridor.

POLICY ONE

The County shall encourage the location of businesses and services (e.g., restaurants, service stations, lodging) in the State Route 99 corridor to serve the traveling public and local residents.

IMPLEMENTATION MEASURES

1. Designate land adjacent to the State Route 99/Keyes Road Interchange with good highway visibility and access as Highway Commercial. Permitted uses shall be those determined by the County to be supportive of the overall goals and policies of the Keyes Community Plan.

2. Limit development adjoining State Route 99/Keyes Road Interchange to large sites and non-residential uses with generous landscaping.

3. The County shall designate land in the Golden State Boulevard/Keyes Road/State Route 99 Interchange corridor area as Highway Commercial.

GOAL FIVE

Provide an interconnected system of streets and roads to distribute traffic and meet the circulation needs of the Community.

POLICY ONE

The County should promote development of a traditional grid circulation system that distributes traffic, provides connectivity and offers multiple-route choices for motorists, as portrayed on the Keyes Community Plan Diagram.

POLICY TWO

Open street patterns that create a network of circulation connections with multiple points of ingress and egress are encouraged.

POLICY THREE

All roadways shall be designed to complement the urban development pattern and coordinate with pedestrian, bicycle and transit routes.

IMPLEMENTATION MEASURES

1. The County shall evaluate development proposals for conformance with the circulation system depicted on the Keyes Community Plan Diagram.

2. Recognizing the community's land use pattern, limited number of continuous north-south and east-west streets will result in less than acceptable service standards on a small number of streets, the following roads shall be extended and designated as Collectors as depicted on the Community Plan:

    a) Esmail Avenue shall be extended to Washington Road;
    b) Starlite Drive shall be extended to Washington Road; and
    c) Washington Road shall be extended to Keyes Road.

    The following local roads shall be extended to improve continuous north-south and east-west circulation as depicted on the Community Plan:

    a) Maude Avenue shall be extended to Washington Road;
    b) Anna Avenue shall be extended to Washington Road;
    c) Jennie Avenue shall be extended to future Starlite Drive extension; and
    d) Stella Avenue shall be extended to future Starlite Drive extension.

GOAL SIX

Provide for the non-motorized transportation needs of the Keyes Community.

POLICY ONE

Provide safe and convenient pedestrian and bicycle facilities to various destinations throughout the community of Keyes.

POLICY TWO

Provide pedestrian and bicycle facilities that link community residents to schools, parks, civic facilities and the community's retail centers in accordance with the Keyes Community Plan diagram.

POLICY THREE

Community bicycle facilities shall connect to regional bicycle facilities.

IMPLEMENTATION MEASURES

1. Develop multi-purpose trail adjacent to the Turlock Irrigation District Lateral 2½ to promote walking, cycling and other non-motorized means of transportation.

2. The County shall explore a cooperative agreement with the Turlock Irrigation District to use Lateral 2½ right-of-way/easement for multi-purpose recreational trail, as identified on the Keyes Community Plan.

3. Bicycle facilities shall be included as part of road improvement projects where said roadways are identified as bike lanes on the Keyes Community Plan.

GOAL SEVEN

Provide for the recreational needs of the residents of the Keyes Community.

POLICY ONE

The County shall support expansion of Hatch Park as a Community Park.

POLICY TWO

The County should acquire additional parkland, pursuant the Keyes Community Plan, to meet the future parkland needs of the Keyes Community. Total parkland inventory should be consistent with the County standard of 3 acres of parkland per 1,000 residents.

IMPLEMENTATION MEASURES

1. The County shall acquire lands to the north and east of Hatch Park to accommodate expansion of the Hatch Park site to promote the development of a 15+ acre community park.

2. The County, in conjunction with the Keyes Municipal Advisory Committee and other interested groups, shall work to upgrade and expand the facilities at Hatch Park to include facilities normally associated with a Community Park (e.g., baseball fields, community center, soccer fields).

KNIGHT'S FERRY COMMUNITY PLAN

It is not anticipated that Knight's Ferry will experience significant growth in the coming years. Lack of sanitary sewer, existing Williamson Act contracts to the north, the Stanislaus River on the south and the community's desire to retain its historical character will keep its growth to a minimum. Projected 2010 population is only 300 compared to the 1980 population of 281. In the event that development is proposed within the historical community of Knight's Ferry, it must comply with the building standards in Appendix 1-1 of the Support Documentation.

LA GRANGE COMMUNITY PLAN

It is not anticipated that La Grange will experience any significant growth in the coming years. The present water system is lacking in the ability to serve additional customers, consequently, until the system is upgraded and expanded, future growth is seriously **limited**~~retarded~~. This is evident in the population projection for the year 2010 of 112 as compared to the 1980 population of 88. In the event that development is proposed within the historical community of La Grange, Appendix 1-2 of the Support Documentation should be consulted for building exterior design standards.

SALIDA COMMUNITY PLAN

The Salida Community Plan ("Community Plan" or "Plan") provides land use planning and guidance for development of approximately 4,600 acres of land in the Salida area. The Community Plan encompasses the existing community of Salida, which was part of the previously approved Salida Community Plan (the "Existing Plan" or "Existing Plan Area"), and an amendment area encompassing approximately 3,383 acres (the "Amendment Area"). **The Amended Area consists of the Salida Area Planning, Road Improvement, Economic Development, and Farmland Protection Initiative (the "Initiative") approved by Board of Supervisors on August 7, 2007 and adopted by ordinance on August 17, 2007. The ordinance specifies that until the terms of the Development Agreement governing the Amended Area expire, the Initiative may be amended or repealed, to the extent permitted by law, by a majority of the voters of the County voting in an election held in accordance with state law. The terms of the Development Agreement expires twenty-five (25) years from the effective date of August 7, 2007 (*Expires: August 7, 2032*).**

The Existing Plan Area

The land use plan for the Existing Plan Area reflects both existing land use patterns and gathered information to guide future land use decisions. In formulating this plan, it was apparent that a substantial portion of the community had already developed in a way which has produced few areas of potential land use conflicts. The designations included within this plan are intended to, whenever possible, mitigate those impacts, or prevent them from occurring in the future. This will, hopefully, result in an attractive and efficient pattern of living and working areas. In the event that development is proposed within the redevelopment area of Salida, Appendix 1-3 of the Support Documentation should be consulted for development standards.

The Amendment Area

The Community Plan provides land use and development guidance for the Amendment Area that promotes harmonious integration of the Existing Plan Area with new development planned within the Amendment Area. The land uses, goals, and policies of the Community Plan promote job creation, retail opportunities, and tax generation, while providing for improved vehicular and non-vehicular circulation, expanded recreational amenities, expanded housing choice, preservation of open space, effective transitions between urban and agricultural environments, and substantial

infrastructure improvements within the Amendment Area. New development within the Amendment Area will be implemented through the Salida Community Plan Zoning District, which requires the adoption of a discretionary non-legislative Development Plan ("Development Plan") prepared according to the regulatory zoning requirements of the District.

Amendment Area Purpose

One of the primary purposes of the Amendment Area is to provide for a mix of land uses that can facilitate the Salida community's financial and fiscal self-sufficiency. Building upon this purpose, and other goals and policies, the Amendment Area strives to create local jobs and commercial opportunities with significantly improved regional vehicular circulation and infrastructure, supported by complementary and integrated housing that expands the community's range of residential offerings. Capital facility, and service needs generated by new development in the Amendment Area should be financed by new development. To allow sufficient time for proper infrastructure planning and development, no new residential units in the Amendment Area shall be occupied prior to January 1, 2010.

Land Use and Land Use Designations

Land uses shown for the Amendment Area are consistent with designations contained in the County General Plan. However, a new land use designation, Business Park, has been added for this area. The General Plan land use designations applicable within the Amendment Area include: Low-Density Residential, Medium-Density Residential, Medium High-Density Residential, Commercial, Planned Industrial, Business Park, and Agriculture. Table 1, Salida Community Plan Amendment Area Land Use Designations, shows the proposed Amendment Area land uses and their associated acreages. Refer to the Salida Community Plan map for a map of land uses within the Amendment Area. The Amendment Area represents a blueprint for the expansion of Salida and is meant to take a comprehensive view of land uses in order to prevent piecemeal planning. In order to offer a long-term planning approach, non-agricultural land use designations are applied to lands which may still be subject to Williamson Act contracts. However, the provisions of the Salida Community Plan Zoning District should require that until such time as contracts are terminated, lands encumbered by a Williamson Act contract shall remain subject to the zoning restrictions found within the County's A-2 zoning regulations.

The Board of Supervisors may, at its discretion, approve minor modifications to the boundaries and location of the land designated Low-Density Residential, Medium-Density Residential, Medium High-Density Residential, or Agriculture within the Amendment Area, and approve rezonings which implement such modifications, provided such modifications preserve the overall intent of the Community Plan and the total acreage devoted to the Low-Density, Medium-Density and Medium High-Density Residential land use designations, as set forth in Table 1, does not increase or decrease by more than ten percent (10%).

In addition, the Business Park designation, as created herein, is intended to provide land use flexibility in order to support the creation of a first-class modern business park. Therefore, the Board of Supervisors may, at its discretion, re-designate land within the Amendment Area from Planned Industrial to Business Park along with rezonings to implement said modifications without limitation. This discretion is reserved for the Board of Supervisors in acknowledgment that the market demand for Business Park uses may increase over time, thereby warranting the broader range of uses and land use configurations offered by the Business Park designation.

To effectively implement the Planned Industrial, Business Park, or Commercial Land Use designations within the Amendment Area, the Board of Supervisors may also, at its discretion, rezone land zoned as SCP-C-1, SCP-C-2, SCP-PI, or SCP-IBP, to Planned Development. The

Planned Development district as provided for in Chapter 21.40 of the County Code would allow for modification of requirements established by the SCP district and diversification in the relationship of different uses, buildings, structures, lot sizes and open spaces, while ensuring compliance with, and implementation of, the Community Plan. Such flexibility would be used to promote development of modern retail, business park and industrial park developments.

Finally, if the potential adverse environmental impacts associated with the current Planned Industrial or Business Park land use designations, as identified in an Environmental Impact Report, could be reduced or eliminated by alternative land use designations, the Board of Supervisors retains the discretion to make changes to the Planned Industrial or Business Park land uses, including conforming rezonings.

An illustrative conceptual plan for the Amendment Area is included in the Community Plan as Illustration 1 and is provided for illustrative purposes only. The precise design, location of uses, and amenities will be established by discretionary non-legislative Development Plan approval.

Table 1

SALIDA COMMUNITY PLAN AMENDMENT AREALAND USE DESIGNATIONS		
Land Use Designation	**Zoning**	**Total Acreage**
Planned Industrial	**SCP-PI**	**1,259**
Business Park	**SCP-IBP**	**490**
Commercial	**SCP-C-1 SCP-C-2**	**280**
Low-Density Residential	**SCP-R-1**	**802**
Low-Density Residential-Special Treatment Area	**SCP-R-1- ST**	**64**
Medium-Density Residential	**SCP-R-2**	**187**
Medium High-Density Residential	**SCP-R-3**	**57**
Agriculture	**SCP-A-2**	**244**
Total Acres		***3,383***

SCP Illustration 1 to be inserted

Planned Industrial. As part of an interjurisdictional effort, the County of Stanislaus and the City of Modesto developed the North Gateway Business Complex Master Development Plan in 2003. The goal of the plan is to help alleviate the existing jobs-housing imbalance in the County by promoting development of employment-generating industrial/business park uses in the area roughly bound by Ladd Road on the north, Dale Road on the east, Pelandale Expressway on the south, and Sisk Road on the west. The Planned Industrial designations shown to the east of Sisk Road within the Amendment Area are consistent with the intent of the North Gateway Business Complex Master Development Plan.

Approximately 1,259 acres of land are designated as Planned Industrial. This represents approximately 37.2 percent of the Amendment Area. The majority of these lands are located in the northeastern portion of the Amendment Area. An area designated as Planned Industrial is located in the southwestern portion of the Amendment Area on land that includes an existing industrial use. Intended uses within the Planned Industrial designation are consistent with those defined in the General Plan.

Business Park. The Community Plan includes 490 acres that are designated Business Park. This represents approximately 14.5 percent of the total Amendment Area. This use is concentrated largely in the eastern portion of the Amendment Area, but two notable areas in the northwest portion of the Amendment Area, near the Hammett Road/State Route 99 interchange, also carry this designation.

The Business Park designation is intended to accommodate development of a full range of uses, including modern, employment-intensive uses. Principal development and employment-generating uses allowed within this designation include research, product development, professional office, commercial, and business services.

Commercial. The Community Plan includes 280 acres of land designated Commercial within the Amendment Area. This represents approximately 8.3 percent of the Amendment Area. The Commercial designation applies to Regional Commercial, Neighborhood Commercial, and Highway Commercial uses as described in the General Plan. A major regional commercial area is planned in the northwest corner of the Amendment Area on the east side of State Route 99. Neighborhood-serving commercial uses are located at the southwest corner of the Covert Road/Toomes Road intersection and between Sisk Road and Stoddard Road just south of the planned expressway. New highway commercial uses are located west of State Route 99 near the Hammett Road/State Route 99 interchange.

Table 2

SALIDA AMENDMENT AREAANTICIPATED EMPLOYMENT GENERATION			
Land Use	**Acres**	**Jobs/Acre[1]**	**Total Jobs**
Business Park	**490**	**25 [2]**	**12,250**
Manufacturing/Industrial/Warehousing, etc.	**1,259**	**7**	**8,813**
Neighborhood, General, and Highway Commercial	**280**	**24**	**6,720**
Total	**2,029**	**13.7**	**27,783**

[1] **Source: Stanislaus County Economic and Workforce Alliance**

[2] **Weighted average number of jobs per acre between Business Park and High-Visibility Business Park**

Residential. The Amendment Area affords substantial opportunity for new residential development with a neighborhood orientation. The Amendment Area includes 866 acres of land designated Low-Density Residential, 187 acres designated Medium-Density Residential, and 57 acres designated Medium High-Density Residential, for a total of 1,110 acres of new residential development. Land designated for residential uses represents approximately 32.8 percent of the total Amendment Area. The new residential areas are generally located in the southwestern and northern portions of the Amendment Area.

Public facilities, parks, and schools are conditional uses within areas designated as Low-Density Residential. Accordingly, approximately 118 acres of the land designated Low-Density Residential within the Amendment Area are either occupied by existing schools or owned by a school district for which a school is planned and are therefore not expected to result in additional units beyond the 5,000 units shown in Table 3. Additionally, 64 acres of land now owned by the Salida Sanitation District on which it operates the Salida Wastewater Treatment Plant are designated Low-Density Residential. Build-out of this land with residential uses may or may not occur. If the Salida Sanitation District determines that it will continue to operate the existing plant, modify the plant, and/or expand the plant in the future to meet its needs, this could preclude build-out of all 64 acres with residential units, though some portion of the land may retain capacity for residential development. As a result, the maximum number of units and the total projected population increase shown in Table 3 could be incrementally lower.

Single-family homes at a density of up to eight dwelling units per net acre may be developed on land designated Low-Density Residential. The actual development density is likely to be about 4.5+/- dwelling units per net acre. Detached single-family homes, duplexes, and triplexes at densities of up to 14 units per net acre are permitted on land designated Medium-Density Residential. An average density of about 10+/- dwellings units per net acre is anticipated. Densities up to approximately 25 dwelling units per net acre are permitted on land designated Medium High-Density Residential. An average density of about 23+/- dwelling units per net acre is anticipated. Table 3, Projected Residential Build-Out and Population, shows that a total of approximately 5,000 new dwelling units could be accommodated within areas designated Low-, Medium- and Medium High-Density Residential use at build-out. The local population would increase by about 15,063 people with build-out of the residential designated portions of the Amendment Area. Including the population of the existing community, the projected total population within the Community Plan boundary would be 29,063 persons at build-out of the Amendment Area.

Table 3

Projected Residential Build-Out and Population

Land Use Designation	Total Gross	Average Dwelling	Total Dwelling Units	Population Accommodated
Low-Density Residential	**866**	**4.5**	**2,754**	**8,299**
Medium-Density Residential	**187**	**10.0**	**1,306**	**3,933**
Medium High-Density Residential	**57**	**23.4**	**940**	**2,831**
TOTAL	***1,110***		***5,000***	***15,063***

I. Net acreage is approximate based on an assumption that 30% of the gross acreage will be occupied by parks, roads, school sites, sidewalks, and utilities.

2. Based on average of 3.01 persons per household.

Agriculture. The County currently applies the Agriculture land use designation to areas identified as suitable for open space or recreational use. Within the Amendment Area, this designation applies solely to the proposed Stanislaus River Park, which comprises 244 acres, or approximately 7.2 percent of the Amendment Area. This designation is not intended to accommodate agricultural activities within the Community Plan boundary.

The Stanislaus County Parks Development Plan states that regional parks are an important component of the County-wide parks program. The Stanislaus County Parks Development Plan suggests that parks which preserve river and riparian areas, which are significant natural resources, should be a focus. Though the Stanislaus County Parks Development Plan states that the overall acreage of existing regional parks in the County is adequate to serve future populations, to meet the intent of the Community Plan for providing expanded recreation resources and to help preserve valuable natural resources, the Amendment Area includes an approximately 244-acre river park along the Stanislaus River. The river park comprises lands within habitat and flood easements along the river that are controlled by the U.S. Army Corps of Engineers. The river park concept is to preserve and restore natural conditions close to the river and to locate passive recreational activities such as picnicking, bird-watching, walking, jogging, bicycling, and supporting structures such as restrooms and parking facilities, etc. at distances that are progressively farther from the river. Active recreational facilities could be considered.

It is expected that developers of new projects within the Amendment Area would prepare a park plan, as part of the Development Plan process, for the river park and would fund improvements needed to implement the park plan.

Circulation

Circulation Concept. Existing and planned roadways should comprise a roadway network that serves the existing community and provides connectivity to regional transportation corridors. The existing circulation system and proposed circulation facilities and improvements should be fully integrated. Roadway segments and alignments should promote even dispersal of traffic throughout the Community Plan area. For example, industrial traffic should be routed from the eastern portion of the Amendment Area to a new expressway. Right-of-way for the Hammett Road interchange is needed to accommodate interchange improvements required to accommodate additional traffic generated by new development. A Project Study Report for the Hammett Road Interchange is currently under preparation. A Project Study Report shall be approved for the Hammett Road Interchange prior to approval of tentative maps and development permits for lands located within the interchange study area of the Project Study Report. Right-of-way for any interchange improvement is required to be protected and incorporated into any Development Plan for lands contained within the interchange study area.

The new vehicular circulation system should include a number of major improvements:

- Construction of that portion of a new expressway located within the Amendment Area to facilitate traffic flow east to west and which connects to the State Route 99 / Hammett Road interchange;

- Modification of an existing State Route 99 interchange at Hammett Road;

- Extension of Pirrone Road east from Sisk Road;

- Widening and improvement of Sisk, Stoddard, Kiernan, Dale, Toomes, Hammett, and Bacon roads;

- Facilitation of circulation to the area designated Planned Industrial that is located south of Kiernan Avenue; and

- Construction of local roadways and collectors throughout the Amendment Area to promote efficient and safe circulation.

Conceptual Roadway Classifications/Sections. New roadways within the Amendment Area must be designed to accommodate a variety of vehicle types, volumes, speeds, and safety conditions. To this end, several roadway types are proposed. These range from an expressway road classification, where the proposed right-of-way width is up to 224 feet, to a local street classification with a right-of-way width of approximately 50 feet. Several of the roadway types incorporate Class II bicycle or Class I separated dual-use pedestrian/bicycle paths to provide for non-motorized transportation connectivity throughout the Amendment Area. In most cases, the conceptual sections differ from standard road sections utilized by the County and where different, the conceptual road standards are unique to the Amendment Area. Conceptual roadway classifications and types are as follows:

- Expressway: An expressway running east to west that connects the eastern portion of the Amendment Area and the communities of Oakdale, Riverbank, Modesto, and beyond with access to the State Route 99 / Hammett Road interchange is planned. The expressway would improve access to State Route 99 from the noted communities and link new development within the Amendment Area to the highway. New development within the Amendment Area is expected to provide funding needed to construct the portion of the expressway located within the Amendment Area. Funding to construct portions of the expressway that extend east from the eastern Amendment Area boundary must be acquired and improvements constructed by other parties. The expressway could ultimately be 10 lanes wide, with a right-of-way width of approximately 224 feet. The expressway would likely be constructed in phases and widened over time to respond to demand for increased capacity, as determined by traffic studies, and available funding.

- Hammett Road: The right-of-way width for Hammett Road north of Ciccarelli Road would measure 105 feet and would include 6 travel lanes (3 in each direction). A 12-foot Class I dual-use pedestrian/bicycle trail would be located within a 50-foot landscape buffer to the east. The total separation between new development and agriculture to the west of the Amendment Area would total 155 feet, inclusive of the landscape buffer. The right-of-way width for Hammett Road from Ciccarelli Road to Bacon would measure 81 feet and include 4 travel lanes (2 in each direction). A 12-foot Class I dual-use pedestrian/bicycle trail would be located within a 50-foot landscape buffer to the east. The total separation between new development and agriculture to its west inclusive of the right-of-way width and landscape buffer would be 131 feet.

- 4-Lane Backbone Roads: The following roadways are classified as 4-Lane Backbone Roads: Dale Road, Stoddard Road, Quinturn Lane and Pirrone Road. Right-of-way width for these road segments measures 125 feet and includes either an 8-foot Class I dual-use bike trail and sidewalk or a 6-foot Class II bike lane and 5-foot separated sidewalk on each side of the street.

- Sisk Road: Sisk Road would measure 110 feet in total public right-of-way width. The current public right-of-way width for Sisk Road totals 50 feet. New development would improve 60 feet of new right-of-way width on the eastern side of the street.

- Kiernan Avenue Parkway: Kiernan Avenue west of Hwy. 99 from Hammett Road to the west property line of Salida Middle School would measure 81 feet in width and include 4 travel lanes. An 8-foot Class I dual-use bike trail and sidewalk would be located within a 31-foot landscape buffer to the south. Kiernan Avenue Parkway from the west property line of Salida Middle School to Toomes Road would measure 81 feet in width and include three travel lanes and a 5-foot separated sidewalk to the north. An 8-foot Class I dual-use pedestrian/bicycle trail would be located within a 31-foot landscape buffer.

- Bacon Road: Bacon Road right-of-way width would measure 72 feet and include four travel lanes and an 8-foot Class II dual-use bike path and sidewalk to the north.

- Arborwood Road: Arborwood Road right-of-way would measure 82 feet in width and include two travel lanes, a 5-foot Class II bike lane in each direction, and a 4-foot separated sidewalk on both sides of the street.

- Toomes, Ciccarelli, Covert, and Finney: Right-of-way for the named streets would measure 62 feet in width and include an 8-foot Class II bike lane, a 5-foot separated sidewalk on one side of the street, and an 8-foot Class I dual-use pedestrian/bicycle trail on one side of the street.

- Industrial Collectors: Right-of-way width for collector streets within land areas designated for planned industrial or business park land uses would total 80 feet and consist of 34 feet of travel lanes and a 6-foot attached sidewalk on each side of the centerline.

- Right-of-way width for local residential streets serving more than 50 homes would measure 56 feet and include a 5-foot separated sidewalk on both sides of the street. Right-of-way width for local residential streets serving fewer than 50 homes would measure 50 feet and include a 10-foot travel lane, an 8-foot parking lane, and a 4-foot attached sidewalk on each side of the street.

The Development Plans for new development shall specify the roadway classifications and standards required within each Development Plan boundary to ensure that the overall circulation network functions efficiently and effectively. Development Plans may include modifications or additions to the conceptual road standards noted above, with such modifications and additions subject to review and approval of County staff.

Neighborhood Parks and Trails

Neighborhood Parks. Neighborhood parks are intended to serve residents within one-quarter to one-half mile, be within an appropriate walking or cycling distance, and be connected by a multi-use trail system where possible. The Stanislaus County Parks Development Plan suggests that neighborhood parks be provided at a ratio of at least three acres of park land for every 1,000 people. A population increase of 15,063 people is projected should the designated Low-Density, Medium-Density, and Medium High-Density new residential areas build-out within the Amendment Area to their maximum potential. If maximum build out were achieved, 45 acres of neighborhood parks would be needed to meet County standards. Satisfaction of park provision requirements may also be met through payment of park in-lieu fees. However, given the need for local park facilities within local neighborhoods in the Amendment Area, it is anticipated that park requirements will be largely met through provision of park land. The Community Plan illustrates the general location of

potential neighborhood park sites. Where possible, neighborhood parks are placed adjacent to new or existing schools. Co-location of parks and school facilities maximizes the recreational utility of both types of facilities; a full range of complementary recreational opportunities can be provided in one location. Neighborhood park land may also be designed to serve the dual-uses of recreation and temporary storm water detention. This approach improves land use efficiency.

Trails. Community Plan policy requires that new development incorporate multi-use trails, pedestrian corridors, and bicycle facilities. Development Plans for new development must incorporate such improvements to demonstrate that new development is meeting the intent of the Community Plan that significant alternative transportation opportunities be provided to maximize community interconnectedness. Priority should be placed on linking neighborhoods with local neighborhood parks, the Stanislaus River Park, school facilities, and major employment centers. The Development Plans must include policy and guidance for the location and standards of trails, pedestrian facilities, and bicycle facilities.

A regional trail spanning the length of the Stanislaus River Park is planned and would be a valuable asset. Class I or Class II bicycle lanes should be incorporated into the design of new arterial and major collector roadways. Separated dual-use Class I pedestrian/bicycle facilities should also be considered for inclusion in the design of such roadways.

Schools

With the increase in population in the Salida community, new schools will be needed to serve new local residents. It is anticipated that up to three new elementary schools and one new middle school will be required. The Community Plan shows the general locations proposed for new elementary school and middle school sites. These schools would complement the new Joseph Gregori High School, the Modesto Christian School, and the Salida Middle School, each of which is located within the Amendment Area. Each of the new schools is planned to include active recreational playfields and other amenities that will substantially expand availability of recreation facilities within the community.

Public Utilities and Facilities

New public services and facilities will be needed to support new development within the Amendment Area and may also provide benefit to the existing Salida community. Examples of new public utilities include wastewater treatment service and water service. Facilities include sheriff or fire stations, utility substations, or other utility improvements such as water or wastewater treatment facilities. While provisions have been made for the location of such facilities within the Amendment Area, the Board of Supervisors retains discretion to allow such facilities to be located outside the Amendment Area.

Emergency Response. Emergency response and law enforcement services are provided by the Salida Fire Protection District and the Stanislaus County Sheriff's Department respectively. An additional fire station site may be needed to adequately serve emergency response needs of the community. A new fire station site has been generally designated for a location on Stoddard Road north of Pirrone Road as shown on the Community Plan. Final determination of a fire station site is within the purview of the Salida Fire Protection District and Stanislaus County.

Wastewater Treatment. The existing Salida Wastewater Treatment Plant must be expanded or upgraded and/or a new plant constructed to provide treatment capacity for new development. The existing plant site is designated for residential use, but is considered a special treatment area within which continued operation and expansion of the plant is permitted. If an additional treatment plant is needed, it could be located nearly anywhere within the Amendment Area. New wastewater treatment plants can be designed to substantially reduce the types of nuisances normally associated with more traditional facilities (i.e. odors, noise, etc.) and to be very land use efficient. A new plant with capacity to accommodate the new development could be constructed on about 8-12 acres of land. This enables flexibility in locating a new treatment facility because potential land use incompatibility concerns are substantially reduced. Given current requirements of the California Regional Water Quality Control Board, new wastewater treatment facilities must meet stringent environmental standards.

Because water is a limited resource, it is likely that a new plant (and possibly any upgrade to the existing wastewater treatment plant) would be designed to treat wastewater to a tertiary level. A significant volume of recycled water will be produced. Recycled water may be used for a variety of applications such as landscape irrigation, toilet flushing, etc. Use of recycled water would reduce demand for ground or surface water, thereby reducing the impact of new development on existing water sources.

The precise location of a new wastewater treatment facility, if one is needed, will be identified and incorporated into the Development Plan which guides development for that location. The Development Plan must address land use compatibility issues and identify measures to avoid or substantially reduce incompatibilities should incompatibilities be identified.

Water Supply. An adequate water supply must be secured and demonstrated for development in accordance with applicable law.

WESTLEY COMMUNITY PLAN

Westley could experience significant growth in the coming years. Projected population within the Community Services District by the year 2010 is 740. The sewage treatment facility can serve an approximate capacity of 1115. However, until a public water system is available, growth will be kept to a minimum. Existing Williamson Act contracts will restrict the expansion of the current district boundary.

Insert the following Community Plan Maps in this Section

1. Crows Landing
2. Del Rio
3. Denair
4. Hickman
5. Keyes
6. Knights Ferry
7. La Grange
8. Salida
9. Westley

PUBLIC FACILITIES AND SERVICES

EDUCATION FACILITIES

School facilities are provided by ~~36~~ **26** school districts in the County. For a list of the elementary, high school and special school districts along with their individual schools located within the unincorporated area of the County, see Appendix 1-4.

In addition to elementary and high school districts, Stanislaus County has a junior college district and a California State University campus. The Yosemite Community College District supports Modesto Junior College. There are two campuses comprising the college. Modesto Junior College West is located on Blue Gum Avenue and ~~the main campus is located on~~ **Modesto Junior College East, located on** College Avenue, both within the city limits of Modesto. California State University, Stanislaus is located on West Monte Vista Avenue in Turlock.

The Stanislaus County Office of Education **Department of Special Education provides a comprehensive school program for severe and low incidence handicapped students ranging from birth to 22 years of age.** ~~operates specialized schools for special education, alternative education and an outdoor education center. The John F. Kennedy Special Education Center provides a complete range of classes and services for the trainable mentally retarded, developmentally handicapped, and multi-handicapped students, aged birth to 22 years.~~ The **Department**~~center also~~ provides **a variety of education programs and services, including early intervention, K-12 classes for severely handicapped students, specialized student services, and integrated site classes.** ~~vocational training and parent counseling.~~ Alternative Education provides education for students grades 7-12 in the Modesto Community School, Turlock Community School, Juvenile Hall and through independent study programs.

~~Most school districts~~ **According to the California Department of Education Data Reporting Office, K-12 school districts experienced rapid growth in school enrollment numbers from 2001-2007. As a result, many new facilities and school sites were added to accommodate the rise in student enrollments. That enrollment growth declined in 2008 and has remained steady since. Even with stagnant enrollment numbers and reductions in funding that have occurred over the last five years, school facility expansions and upgrades are still anticipated to occur over the next 20 years.** ~~in Stanislaus County are experiencing growth and many have added new facilities, are completing construction of new facilities, or are studying the possibility of adding or replacing facilities within the next five years. Denair Unified School District continues to study the feasibility of building a new school on its property. Modesto City Schools and Turlock Unified School District have completed construction of a high school and junior high school respectively, both of which opened in the fall of 1992. Empire Union and Sylvan Union School Districts have begun construction of new elementary schools, Modesto City Schools opened Hanshaw Middle School in 1991, and the Stanislaus County Office of Education opened the John B. Allard Alternative Education Center in Turlock in 1992. In addition, many districts such as La Grange, Denair, Empire and Hughson High School District have accommodated growth by remodeling, renovating and/or adding relocatable units.~~

~~To help finance new school facilities needed to accommodate a growing population, state law allows school districts to levy development fees directly on new residential, commercial and industrial development (Government Code Section 65995). School districts may also acquire funds to provide school facilities in specific areas through a variety of other sources including mitigation~~

~~fees, the state building program, creation of Mello-Roos Community Facilities Districts, and issue of local general obligation bonds.~~

California state law requires that the Land Use Element of the General Plan address criteria for locating various land uses, including school facilities. Stanislaus County has chosen to meet these requirements through the use permit process. Virtually all ~~of the~~ County zoning designations, including residential and agricultural zones, allow**s** schools. This method requires a public hearing to be conducted prior to approval unless the school district chooses to ignore these regulations. According to state law, the school district may vote (2/3 vote required) to ignore County zoning regulations (Government Code Section 53094). This procedure is routinely used by districts in this County, with the result that public schools are rarely, if ever, actually subject to the use permit process.

Although school districts usually choose to operate independently of local governmental land use regulations, proposed school sites must be referred to local agencies for comment. In evaluating sites for the location of schools, the County shall consider factors including, but not necessarily limited to, the following:

a. **Surrounding land uses (both existing and planned).** Existing and future land uses should be consistent with the proposed school facility. Schools shall be located in areas convenient to the people to be served.

b. **Traffic impacts and public road access.** Proposed school facilities shall not cause significant impacts that cannot be mitigated. School facilities shall be located on collector streets and should not be located on major streets.

c. **Public safety.** Proposed school facilities shall be located to provide the maximum degree of public safety. They should not be located adjacent to high traffic generating activities.

d. **Parcel size.** School facilities should be located in areas which are of diminished agricultural importance due to small parcel sizes unless location in other areas is necessary in order to most efficiently serve the public. The typical parcel size for school sites is approximately 10 acres for elementary schools and 40 acres for high schools.

e. **Impacts on agriculture.** School facilities shall be located to avoid impacts on adjoining agricultural uses. For the most parts they should be located within cities or in the Urban Transition area that a city will someday annex.

f. **Noise, dust, and vibration.** The proposed school facility shall not cause an unreasonable amount of noise or dust and should not be located in areas where it would be impacted by the same.

g. Proximity to an existing or proposed runway. A proposed school site shall be evaluated by the Caltrans Division of Aeronautics if it is within 2 nautical miles of an existing or proposed runway that is identified in an adopted Airport Layout Plan.

PUBLIC BUILDINGS AND GROUNDS

With the exception of schools as discussed in the preceding section, most public buildings (such as the courthouse, County administration building, city halls, etc.) are located within the limits of

incorporated cities. ~~However, the County's public safety center and social services complex (County Center VI) are located in an unincorporated area near Ceres~~. ~~In addition~~ **However**, there is much public land in the unincorporated part of the County. Most of this land is used for parks or preserved as open space. The locations of these lands can be found on Map 3-12 of the Conservation/Open Space Element. **Lands owned by the United States Government and State of California are used as open space (both existing and future parks) and, in the case of the State, as right-of-way reserved for future construction or expansion of roads.**

~~This map also indicates lands owned by the United States Government which are used as open space. In addition to land used for open space, the United States Government owns the Crows Landing Naval Air Station near the town of Crows Landing. (This facility became a NASA facility in mid-1993, when the Navy abandoned it.) Land owned by the State of California is used largely for open space (both existing and future parks) and as right-of-way reserved for the future construction or expansion of roads.~~

In addition to identifying existing public buildings and grounds, the Land Use Element is required to designate "the proposed general distribution and general location and extent of the uses of land for . . . public buildings and grounds . . . ." Stanislaus County has chosen to permit public buildings and grounds in virtually all of the various zoning districts. Generally, a use permit is required, which allows public review of the request and allows Planning Commission review to ensure suitable locations. This method recognizes the diversity of the areas the plan covers, ranging from residential and commercial neighborhoods to farm and industrial lands. It also recognizes that such facilities could include a variety of uses such as hospitals, office buildings, fire stations, and airports. The permit process allows specific review of the relationships between the proposed uses and those that surround them either currently or in the future. It also allows the County to review the project as it relates to the objectives of this plan. Sites identified on city general plans as being appropriate for public facilities, when within ~~Urban Transition~~ **a LAFCO adopted Sphere of Influence**, shall be considered consistent with this plan. In some instances, the state or federal law preempts local control and requirements. Therefore, review is only effective when the agency cooperates.

In evaluating the consistency of a public facility, the County shall consider factors including, but not necessarily limited to, the following:

a. **Surrounding land uses (both existing and planned).** Existing and future land uses should be consistent with the proposed public facility. The facility shall be located in an area that is convenient to the users of the facility.

b. **Traffic impacts and public road access.** The proposed facility shall not cause significant traffic impacts that cannot be mitigated. In the case of public facilities for open space (wildlife areas, etc.), it is important that traffic not be allowed to impact the open space area.

c. **Noise, dust and vibration.** The proposed facility shall not cause an unreasonable amount of noise, dust or vibration and should not be located in areas where it would be impacted by the same.

d. **Public safety.** Proposed public facilities shall be located to provide the maximum degree of public safety.

e. **Soil types.** Public facilities shall be located as much as possible on poorer soils unless such location is clearly not practical.

f. **Parcel size.** Public facilities should be located in areas which are of diminished agricultural importance due to small parcel sizes unless location in another area is necessary due to specialized requirements of the facility.

g. **Impacts on agriculture.** Facilities shall be located to avoid impacts on adjoining agricultural uses.

LIQUID AND SOLID WASTE DISPOSAL FACILITIES

Solid Waste. With the passage of the California Integrated Waste Management Act of 1989 (AB 939), all counties and cities are mandated to provide fully integrated systems to deal with their solid waste. The law requires all communities to reduce the amount of solid waste that goes to disposal by 25% by 1995. That mandate increases to 50% reduction in the year 2000. The County is required to produce a comprehensive planning and implementation document, the Countywide Integrated Waste Management Plan (CIWMP), to guide the County and the incorporated cities in every detail of their solid waste management activities.

The CIWMP provide**d** direction and establishe~~s~~**d** goals so the entire community will be assured adequate, long-term disposal capacity. **Related to AB 939, annual reports on the County-wide solid waste activities are provided to the State.** ~~The law requires local jurisdictions to prioritize their waste management systems by utilizing the following hierarchy:~~

SOURCE REDUCTION

RECYCLING AND COMPOSTING

ENVIRONMENTALLY SAFE TRANSFORMATION AND LANDFILLING

To enable the County to meet state mandates, the community must have systems and facilities that are not only used for disposal, but also are capable of diverting significant portions of our waste from either landfilling or transformation (waste-to-energy).

Current status: The ~~eight~~ **eleven** permitted solid waste facilities in Stanislaus County are described below.

Fink Road Landfill – **Located at 4040 Fink Road., on the west side of I-5, south of the City of Patterson, in the southwest corner of the County.** Owned and operated by Stanislaus County, this facility has a Class III fill operation for general refuse and a Class II monofill used exclusively for ash residual from the waste-to-energy facility.

Geer Road Landfill – **Located on the west side of Geer Road., on the north side of the Tuolumne River, north of the City of Hughson.** This facility is ~~not actively~~ **no longer** receiving waste and is going through extensive state-mandated ~~closure and~~ post-closure activities. The facility is owned by Stanislaus County and the City of Modesto; Stanislaus County is performing the closure activities.

Bonzi Landfill – **Located at 2650 W. Hatch Road., west of Carpenter Rd., just west of the City of Modesto.** This facility**, although presently inactive, was considered to be** a Class III landfill ~~that is currently~~ permitted to receive specified inert **and industrial** wastes. Owned and operated by a private company.

Stanislaus Resource Recovery Facility – **Located on Fink Road., adjacent to the Fink Road Landfill, on the west side of I-5, south of the City of Patterson, in the southwest corner of the County.** This is an 800-ton-per-day, mass-burn, waste-to-energy facility. Electricity is generated and sold to a public utility ~~to offset the cost of the plant construction, operation and maintenance~~. Owned and operated by a private company.

~~Modesto Disposal Service Transfer Station/Resource Recovery Facility~~ **Waste Management, Inc. Transfer Station – Located at 2769 W. Hatch Road., west of Carpenter Road, west of the City of Modesto.** ~~This is a~~ **A** large- volume transfer station permitted to receive general waste and recyclables from residential, commercial and industrial sources. Owned and operated by a private company**, however it is currently inactive**.

Turlock Transfer – **Located at 1100 South Walnut Road, inside the City of Turlock, on the west side of State Highway 99.** Large-volume transfer station permitted to receive general waste and recyclables from residential, commercial and industrial sources. Owned and operated by a private company. ~~The only facility that is inside an incorporated city (Turlock).~~

Bertolotti Transfer and Recycling Center – **Located at 231 Flamingo Drive, on the northeast corner of Crows Landing and E. Whitmore Roads, in the Modesto area.** Large-volume transfer station permitted to receive general waste and recyclables from residential, commercial and industrial sources. Owned and operated by a private company.

Gilton Resource Recovery/Transfer Facility – **Located at 800 S. Mc Clure Road, in the Beard industrial area, south of the City of Modesto and north of the City of Ceres.** Owned and operated by a private company, this large-volume transfer station is permitted to receive general waste and recyclables from residential, commercial and industrial sources.

Recology Grover Environmental Products – Located 6131 Hammett Road, in the Salida Community Area, west of State Highway 99. Owned and operated by a private company. This Composting facility is permitted to receive green waste.

Recology Grover Environmental Products – Located at 3909 Gaffery Road, in the northwest side of the County, east of Interstate 5. Owned and operated by a private company. This Composting facility is permitted to receive mixed greenwaste.

City of Modesto Co-Compost Project – Located at 7001 Jennings Road on the northeast side of the City of Patterson. Owned and operated by the City of Modesto. The co-composting facility is permitted to compost food waste, green materials and biosolids.

A majority of the collection and removal of garbage and refuse in the County is performed by franchised and permitted waste haulers. Private individuals can use any of the facilities except the Geer Road Landfill, which is closed, and the waste-to-energy facility, which restricts access to non-permitted haulers.

Recovery of recyclable and reusable materials takes place at each of the transfer stations. In addition, all of the franchised refuse haulers in the County operate systems for the curbside collection of recyclables on their residential routes.

Future perspective: Stanislaus County will continue to take a very active role in all aspects of solid waste management. Medium- and long-range plans will incorporate both future landfill capacity and diversion facilities. Projects like composting operations and material recovery facilities need to be planned for and encouraged. Facilities and projects that deal with the diversion of special wastes (food processing residue, demolition/construction waste, inert wastes, tires, de-watered sewage sludge and household hazardous wastes) should be allowed to continue and expand as justifiable.

It is imperative that both existing and potential disposal and diversion facilities are protected, thereby assuring proper opportunities for their continued use, expansion or development. The County will ensure that no new uses that conflict with solid waste facilities are permitted next to, or near, such sites.
Responsible Departments: Environmental Resources, Board of Supervisors

Liquid Waste. Liquid waste facilities (sewer plants) are located throughout the County. Each of the incorporated cities has its own facilities as do the unincorporated communities of Grayson and Salida. The Stanislaus County Housing Authority owns the system which serves Westley. The

towns of Keyes and Denair use Turlock's facilities and Empire uses Modesto's. Nearly all of the cities facilities are within the limits which they serve (six of nine) although all but one of these facilities is surrounded on at least three sides by County land (See Appendix I-6). Riverbank's plant is in San Joaquin County. Modesto's plant is partly inside the city and partly outside. Only Waterford's facilities are located totally in the County. In addition to incorporated towns, the systems which serve Grayson, Salida, and Westley are located in the County.

Liquid waste facilities are permitted only in the A-2 (General Agriculture), PD (Planned Development) and M (Industrial) zoning districts. In all three districts, public hearings are required in order to approve the project, thereby assuring proper opportunities for complete review.
Responsible Departments: Environmental Resources, Planning Department, Planning Commission, Board of Supervisors

AREAS SUBJECT TO FLOODING

There are a number of areas within Stanislaus County which are subject to periodic flooding. They are located along the natural watercourses. These include the County's three major rivers: the Stanislaus, the Tuolumne and the San Joaquin. Several creeks are subject to flooding as well: Salado, Del Puerto and Orestimba west of the San Joaquin River; and Dry Creek, Little John Creek, and Sand Creek on the east side of the County. The Farmington Flood Control Basin located on Little John Creek in the northeasterly part of Stanislaus County floods periodically in order to protect lands downstream. In addition, all of the creeks flowing out of the Diablo Mountains should be considered potentially flood prone.

The County has recognized the need to plan and protect its residents as much as possible from flooding hazards. ~~It has adopted a~~ **The County adopted its** Flood Damage ~~Protection~~ **Prevention** Ordinance **in 1996.** It makes reference to the flood hazard areas which have been identified by the Federal Insurance Administration **(FIA) of the Federal Emergency Management Agency (FEMA)**. The County has adopted that agency's Flood Insurance Rate Maps (FIRM**s**)**, Flood Boundary and Floodway Maps (FBFMs)** and has adopted specific regulations pertaining to building activities within those areas. Detailed maps are available in the County ~~Department of Public Works, Building Inspection Division~~ **Department of Planning and Community Development, Building Permits Division**. The subject of flooding is discussed extensively in the Safety Element.

Responsible Departments: Public Works, ~~Building Inspections~~ Planning Department-Building Permits Division

LAND USE ELEMENT

All appendices to be updated to include relevant documents & updated information during environmental phase.

APPENDICES

Insert the following Appendices:

1. Appendix I-1 - Planning Commission Resolution No. 87-1
2. Appendix I-2 - Planning Commission Resolution No. 87-2
3. Appendix I-3 - Planning Commission Resolution No. 87-3
4. Appendix I-4 - School Districts in Stanislaus County
5. Appendix I-5 - Legal Authority for Adoption of Improvement Assessments
6. Appendix I-6 - Municipal Sewer Plants Map

Chapter 2

CIRCULATION ELEMENT

An efficient, integrated transportation system is essential to maintaining the quality of life and facilitating the economic growth of the County of Stanislaus. Over the past few decades, the County has been able to sustain its growth without extensive expansion of County roads and State Highways because sufficient capacity has been available on the existing system to absorb the traffic generated by new growth. However, over the past few years, the rate of traffic growth in the County has started to exceed the available transportation system capacity in some areas of the County, particularly in and around the more urbanized areas. In addition, **approximately** ~~roughly~~ one-fifth of the workers living in Stanislaus County commute to jobs outside the county each day placing greater demand on freeways, county roads and bridges that provide access to adjacent counties.

~~Since 1970~~**From 1990 to 2000**, ~~the annual rate of growth of the total population of~~ Stanislaus County **saw substantial population growth, increasing 20.6 percent from 370,522 to 446,997. From 2000 to 2010 that population growth rate slowed significantly, increasing only 15.1 percent from 446,997 to 514,453** ~~has ranged from 2.2% to 4.4%~~ **(*U.S. Census Bureau*** ~~*StanCOG spreadsheet, 2014*~~ ***04***). Although some growth has been in unincorporated towns, most of this growth has occurred within the incorporated cities of Stanislaus County. Consequently, the County must plan for new urban and rural roads to be built as part of development proposals and expansion of existing roads to connect major traffic generators (i.e., incorporated cities). These roads will facilitate inter-city traffic movement between the cities and between neighboring counties.

Goods movement will also increase with an expanded population and economic base. The large urbanized areas require millions of tons of goods each year to maintain their economic activities. Transport of agricultural commodities has long been an important function in the Stanislaus County area. Stanislaus County is an important food processing region for the State, nation and the world. Poultry, dairy, **tree nuts** and vegetable products are processed and distributed throughout the world from here every day. Goods movement is the result of production activities within and outside of the region, ~~and~~ **where** movement takes place within a complex system of routes, modes, terminals, and warehouse facilities.

Stanislaus County is principally an agricultural region which produces and specializes in a number of products. Nearly 80% of the County's land is devoted to agricultural production, compared to 25% in the State as a whole (*California Department of Conservation, 2002; Department of Finance*). However, in the case of Stanislaus County, when raw materials are bulky, perishable, and of relatively low value, it is natural that processing will occur nearest to the place where the raw material is produced, not only to reduce the bulk, but to raise the value in order to be able to sustain transportation costs. With agricultural processing occurring throughout the County, in many of its towns and in the cities, transportation and circulation are key factors in determining the health of the County's economy.

The State has also recognized the importance of the agricultural goods movement in Central Valley areas such as Stanislaus County. The State's Goods Movement Action Plan identifies four high priority gateway regions in California that are necessary to support the continued growth of the California economy. The Central Valley region, which includes **Major International Trade Routes** Route 99**,** ~~and~~ Interstate 5**, and the Union Pacific Railroad**, and other important east-west corridors that traverse Stanislaus County, is one of these high priority regions. Traffic congestion and operational conflicts between trucks and passenger vehicles have been identified as key issues that need to be addressed to maintain an efficient goods movement network in the Central Valley.

Agriculture and manufacturing depend on an efficient, rapid, and economical transportation system to move supplies and final products. Continued allocation, improvement, and maintenance programs will ensure a circulation system vital to the County's economy.

PURPOSE

The Circulation Element of the General Plan identifies goals, policies and implementation measures that ensure compatibility between land use, infrastructure and transportation modes. The information gathered that gives rise to this element is provided in Chapter 2 of the "Stanislaus County General Plan - Support Documentation."

The Circulation Element of the County General Plan depicts corridors for public mobility and access which are planned to meet the needs of the existing and anticipated population of Stanislaus County. The adoption of this Circulation Element by the Board of Supervisors of Stanislaus County complies with California Government Code Section 65302(b), which requires each county and city to prepare, as part of their general plan, a circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated with the land use element of the plan.

The Stanislaus County Circulation Element serves to: (1) provide a system of roads throughout the County which reflects land use needs; and (2) support a broad range of transportation modes. Development of these facilities is based on the needs generated by future land use and represents the anticipated needs of each area when fully developed to the uses and densities proposed by the General Plan. Increased demand for circulation facilities is based on the need of an increased number of people to move about and the increased need to move goods from place to place.

Stanislaus County maintains more than 1,500 miles of roadways within the unincorporated area (*Stanislaus County Public Works **– Annual Report**, ~~2004~~ **2013***). These roads provide access to individual parcels and serve as major corridors between urban areas. The mobility of those without automobiles is effectively restrained and, as the population grows**;** ~~,~~ increased traffic could adversely affect air quality. The lower the residential density, the less likely that public transit systems can be supported. This element recognizes that the auto is and will be in the future the overwhelming transportation choice for most of the populace. This element also incorporates strategies intended to encourage land uses that support public transit and other transportation modes that will contribute to improved air quality in the future.

CONSISTENCY WITH THE REGIONAL TRANSPORTATION PLANS AND LOCAL GENERAL PLANS

Efficient transportation systems cannot be created without forging effective linkages between the internal transportation network (which is the responsibility of the County and the cities) and the external transportation network (which is the responsibility of other local, State and federal entities). By incorporating policies, standards, and implementation measures to ensure consistency with the external systems, the County can play an important role in building a regional transportation system that provides seamless integration between internal and external systems thereby facilitating the movement of both people and goods. This element incorporates recommendations from each of the cities' general plans, the Caltrans Transportation Corridor Reports, and the Regional Transportation Plan developed by the Stanislaus Council of Governments (StanCOG) to develop the specific recommendations contained in this chapter. The final recommendations of this chapter have been extensively reviewed by each jurisdiction, Caltrans, and StanCOG for consistency and compatibility.

LEVEL OF SERVICE

Level of service (LOS) is a standard measure of traffic service along a roadway or at an intersection **for vehicles**. It ranges from A to F, with LOS A being best and LOS F being worst. ~~Figure 2-1 provides illustrations of Level of Service conditions for two types of roadway situations commonly found in Stanislaus County (i.e., two-lane highways and unsignalized intersections at four-way stops).~~ In very general terms, LOS A, B and C indicate conditions where traffic can move relatively freely. LOS D describes conditions where delay is more noticeable and average travel speeds are more unstable. LOS E indicates significant delays and average travel speeds vary greatly and are unpredictable; traffic volumes are generally at or close to capacity. Finally, LOS F characterizes traffic flow at very slow speeds (stop-and-go) and significant delays with queuing at ~~unsignalized~~ intersections; in effect, traffic demand on the roadway exceeds the roadway's capacity. As a matter of policy, Stanislaus County strives to maintain LOS ~~C~~ **D** or better **for motorized vehicles** on all roadway~~s~~ **segments and a LOS of C or better for motorized vehicles at all roadway intersections**. When measuring levels of service, Stanislaus County uses the criteria established in the Highway Capacity Manual published and updated by the Transportation Research Board.

TRAFFIC ANALYSIS

Consultant to confirm and update as needed as part of the environmental.

To confirm the need for transportation improvements identified in the Circulation Element, a forecast of traffic volumes and Level of Service is prepared based upon the level of growth anticipated by the year ~~2030~~ 2035, the planning horizon for the General Plan. The forecast is based on the latest population, housing and employment projections prepared by StanCOG, the agency designated by the State to prepare these forecasts. These forecasts were adjusted to reflect additional growth anticipated by the cities or the County since the adoption of the StanCOG forecast. The traffic study is provided in Chapter 2 of the "Stanislaus County General Plan - Support Documentation" and its recommendations have been incorporated into this element.

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Figure 2-1 Level of Service

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LEVELS OF SERVICE
for Two-Lane Highways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		55+	Highest quality of service. Free traffic flow with few restrictions on maneuverability or speed. **No delays**
B		50	Stable traffic flow. Speed becoming slightly restricted. Low restriction on maneuverability. **No delays**
C		45	Stable traffic flow, but less freedom to select speed, change lanes or pass. **Minimal delays**
D		40	Traffic flow becoming unstable. Speeds subject to sudden change. Passing is difficult. **Minimal delays**
E		35	Unstable traffic flow. Speeds change quickly and maneuverability is low. **Significant delays**
F			Heavily congested traffic. Demand exceeds capacity and speeds vary greatly. **Considerable delays**

Source: 2000 HCM, Exhibit 20-2, LOS Criteria for Two-Lane Highways in Class 1

LEVELS OF SERVICE
Unsignalized Intersections
Four Way Stop

Level of Service	Flow Conditions	Delay per Vehicle (seconds)	Technical Descriptions
A		<10	**Very short delays**
B		10-15	**Short delays**
C		16-25	**Minimal delays**
D		26-35	**Minimal delays**
E		36-50	**Significant delays**
F		>50	**Considerable delays**

Source: 2000 HCM, Exhibit 17-22, Level of Service Criteria for AWSC Intersections

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STREETS AND ROADS

Road Classifications

A hierarchy of adequately sized roads will be required to provide access to facilitate the movement of people and goods throughout the County, provide access to future development within the unincorporated area and between cities, and maintain acceptable levels of service. The General Plan Circulation Diagram depicted in Figure **TBD** ~~2-2~~ identifies the functional classification of key routes and distinguishes between existing and proposed future roads. The classifications**,** as well as their required design and access standards**,** are defined in the following index of road classifications (State Highways, and special circumstances and exceptions to these standards are noted in *italics*):

A. **Interstate** Freeway. The function of a**n Interstate** Freeway is to provide for the safe and efficient movement of large volumes of interregional, inter-city, and urban traffic at high-speeds. **Interstate** Freeways have no direct land service function. Access is restricted to roads via interchanges, and typically to Expressways and Majors **at minimum of 2-mile spacing along the mainline**. ~~Parking is not permitted on freeways.~~ **Interstate** Freeways in Stanislaus County are ~~typically~~ planned, constructed, and operated by Caltrans **and legislatively defined by the United States Congress under the Dwight D. Eisenhower National System of Interstate and Defense Highways**. **Parking, pedestrians, non-motorized vehicles and farm machinery are not allowed on these types of highways.**

*Interstate 5 ~~and State Route 99 are~~ **is** the only **Interstate** Freeway~~s~~ that **traverses** Stanislaus County~~. Caltrans has prepared a feasibility study to expand State Route 99 to eight lanes through the county. Right-of-way and building setback requirements for these facilities are determined by Caltrans.~~*

B. Freeways and Expressway**s.**

Designed exclusively for high-speed and unhindered vehicular traffic, with no traffic signals, intersections, or property access, these highways are free of any at-grade crossings with other roads or railroads, which instead use overpasses and underpasses to cross the highway. Entrance and exit to the highway is provided by ramps at interchanges. Opposing directions of travel are usually (but not always) separated by a median or some sort of traffic barrier. Generally, pedestrians, non-motorized vehicles and farm machinery are not allowed on these types of highways, although some exceptions do exist in certain areas.

SR-99, North County Corridor and SR-132 are the only example of this highway type in Stanislaus County. Caltrans has prepared a feasibility study to expand State Route 99 to eight lanes through the County. Right-of-way and building setback requirements for these facilities are determined by Caltrans. North County Corridor, running from Highway 99 north of Modesto to Highway 120 east of Oakdale, and ~~Proposed~~ the realignment of State Route 132, from Highway 99 to Dakota Avenue, are planned to be Expressways.

C.~~B~~ **Principal Arterials (Rural and Urban).** The function of a~~n Expressway~~ **Principal Arterial** is to move high volumes of people and goods between urban areas within the

county at higher speeds**, while still providing access to abutting properties as permitted by the standards for each Principal Arterial class**. ~~depending upon the level of access control~~. ~~Direct access to abutting property is specified within the standard for each expressway class.~~ ~~Expressways~~ **Principal Arterials** serve a similar function to that of Freeways **and Expressways (**the fast and safe movement of people and goods within the county**)** and provide access to the interregional freeway system. On-street parking is not permitted on ~~Expressways~~ **Principal Arterials** ~~except under very special and rare circumstances where the Department of Public Works has determined that traffic flow and safety conditions allow on-street parking~~. The design features of ~~Expressways~~ **Principal Arterials** are determined by the level of access control and the number of lanes designated for each ~~Expressways~~ **Principal Arterial** route segment (see Figure ~~2-3~~ **TBD**)**. Pedestrian and bicycle facilities may be provided on these types of roadways. Farm machinery is permitted on these types of highways. The number of lanes that are required will be determined at project build time for the 20-year design life as required in the most current Public Works Standards and Specifications. The access restrictions of Principal Arterials are defined as**:

~~(1) A "Class A" Expressway is a fully access-controlled road with grade separated interchanges at intervals of approximately one mile at other Expressway, Major, or Local roads. The typical right-of-way is 110 or 135 feet (4 or 6 lanes, respectively).~~

~~*State Route 120 (Oakdale Bypass from Valley Home Rd. to its eastern junction at State Route 108) is planned to be a Class A Expressway within the right-of-way planned and approved by Caltrans.*~~

(1)~~(2) A "Class B" Expressway is a~~ **P**~~p~~artially access-controlled **Principal Arterial** road**s (formerly identified as "Class B" Expressway)** ~~with~~ **are** traffic-controlled intersections at **Principal and Minor Arterials** ~~Major roads and other Expressways~~. Collectors and Locals are permitted right-in, right-out access only at 1/4- to 1/2-mile intervals. The typical right-of-way is 110 or 135 feet (4 or 6 lanes, respectively). ~~On limited rights-of-way, Class B Expressways may be 100 feet for four lanes and 124 for six lanes.~~

~~*State Route 219 (Kiernan Avenue between State Route 99 and State Route 108 (McHenry Blvd.) is planned to be a Class B Expressway. Caltrans has adopted an Official Plan Line for construction of the ultimate 6-lane facility.*~~

~~*State Route 132 from State Route 99 west to the San Joaquin County line is planned to be constructed along a new alignment as a Class B Expressway unless otherwise determined by Caltrans. Caltrans has adopted Project Study Reports for construction of the interim facilities.*~~

(2)~~(3) A "Class C" Expressway is a~~ **L**~~l~~imited access-controlled **Principal Arterial** road**s (formerly identified as a "Class C" Expressway)** ~~with~~ **are** traffic-controlled intersections at ~~Majors and other~~ Expressways **and Principal or Minor Arterials**. Intersections at Collectors and Locals may or may not be controlled by a traffic signal. The typical right-of-way is 110 or 135 feet (4 or 6 lanes, respectively). ~~On limited rights-of-way, Class C Expressways may be 100 feet for four lanes and 124 for six lanes.~~

Some State Highways that lie in the unincorporated area outside the spheres of influence of the cities and the community of La Grange (State Routes 4, 33, 120 ~~except the Oakdale Bypass,~~ and 132 along its existing Maze Blvd. alignment and east of Modesto) are planned to be ***Limited Access Principal Arterials*** *~~Class C Expressways~~, unless otherwise determined by Caltrans.*

Santa Fe Avenue, outside of the communities of Empire and Denair, and the City of Hughson, is planned to be a~~n~~ 4-lane ***Limited Access Principal Arterials*** *~~Class C Expressway~~ within an 85-foot right-of-way measured from the railroad right-of-way.*

Hatch Road from Mitchell Road to Geer Road is planned to be a 4-lane Limited Access Principal Arterial within a 100-foot limited right of way due to the Ceres Main Canal restrictions.

D~~C~~. **Minor Arterial (Rural & Urban)** ~~Major~~. The function of a ~~Major road~~ **Minor Arterial** is to carry moderate- to high-volume traffic to and from collectors to other ~~Majors~~ **Minor Arterials**, **Principal Arterials,** Expressways, and Freeways with a secondary function of land access. ~~Majors~~ **Minor Arterials** located within areas zoned for heavy or light industrial or that are expected to carry large or heavy trucks shall be constructed to Industrial Major **Collector** standards. Limited direct access is provided to abutting property. On-street parking will be permitted only where the Department of Public Works has determined that traffic flow and safety conditions allow on-street parking. **Pedestrian and bicycle facilities may be provided on these types of roadways. Farm machinery is permitted on these types of highways.** The typical right-of-way **for a Minor Arterials** is 110 feet (up to 6 lanes, ultimately). **However, there are different design standards associated with the Urban and a Rural Minor Arterial classifications.** ~~On limited rights-of-way, Majors may be 100 feet.~~

State Route~~s~~ ~~108 and~~ 165 from State Route 99 to the Merced County line ***is*** *~~are~~ planned to be* ***a Minor Arterial*** *~~Majors and State Route 33 within the cities of Patterson and Newman is planned to be an 80-foot Major~~,* ***unless otherwise determined by Caltrans.***

State Route 33 within the cities of Patterson and Newman is planned to be an 80-foot Minor Arterial, unless otherwise determined by Caltrans.

Santa Fe Avenue, within the communities of Empire and Denair, and within the City of Hughson, is planned to be an 85-foot ***Minor Arterial*** *~~Major~~ measured from the railroad right-of-way*.

E~~D~~. **Major** Collector **(Rural, Urban & Industrial). Major** Collectors serve a dual function by providing ~~both~~ access to abutting property and movement of moderate volumes of people and goods for medium length trips **in rural, urban, and industrial zones**. **Major** Collectors serve as transition facilities, carrying traffic from lower to higher level roads. Most **Major** Collectors are two-lane roads ~~with a typical right-of-way of 60 feet.~~ **, but may be up to four-lane facilities where traffic dictates it to be necessary.** On-street parking will be permitted only where the Department of Public Works has determined that traffic flow and safety conditions allow on-street parking. **Pedestrian and bicycle facilities may be provided on these types of roadways. Farm machinery is permitted on these types of highways.**

~~In urban residential subdivisions, roads not shown on the General Plan Circulation Diagram or as an Official Plan Line that will serve more than 50 dwelling units, when the maximum density and full extent of the development is considered, shall be deemed Collectors.~~

The typical right-of-way for an Urban and Rural Major Collectors is 80 feet (up to 4 lanes, ultimately). However, there are different design standards associated with the Urban and a Rural Major Collector classifications.

Within industrial zones, a 110-foot right-of-way shall be the standard for the Major Collectors. The Industrial Major Collectors serve as transition facilities carrying traffic from lower to higher level roads.

~~In some instances, the Department of Public Works may determine that project design features dictate that a road serving as few as 20 urban dwelling units be deemed a Collector. Under certain circumstances, 80 feet of right-of-way may be required to provide additional capacity to provide two additional through lanes to accommodate projected traffic demand, to facilitate the movement of large trucks, or to improve safety due to limited visibility or other safety hazards. Table 2-1 lists the 80-foot Collectors.~~

F~~E~~. **Minor Collector (Rural, Urban, & Industrial). Minor Collectors serve a dual function by providing access to abutting properties and movement of light to moderate volumes of people and goods for medium length trips. Pedestrian and bicycle facilities may be provided on these types of roadways. Farm machinery is permitted on these types of highways.**

The typical right-of-way for Urban and Rural Minor Collectors is 60 feet (2 lanes). However, there are different design standards associated with the Urban and a Rural Minor Collector classifications.

In industrial zones, a 70-ft right-of-way is required to allow for the movement of goods while still providing local access to abutting properties. This is the minimum size for roads located within unincorporated County industrial zones.

G~~E~~. **Rural** Local. **Rural** Local roads serve as land access facilities in the agricultural areas of the County by providing ~~both~~ direct access to abutting property and movement of small volumes of people and goods for medium length trips. **Rural** Local **roads** are two-lane roads with a typical right-of-way of 60 feet ~~to~~ **that** safely accommodate**s** drainage, utilities, and other physical improvements that may be located within the public right-of-way. In agricultural areas of the county, roads not shown on the General Plan Circulation Diagram or as an Official Plan Line shall be considered **Rural** Local. This classification also includes cul-de-sac and dead-end roads in agricultural areas of the county. **Pedestrian and bicycle facilities may be provided on these types of roadways. Farm machinery is permitted on these types of highways.**

The typical right-of-way for Rural Local Roads is 60 feet (2 lanes).

H~~F~~. ~~Minor~~ **Urban Local.** ~~Minor~~ **Urban Local** roads serve as land access facilities in the urban and industrial areas of the County by providing ~~both~~ **direct** access to abutting property and movement of small volumes of people and goods for short trips.

In urban subdivisions, roads not shown on the General Plan Circulation Diagram or as an Official Plan Line, ~~which will serve no more than 50 dwelling units, when the neighborhood is fully developed,~~ shall be deemed ~~Minors~~ **Urban Local roads** unless otherwise designated by the Department of Public Works. ~~Minors~~ **Urban Local** roads are two-lane roads ~~with a typical right-of-way of 50 feet. Minors located~~ within areas zoned for heavy or light industrial or which are expected to carry large or heavy trucks shall be constructed to ~~Industrial~~ Minor **Collector** standards with a typical right-of-way of 70 feet. This classification also includes cul-de-sac and dead-end roads in urban and industrial areas of the County. **Pedestrian and bicycle facilities may be provided on these types of roadways. Farm machinery is permitted on these types of highways.**

The typical right-of-way for Urban Local Roads is 50 feet (2 lanes).

~~I~~C. Private. Private roads serve as land access facilities and are not maintained by the County. Two types of Private roads are permitted in the County. These roads are generally not shown on the General Plan Circulation Diagram.

Agricultural access easements, providing access to parcels 20 acres or more, are included primarily to conform to state-mandated standards for private access roads in the State Responsibility Area as designated by the California Department of Forestry and Fire Protection. New roads under this category shall not exceed a 12% slope nor be less than 30 feet in width.

Private roads may also be approved by the Planning Commission or Board of Supervisors as an exception to the Subdivision Ordinance to provide access to parcels in an urban or planned development when it is determined that such a request serves a public purpose and that future divisions of land requiring road access to or through the development would not occur due to topographic features, physical barriers, existing development, and other physical constraints of the development and the adjacent lands. If approved, these roads shall be constructed to the same standards as County-maintained roads or other standard approved by the Department of Public Works.

Other Requirements

Within the Spheres of Influence of any city, roadway improvements, dedications, building setbacks, and road reservations shall meet the development standards of the city consistent with the Spheres of Influence Policy in the Land Use Element of the General Plan, except in those areas subject to an individual city/county agreement. These requirements may change from time-to-time through the adoption or revision of local land use plans or standards. To ensure consistency with a city's development standards, additional right-of-way may be required for each of the roadway classifications described above. Where design and access requirements of a city differ from those established by the County, development shall be required to meet the standards of the city. The County will consult with the city prior to the construction of transportation improvements within its sphere of influence to ensure consistency with the standards of that city.

Dedication Requirements

When land is subdivided or otherwise divided into smaller parcels in Stanislaus County, or when buildings are constructed, existing zoning and subdivision regulations provide for the dedication of land for eventual public road use within or adjacent to the development. It is required that sufficient

land be dedicated to provide the width necessary for the ultimate road right-of-way based on the road classification of specific street plans. This dedication is based on the presumption that development will intensify use of the property and of the streets which provide access thereto. ~~Findings must be made by~~ **T**~~t~~he Planning Commission and the Board of Supervisors **must identify and make findings** supporting this presumption when a**n** ~~subdivision~~ application **for development** is being considered.

Road right-of-way acquisition policies to be further developed as part of the environmental review.

TABLE 2-1

MINIMUM RIGHT-OF-WAY REQUIREMENTS AND ROADWAY SEGMENT LEVEL OF SERVICE CRITERIA

	Street Classification	Total Lanes	Level of Service Thresholds (vehicles / per day / per lane)				
			A	B	C	D	E
Urban	50 Ft Local (Urban)	2	350	950	1,700	2,950	5,000
	60 Ft Minor Collector	2	350	950	1,700	2,950	5,000
	80 Ft Major Collector	2	700	1,900	3,400	5,900	10,000
	80 Ft Major Collector	4	2,520	4,230	5,940	7,110	9,000
	110 Ft Minor Arterial	4	3,000	5,000	7,000	8,400	10,000
	135 Ft Principal Arterial	4	3,750	6,250	8,750	10,500	12,500
	135 Ft Principal Arterial	6	4,500	7,500	10,500	12,600	15,000
Industrial	70 Ft Minor Collector	2	350	950	1,700	2,950	5,000
	110 Ft Major Collector	2	700	1,900	3,400	5,900	10,000
Rural	60 Ft Local*	2	350	950	1,700	2,950	5,000
	60 Ft Minor Collector*	2	350	950	1,700	2,950	5,000
	80 Ft Major Collector	2	350	950	1,700	2,950	5,000
	80 Ft Major Collector	4	1,400	2,350	3,300	3,950	5,000
	110 Ft Minor Arterial	4	3,000	5,000	7,000	8,400	10,000
	135 Ft Principal Arterial	4	3,750	6,250	8,750	10,500	12,500
	135 Ft Principal Arterial	6	4,500	7,500	10,500	12,600	15,000

Consultant to coordinate with Public Works and update as part of environmental review.

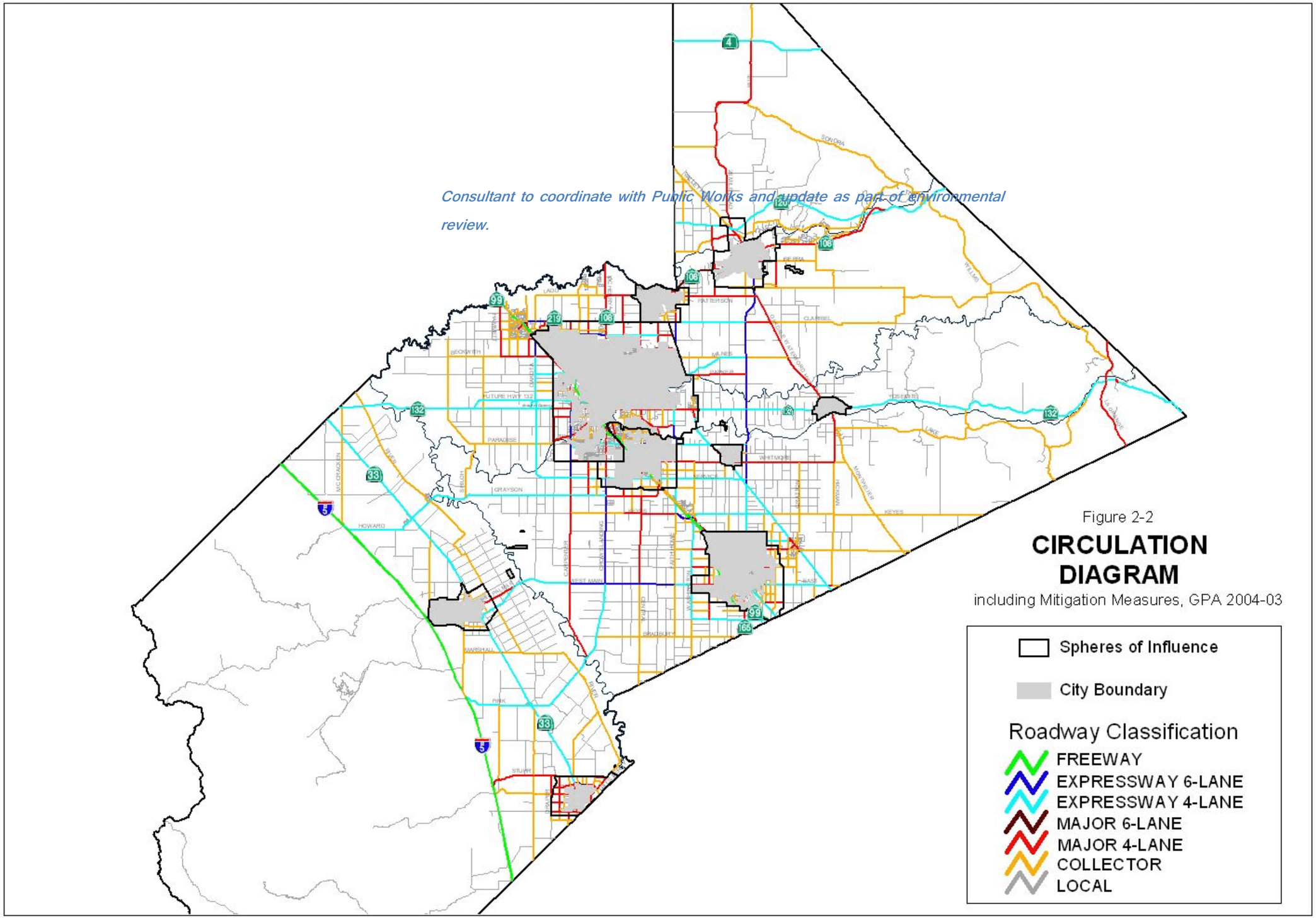

Figure 2-2

CIRCULATION DIAGRAM

including Mitigation Measures, GPA 2004-03

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Table 2-~~1~~2
Rural Local or Rural Minor Collector ~~Routes~~ Roads Requiring at Least 80' of Right-of-Way*

The following designated **Rural Local or Rural Minor C**~~c~~ollector routes require at least 80' of right-of-way either because of **non-ideal environments including rolling terrain where additional sight distance and/or super elevations are needed or in locations where more land is required for drainage or safety purposes**~~hilly terrains or greater than average anticipated traffic flows~~:

1. Claribel Road: Oakdale-Waterford Highway to Tim Bell Road.
2. Cooperstown Road: Warnerville Road to La Grange Road.
3. Crabtree Road: Highway 132 to Warnerville Road.
4. Del Puerto Canyon Road: Interstate 5 to Santa Clara County.

~~5. Dunton Road: Milton Road to Highway 4.~~

5.~~6~~. Eastman Road: 26 Mile Road to 28 Mile Road.
6.~~7.~~ Emery Road: Warnerville Road to Fogarty Road.
7.~~8~~. Fogarty Road: Wamble Road to Emery Road.
8.~~9.~~ Frankenheimer Road: 28 Mile Road to Sonora Road.
9.~~10.~~ Hawkins Road: Lake Road to Keyes Road.
10.~~11.~~ Hazeldean Road: Highway 132 to Tim Bell Road.
11.~~12.~~ Hickman Road: East Avenue to Whitmore Avenue.
12.~~13.~~ Kennedy Road: Highway 108/120 to Sonora Road.
13.~~14.~~ Keyes Road: Santa Fe Avenue to Merced County Line.
14.~~15.~~ Lake Road: Hickman Road to Highway 132.
15.~~16.~~ Lancaster Road: Orange Blossom Road to Highway 108/120.
16.~~17.~~ Milnes Road: Claus to Oakdale-Waterford Highway.
17.~~18.~~ Milton Road: Highway 4 to Calaveras County Line.
18.~~19.~~ Orange Blossom Road: Highway 108/120 to Sonora Road.
19.~~20.~~ River Road: San Joaquin County Line to Highway 120.
20.~~21.~~ Rock River Road: Willms Road to Tuolumne County Line.
21.~~22.~~ Rodden Road: Highway 120 to Orange Blossom Road.
22.~~23.~~ Sisk Road: Kiernan Avenue north to end.
23.~~24.~~ Sonora Road: Milton Road to Highway 108/120.
24.~~25.~~ Tim Bell Road: Lone Oak Road to Warnerville Road.
25.~~26.~~ Twenty Eight Mile Road: Rodden Road to Sonora Road.
26.~~27.~~ Wamble Road: Fogarty Road to Orange Blossom Road.
27.~~28.~~ Warnerville Road: Albers Road to Cooperstown Road.
28.~~29.~~ Willms Road: Cooperstown Road to Highway 108/120.

* This list only contains those **Rural Local or Rural Minor** Collector roads that require 80 feet of right-of-way. All other **Local or** Collector routes are depicted in the Circulation Diagram depicted in Figure 2-~~2~~**TBD**.

Recommended Approach Lanes

Additional lanes**, needing additional right-of-way dedication,** may be necessary at intersections to accommodate traffic making left-and right-turns. The recommended approach lane design at each intersection along these roadways is represented in Table ~~2-2~~**TBD**. ~~Precise il~~Intersection geometrics can be found in the **current** Stanislaus County Department of Public Works Standards and Specifications. These geometrics will be used when establishing building setbacks and

dedication requirements for development projects located in and around intersections, and may be modified in specific cases where the traffic impact analysis shows that additional approach lanes are needed to accommodate projected traffic.

Official Plan Lines

Official Plan Lines have been prepared for a number of roads in the County and adopted by the Board of Supervisors. Adoption of Official Plan Lines shows the intent of the County to widen these streets to a specified width along a specified alignment or build a new road at some future time. Official Plan Lines are often used when it is undesirable or impractical to widen a road by requiring legal dedication on both sides of the existing center line. Official Plan Lines are established to prevent any unnecessary removal of buildings or important natural features when the County is ready to build the road. Once adopted, building activity is prohibited inside the established setback lines although existing buildings may remain.

Identified ultimate road widths and alignments for the eventual widening or construction of a road have the important advantage of minimizing the cost to the County in the future. If new structures are permitted to be constructed in the proposed right-of-way, the County will be obligated to purchase portions of buildings and land lying within the proposed street line. It is also hoped that the disruption and dislocation of privately- owned improvements would also be minimized to reduce impacts on property owners. Adoption of Official Plan Lines or identification of ultimate street width requires foresight because the entire process of developing a transportation corridor is a slow one. A number of years may elapse before the last building, or even a majority of the buildings, are set back to the adopted line. Building setbacks may cause hardships to the first buildings that are required to be set back of the new line because they appear to be placed at the back of a parcel with old buildings projecting in front of them on both sides.

The process of adopting an Official Plan Line entails extensive technical studies and public outreach including a **multi-modal transportation** ~~traffic~~ analysis, environmental analysis, and detailed engineering studies to determine potential alignments and work with the affected property owners and the public to determine an appropriate alignment for each roadway. The Official Plan Lines adopted by the Board of Supervisors are listed in the Table 2-3. Some portions of these roads have been annexed into the spheres of influence or jurisdictional boundaries of the cities; therefore, city standards now apply to in those areas. This element includes proposed streets and roads that are necessary to support development planned within the cities' general plans. Generally, these streets and roads will be planned, developed and constructed upon annexation to the city. If, however, a city develops an Official Plan Line for any of these roadways, the city may also wish to submit that Official Plan Line to the County for adoption to ensure it is applied to new development within the sphere of influence.

Table 2-2
RECOMMENDED APPROACH LANES

Facility Type	Intersecting Road	Left	Through	Right
Expressway	Expressway	2	2 or 3	1
	Major*	2	2 or 3	1
	Collector*	1	2 or 3	1
	Local*	1	2 or 3	1
	Minor/Private			
Major	Expressway*	2	2 or 3	1
	Major	2	2 or 3	1
	Collector	1	2 or 3	1
	Local	1	2 or 3	1
	Minor/Private			
Collector	Expressway*	1	1 or 2	1
	Major	1	1 or 2	1
	Collector	1	1 or 2	1
	Local	1	1 or 2	1
	Minor/Private	0	1 or 2	0
Local	Expressway*	1	1 or 2	1
	Major	1	1 or 2	1
	Collector	1	1 or 2	1
	Local	1	1 or 2	1
	Minor/Private	1	1 or 2	1
Minor/Private	Expressway			
	Major			
	Collector	0	1	0
	Local	0	1	0
	Minor/Private	0	1	0

Table 2-3
Functional Classifications - Desired Roadway Characteristics

	Functional Classification	Corridor Width	Lanes	LOS Threshold	Intersecting Roadways	Private Property Access	Mobility/ Operating Speed
Urban	Freeway/ Expressway	Varies	4 - 8	D	Interchange at 1 miles spacing	None	High
	Principal Arterial	110'-125'	4 - 6	D	1 per 1/2 mile	Very Limited	High
	Minor Arterial	110'-125'	4 - 6	D	1 per 1/2 mile	Limited	Medium-High
	Major Collector	80'-110'	2 - 4	D	1 per 1/4 mile	Limited	Medium
	Minor Collector	60'-70'	2	D	1 per 1/8 mile	Limited	Low-Medium
	Local/Private	50'	2	D	No Limit	Controlled	Low
Rural	Freeway/ Expressway	Varies	4 - 8	D	Interchange at 2 mile spacing	None	High
	Principal Arterial	110'-125'	4 - 6	C	1 per 1/2 mile	Very Limited	High
	Minor Arterial	110'-125'	2 - 4	C	1 per 1/2 mile	Limited	Medium-High
	Major Collector	80'-110'	2 - 4	C	1 per 1/4 mile	Limited	Medium-High
	Minor Collector	60'-70'	2	C	1 per 1/4 mile	Limited	Medium-High
	Local/Private	50-60'	2	C	1 per 1/4 mile	Controlled	Low-High

Table Notes:

1. Corridor Width. The right-of-way widths shown represent typical right-of-way widths needed to accommodate the number of travel lanes necessary to support anticipated traffic volumes, shoulders, roadside ditches (rural roadways), curb, gutter, sidewalk, and bicycle lanes (where appropriate). Additional right-of-way width may be necessary at approaches to intersections to accommodate turn pockets. See Table 2-3 for Minor Collector and Local Roads that will require additional right-of-way.
2. Lanes. The number of lanes shown represents the typical number of lanes likely to be necessary for the various types of roadways. In unusual cases, additional lanes may be necessary to accommodate higher traffic volumes.
3. LOS Threshold. The LOS thresholds indicated in this table represents the maximum acceptable weekday AM or PM Peak Hour LOS. Whenever a traffic analysis is prepared as part of a project approval, improvements need to be identified to ensure the resulting operating LOS does not exceed these threshold values.
4. Intersecting Roadways. The values in this column represent the typical maximum number of intersections along the various types of roadways. In some cases, the number of intersections may be greater; however, a traffic analysis will be required indicating that the safety and function of the roadway will not be significantly compromised.
5. Private Property Access. Private property access to roadways maintained by Stanislaus County is granted through the issuance of an encroachment permit by the Department of Public Works. No access to private property will be permitted on Freeways or Expressways. Access to local roads will generally be approved; however, guidelines for driveways on local roadways in urban areas have been established in the Stanislaus County Public Works Standards and Specifications. Generally, driveways on other roadway types will be permitted; however the number of driveways will be limited to preserve the safety and function of the roadway. In some cases joint driveways serving more than one parcel may be required.
6. Mobility/Operating Speed. The descriptions in this column represent the perceived level of mobility (usually represented by operating speed) a motorist may anticipate to experience on the various roadway types during non-peak hours.

For lane configurations and intersection right-of-way requirements see appropriate Table within most current Public Works Standards and Specifications. Right of Way (ROW) widths are based on the road classification or as determined by the Director of Public Works. However, ROW dedications and improvements may be greater than listed above at intersections and/or where facilities or alternative forms of

transportation are planned. **

~~Table 2-3~~
~~ADOPTED PLAN LINES~~

~~NAME~~	~~FROM~~	~~TO~~
~~26 Mile Road~~	~~Dodds Road~~	~~Sonora Road~~
~~Blue Gum Avenue~~	~~Morse Road~~	~~North Ninth Street~~
~~Briggsmore Avenue~~	~~State Route 99~~	~~Claus Road~~
~~Carpenter Road~~	~~Crows Landing Road~~	~~Whitmore Avenue~~
~~Claus Road~~	~~State Route 132~~	~~State Route 108~~
~~Coffee Road~~	~~Orangeburg Avenue~~	~~Sylvan Road~~
~~Coffee Road~~	~~Sylvan Road~~	~~Patterson Road~~
~~Crane Road~~	~~Patterson Road~~	~~West F Street~~
~~Crows Landing~~	~~State Route 99~~	~~Whitmore Avenue~~
~~Crows Landing~~	~~Whitmore Avenue~~	~~West Main Street~~
~~Fink Road~~	~~Interstate 5~~	~~State Route 33~~
~~Fulkerth Avenue~~	~~State Route 99~~	~~Golden State Boulevard~~
~~Hatch Road~~	~~Carpenter Road~~	~~Crows Landing Road~~
~~Hatch Road~~	~~State Route 99~~	~~Mitchell Road~~
~~Hawkeye Road~~	~~State Route 99~~	~~Berkeley Avenue~~
~~Howard Road~~	~~Interstate 5~~	~~State Route 33~~
~~McHenry-Ladd-Patterson Intersection~~		
~~Mc Henry Avenue~~	~~Briggsmore Avenue~~	~~Stanislaus River~~
~~Monte Vista Avenue~~	~~State Route 99~~	~~Berkeley Avenue~~
~~Monte Vista Avenue~~	~~State Route 99~~	~~Golden State Boulevard~~
~~North Olive Avenue~~	~~Canal Drive~~	~~Monte Vista Avenue~~
~~Oakdale Road~~	~~Scenic Drive~~	~~Patterson Road~~
~~Orange Blossom Road~~	~~Rodden Road~~	~~Knights Ferry~~
~~Paradise Road~~	~~Sutter Avenue~~	~~Dunning Lane~~
~~Pelandale-Claratina~~	~~Dale Road~~	~~Claus Road~~
~~Roselle Avenue~~	~~Briggsmore Avenue~~	~~Floyd Avenue~~
~~Scenic Drive~~	~~Modesto City Limit~~	~~Claus Road~~
~~Sperry Road~~	~~Interstate 5~~	~~State Route 33~~
~~Standiford-Sylvan~~	~~State Route 99~~	~~Claus Road~~
~~Stearns Road~~	~~State Route 108~~	~~Oakhurst Drive~~
~~Stuhr Road~~	~~Interstate 5~~	~~State Route 33~~
~~Sylvan-Standiford Avenue~~	~~State Route 99~~	~~Claus Road~~
~~Yosemite Boulevard~~	~~Modesto City Limit~~	~~Waterford City Limit~~

~~Zeering Road~~	~~State Route 99~~	~~Hawthorne Street~~

Table 2-4~~3~~
ADOPTED PLAN LINES

NAME	FROM	TO
26 Mile Road	Dodds Road	Sonora Road
Carpenter Road	Crows Landing Road	Whitmore Avenue
Coffee Road	Sylvan Road	Patterson Road
Crows Landing	Whitmore Avenue	West Main Street
Fink Road	Interstate 5	State Route 33
Howard Road	Interstate 5	State Route 33
Mc Henry Avenue	Briggsmore Avenue	Stanislaus River
Orange Blossom Road	Rodden Road	Knights Ferry
Stuhr Road	Interstate 5	State Route 33

Study Areas

Prior to adopting an Official Plan Line, focused traffic, engineering and environmental studies may be conducted to determine the appropriate alignment and right-of-way requirements for major transportation improvements. These studies are particularly useful when a new road is required or special circumstances, such as limited sight visibility or hilly terrain, warrant a more detailed traffic operations analysis to determine the appropriate design and alignment for the future facility. These studies will require extensive involvement by the cities, other public agencies, and the public, to determine the appropriate design and alignment of each facility. ~~Eight~~ **The** special study areas ~~have been~~ **are** identified ~~as shown~~ in Table 2-~~4~~**5**.

~~**Table 2-4**~~
~~**SPECIAL STUDY AREAS**~~

~~STUDY AREA~~	~~DESCRIPTION~~	~~FROM~~	~~TO~~	~~SOURCE~~
~~1~~	~~Las Palmas Bypass~~	~~Patterson~~	~~San Joaquin River~~	~~StanCOG/Patterson~~
~~2~~	~~Southeast Turlock Interchange~~	~~Turlock~~	~~Merced County Line~~	~~Turlock~~
~~3~~	~~Washington Road Extension~~	~~Turlock~~	~~Keyes~~	~~Turlock~~
~~4~~	~~Dakota Avenue/Service Road (Tuolumne River Crossing)~~	~~Paradise Road~~	~~Service Road~~	~~Modesto/Ceres~~
~~5~~	~~North County Transportation Corridor~~	~~State Route 99~~	~~East of Oakdale~~	~~StanCOG~~
~~6~~	~~Briggsmore Avenue Extension~~	~~Briggsmore Avenue~~	~~Milnes Road~~	~~StanCOG/Modesto~~
~~7~~	~~State Route 132 Realignment and Widening~~	~~East of Empire~~	~~San Joaquin County Line~~	~~StanCOG~~
~~8~~	~~Claus/Garner/Faith Home Expressway~~	~~Modesto~~	~~Keyes~~	~~StanCOG~~
~~9~~	~~SR-99/Kiernan Avenue~~	~~Salida~~		~~County Project Study Report~~
~~10~~	~~SR-99/Hammett Road~~	~~Salida~~		~~County Project Study Report~~

Table 2-5
SPECIAL STUDY AREAS

Study Area	Description	From	To	Source
1	South County Corridor	Interstate 5	San Joaquin River	
2	North County	State Route	State Route 120	Stanislaus

	Transportation Corridor	99	East of Oakdale	County
3	SR132 Realignment and Widening	East of Empire	San Joaquin County	StanCOG
4	Claus/Garner/Faith Home Expressway	Modesto	Keyes	StanCOG
~~5~~	~~Turlock NE Expressway~~	~~Turlock~~	~~Patterson~~	~~Turlock~~

~~***Las Palmas Bypass:*** The Las Palmas Bypass (or Orange Avenue Extension) would provide a new connection from Sperry Road in Patterson to Las Palmas Avenue just west of the San Joaquin River. This project is planned to alleviate congestion along the Las Palmas corridor as proposed in the City of Patterson General Plan.~~

South County Corridor**: The South County Corridor would provide connectivity to I-5 near the City of Patterson to Highway 99 near the City of Turlock.**

~~***Southeast Turlock Interchange:*** The Southeast Turlock interchange is a study funded by a special federal grant to the City of Turlock and County of Merced. A joint planning study is underway to examine the potential realignment of State Route 165 to provide a bypass for the community of Hilmar that would connect to a new State Route 99 interchange in the southeast Turlock area which is required to support future planned development in the City of Turlock General Plan.~~

~~***Washington Road Extension:*** The Washington Road Extension would examine the possibility of extending the proposed expressway along Washington Road in the Turlock area to connect at the State Route 99 interchange at Keyes Road, rather than at the Taylor Road interchange. The purpose of the new connection is to reduce conflicts between large trucks and passenger vehicles.~~

~~***Dakota Avenue/Service Road River Crossing:*** To implement the expressway system proposed in the general plans of the cities of Modesto and Ceres an Official Plan Line will need to be adopted for the north-south expressway proposed along the Dakota Avenue alignment crossing the Tuolumne River and connecting to Service Road in the Ceres area.~~

North County Transportation Corridor: The North County Transportation Corridor is a ~~concept to construct an~~ **proposed** expressway from State Route 99 in the Salida area to ~~a point east of~~ **SR 120, east of** Oakdale**.** ~~perhaps at the same location that the new State Route 120 (otherwise known as the Oakdale Bypass) would connect to existing State Route 108/120. StanCOG has initiated a planning effort that will examine potential alignments and facility types within approximately one mile of the Kiernan Avenue and Claribel Road corridors through the~~ **A Joint Powers Authority has been formed and has initiated an environmental effort that will select a preferred alignment through the** Modesto, Riverbank and Oakdale areas.

~~***Briggsmore Avenue Extension:*** To implement the expressway system proposed in the City of Modesto General Plan, an extension of the Briggsmore Avenue expressway is planned from east of Claus Road along an alignment parallel and extending from MID Lateral No. 3 to Milnes Road.~~

State Route 132 Realignment and Widening: Realignment, widening, and operational improvements along the State Route 132 corridor from Empire to the San Joaquin County Line have been planned for many years. A federal grant has been secured to investigate ways to connect the portion of State Route 132 east of State Route 99 to its new proposed alignment south

of, and parallel to, Kansas Avenue west of State Route 99. Project Study Reports have been prepared by Caltrans for the construction of an expressway west of State Route 99 to Interstate 580.

Claus/Garner/Faith Home Expressway: The general plans of the cities of Modesto and Ceres plan for the construction of an expressway and new Tuolumne River crossing along the Claus Road, Garner road, and Faith Home Road corridors from north Modesto to Keyes Road in the Keyes area. A Project Study Report was initiated by StanCOG to develop an Official Plan Line for the route, to resolve internal circulation issues within the Beard Industrial Tract, and determine the best engineering solution to cross the Tuolumne River in this area.

~~***State Route 99/Kiernan Avenue Interchange:*** The County has initiated a Project Study Report to determine potential improvements required to support implementation of the Salida Community Plan.~~

~~***State Route 99/Hammett Road Interchange:*** The County has initiated a Project Study Report to determine potential improvements required to support implementation of the Salida Community Plan.~~

~~**Scenic Highways**~~

~~Section 65302(h) of the Government Code requires the general plan to include a Scenic Highways Element for the development, establishment, and protection of scenic highways pursuant to the provision of the Streets and Highways Code. Interstate 5 is the only officially designated State Scenic Highway in Stanislaus County. Standards for official designation of scenic highway rest on the analysis, planning, and protection of the scenic corridor through which the highway traverses. Although the emphasis of the scenic highway is on the designation of state highway routes as scenic routes, this does not preclude local agencies from developing and adopting local scenic designations on County routes. The Scenic Highway designation is an overlay and not a separate street classification. The scenic highway designation maintains areas which are in their natural or undeveloped condition. The State of California has designated various state highways as having natural scenic beauty worthy of preservation. This highway designation involves land use controls within the corridor to maintain the natural beauty of the area.~~

Highway 99 Visual Enhancement Efforts

While the primary function of the County's transportation network is to move people and goods from one place to another, each time someone travels on Stanislaus County's roads, they see a view of the community, whether it is from the window of a car, truck, bus or train, or from the seat of a bicycle. Whether for business or pleasure, these images gathered while traveling through the community affect perceptions and feelings about the community. A collaborative effort led by the Great Valley Center is raising awareness about ways communities can enhance the visual quality of major transportation corridors, in particular the Highway 99 corridor, and key gateways into communities located along major transportation corridors. To facilitate implementation of this effort, Caltrans adopted a master plan that provides examples of the types of improvements that can be made on Highway 99 that will not only improve the appearance of the corridor but meet State Highway design standards. The Stanislaus Council of Governments initiated a master planning effort for the Highway 99 corridor involving the cities of Turlock, Ceres, and Modesto, and the County of Stanislaus. These planning efforts provide suggestions and strategies on how transportation improvement projects, as well as development projects located on or within the view

shed of the Highway 99 corridor, can be designed to improve the attractiveness of the corridor and help promote economic development, encourage tourism, highlight our natural resources, and generally improve the quality of the life in the county.

SAFETY

Nationwide, approximately 40 percent of county roads are inadequate for current travel, and nearly half of the rural bridges longer than 20 feet are structurally deficient. (*FHWA, 2012)* Backlogs of maintenance and system preservation have long plagued the nation's infrastructure. As such, Stanislaus County is moving towards minimizing the infrastructure needs for operations and aesthetics, and increasing the emphasis on roadway Safety. This is a multi-modal approach that will provide safe infrastructure for all modes of transportation, including vehicles, bicycles, pedestrians, and transit.

Moving goods and people throughout Stanislaus County requires a safe and efficient network of roadways. While the Level of Service of a roadway is generally determined by average travel times and average driver delay, safety is not factored into the Level of Service metric. As such, Stanislaus County may require additional road improvements where necessary to improve the safety characteristics of a road. Safety improvements may include, but are not limited to, the widening of paved shoulders, the addition of travel lanes, bicycle lanes, transit priority lanes, passing lanes, left/right turn lanes, intersection signalization or roundabouts.

BICYCLE AND PEDESTRIAN

Stanislaus County offers excellent conditions for bicycle and pedestrian transportation. **Although relatively few marked bicycle facilities have been constructed in the County,** ~~T~~the County ~~is~~ **offers** generally flat **terrain**, ~~has~~ **and** a temperate climate, **which are suitable conditions for cyclists and pedestrians.** ~~and major destinations are within an easy ride of most residences. According to the 2000 Census, approximately 3.1% of the workers reported that they rode a bike or walked to work regularly. Relatively few marked bicycle facilities have been constructed in the County.~~ (***Consultant to update census data as part of environmental review)*** In agricultural areas, the County provides adequate striping and paving in accordance with Caltrans and **American Association of State Highway and Transportation Officials (**AASHTO**)** standards to safely accommodate bicycle travel whenever a roadway is widened, and, where adequate right-of-way exists, whenever a roadway is resurfaced, restored, or rehabilitated on all routes except **Rural Local/Rural** Minor **Collector** roads. Marked and/or signed bicycle lanes and paths are provided in accordance with the ~~Regional Bicycle Action Plan~~ **Non-Motorized Transportation Plan** adopted by StanCOG, the adopted Community Plans for the urban areas of the County, and the general plans of the cities within the spheres of influence.

PUBLIC TRANSIT

Public transportation systems are being called upon to provide more services, serve more people and businesses, and satisfy more needs than ever before. Rising fuel costs, more stringent air quality regulations, and economic affordability are making transit a more attractive alternative for both commuters and local government. At the same time, public transit is being asked to deliver services more efficiently by reducing costs and to operate more effectively by targeting resources where people use them. Transit ridership continues to increase steadily, but accounts for only about one percent of the commute trips each day. Development patterns in the County, characterized by low housing densities and dispersed business centers, continue to make the Stanislaus area difficult to access and serve by public transit.

The Stanislaus County Public Works Transit Division ~~is the administrator for~~ **manages** the County's ~~intercity~~ public transportation system**,** ~~called~~ **also known as the** Stanislaus Regional Transit or StaRT. StaRT provides **service throughout the County including urbanized and unincorporated communities and to the City of Merced and Gustine in Merced County.** ~~to sixteen (16) cities and communities in Stanislaus County and the city of Gustine in Merced County~~. StaRT operates fixed route, deviated fixed route, curb-to-curb dial-a-ride transportation services and provides non-emergency medical transportation to Bay area medical facilities. The Division has Memorandums of Understanding with three cities, Newman, Patterson and Waterford, to operate dial-a-ride services for their respective cities.

~~Being the intercity operator,~~ **Local bus services throughout the county include MAX (Modesto Area Express), CAT (Ceres Area Transit), and BLAST (The Bus Line Service of Turlock). As the County transit services provider**, StaRT ~~has~~ connect~~sivity~~ with **these** local transit operators **and serves the transit centers in the cities of** ~~and has transfer points within various~~ **cities**, ~~including~~ **Turlock and Modesto and with service to transfer locations in the cities of Ceres, Riverbank, Oakdale and Patterson**. This enables County residents to connect ~~between~~ **with regional,** intracity and intercity transit ~~so they can~~ **and to** travel throughout the County. Transit services are supported through the construction and operation of ~~bus maintenance~~ **transit amenities and** facilities, **such as bus** shelters, **bus** benches and **bus** stop signs.

~~**Various**~~ **Transit** planning studies **and other related activities** are conducted ~~by the County~~ to ensure that transit services ~~are~~ provided **are** ~~in an~~ **cost-**efficient and **cost-**effective ~~manner~~. ~~In October 2000, the County adopted a long-range transit plan that projects the long-term transit needs of the county and presents a vision for StaRT service.~~ The County also prepares short-range transit plans ~~covering a five-year period to look at~~ **to improve** ~~improving~~ **coordination between transit operations services in Stanislaus County**~~.~~ ~~**operators and future transportation services to the University of California at Merced**~~**, Stanislaus County business parks and other locations within the County. The plan ~~will~~ also looks at future capital purchases, including additional buses and transfer ~~**stations**~~ **locations throughout the County** ~~within key cities~~.

RAIL SERVICE

Passenger

As an increasing number of commuters travel outside the County to jobs located in the Bay Area and Sacramento, the role of passenger rail service is changing. Traditionally, passenger rail service has met the travel needs of the recreational traveler. As time goes on, however, passenger rail is beginning to take on more importance as a commuter transportation option. ~~The success of the Altamont Commuter Express from San Joaquin County to San Jose, funded largely through the passage of their half-cent sales tax, presents an alternative vision for the future role of passenger~~

~~rail service in Stanislaus County.~~

Presently, Stanislaus County has access to three passenger rail services - the Bay Area Rapid Transit system (BART), the Altamont-Commuter Express (ACE), and Amtrak. BART service can be accessed by traveling by car to the Dublin-Pleasanton station or taking the Modesto Area Express (MAX) BART Express bus. ACE service can be accessed by traveling by car to the Lathrop/Manteca station or by taking inter-city bus service offered by the MAX ACE Express service. Depending on the destination, Amtrak service may be accessed locally at the Amtrak station on Parker Road or by traveling to stations located in the **Community of Denair (by way of the StaRT Turlock-Modesto shuttle service) and the** City of Stockton. **Amtrak can also be accessed through MAX bus route No. 25, which connects to the Modesto Amtrak Station.**

In 2001, the County commissioned a study to examine potential alternatives to extend the ACE service to Stanislaus County. The study concluded that, with roughly fifteen percent (15%) of the passengers on ACE trains residing in Stanislaus County, passenger rail could work but would require a considerable infrastructure investment. The recommendations of this study should be reviewed and considered in future planning efforts.

In 2003, the Bay Area Rapid Transit District (BART) began studying the feasibility of extending some type of service to connect Walnut Creek with Pleasanton ***(Consultant to update as part of the environmental review)***, then eastward along the Interstate 580 corridor perhaps as far east as Tracy. Four different options are being considered using three different technologies, including light diesel multiple units, heavy diesel multiple units and bus rapid transit.

~~High-speed rail continues to be explored by the California High-Speed Rail Authority as an alternative to driving and flying across the State. If implemented, this system would forever change the way people travel between cities and counties in California by offering an alternative to driving or flying. Studies suggest that roughly eighteen percent (18%) of the riders would come from the Central Valley.~~

The California High-Speed Rail project is a planned future high-speed rail system in the state of California and headed by the California High-Speed Rail Authority (CHSRA). Initial funding for the project was approved by California voters on November 4, 2008, with the passage of Proposition 1A authorizing the issuance of US $9.95 billion in general obligation bonds for the project. The CHSRA is currently tasked with completing the final planning, design and environmental efforts. The planned system would serve major California cities including San Francisco, Los Angeles, Sacramento, San Jose, Fresno, Bakersfield, Palmdale, Anaheim, Irvine, Riverside and San Diego. ~~The California High-Speed Rail Authority is currently studying potential station locations, including one in Modesto.~~

Altamont Commuter Express (ACE)

ACE forward is a phased improvement program to reduce travel time and improve service reliability and passenger facilities along the existing Stockton to San Jose corridor, and to extend ACE rail service to Modesto and to Merced. This program would provide the foundation for the long term plan for SJRRC intercity passenger rail services.

The program would improve the existing ACE service managed by SJRRC by delivering safety and operational improvements that enable expansion of service to six daily round trips between Stockton and San Jose and extending ACE service to Modesto, which could occur as early as 2018. Following that, the program would extend ACE service to Merced and service frequency from Stockton to San Jose would increase to 10 or more daily round trips,

perhaps as soon as 2022. The ACE forward EIR/IS will include development of preliminary engineering designs and assessment of environmental effects associated with the construction, operation, and maintenance of rail improvements, including new track corridors, additional track, track realignments, ancillary facilities, new stations, and station improvements along the Altamont Corridor. The FRA and SJRRC will use a tiered process for the environmental review, as provided for in 40 CFR 1508.28 and in accordance with FRA Guidance. Tiering is a staged environmental review process. Tier-1 (or programmatic) analysis comprehensively reviews the environmental, impacts of a program of improvements at a broad conceptual level of analysis including cumulative impacts. Tier-2 (or project) analysis is conducted for specific improvements that are sufficiently designed to allow for a detailed analysis of site-specific component projects and alternatives and identification and disclosure of related environmental impacts. Improvements analyzed at a Tier-1 level of review would subsequently be reviewed at a Tier-2 level before they can be approved and constructed at a project level. The EIS/EIR for ACE forward will include both a Tier-1 and Tier-2 analysis.

Freight

Railroad operations in Stanislaus County include high speed **approximately 50 to 60 miles per hour freight rail** mainline operations on the Burlington Northern and Santa Fe (BNSF) Railway and Union Pacific Railroad (UPRR) and low speed **freight rail less than 25 miles per hour** mainline and switching operations on the BNSF Railway, UPRR, Sierra Railroad, California Northern Railroad, Modesto and Empire Traction Company Railroad, and Tidewater Southern Railroad.

Union Pacific Railroad (UPRR): The UPRR in Stanislaus County includes operations on the main line which passes through Salida, Modesto, Ceres, Keyes, and Turlock. The UPRR also operates on the ***California Northern Railroad*** line located on the west side of the county, which passes through Westley, Patterson, Crows Landing, and Newman.

Burlington Northern and Santa Fe (BNSF) Railway: Operations on the BNSF Railway in Stanislaus County occur on the mainline which runs through Riverbank, Hughson, Empire, and Denair, and on a branch line which connects the mainline at Riverbank with the Sierra Railroad in Oakdale.

Sierra Railroad: The Sierra Railroad operates between Oakdale and Standard, and includes both freight and passenger trains. Freight trains are operated by Union Pacific and Burlington Northern Santa Fe and usually operate roughly three times per week. Passenger trips travel between Oakdale and the eastern Stanislaus County Line and include entertainment style railroad travel approximately three to five times per week with most trips occurring Thursday through Sunday.

Modesto and Empire Traction (M&ET) Company Railroad: The Modesto and Empire Traction Company is a short-line railroad which connects switching operations between the Union Pacific Railroad in Modesto and the Burlington Northern Santa Fe Railway in Empire. Train lengths can vary from one locomotive with four cars to up to several locomotives with 60 cars.

Tidewater Southern Railroad

The Tidewater Southern Railroad is a branch line operation of the Union Pacific Railroad. The line runs in a general north-south route through Stanislaus County, from the City of Stockton to North Modesto and from the City of Turlock to South Modesto. The portion of the line from just south of Bangs Avenue through Modesto to Bonniefair was abandoned in 2000 and sections were removed or paved over in 2003. **A further abandonment was applied for in 2009 with the Surface Transportation Board from Bangs Road to a point south of the City of Escalon, in San**

Joaquin County. ~~North of Bangs Road~~**Escalon**, operations typically occur three days per week on Tuesday, Thursday and Saturday. However, service may be operated more or less frequently depending on demand.

Freight Intermodal ~~*Transfer*~~ ***Facilities:*** **Intermodal facilities offer opportunities for serving freight at locations where an interface between transportation systems occurs while helping to ease traffic congestion. An** intermodal **facility for freight** is provided in the Beard Industrial District.

AVIATION

Air facilities in Stanislaus County serve a number of needs, including scheduled commercial air passenger service, recreational flights, ~~military operations,~~ agricultural crop dusting services, cargo services and private business flights. There are ~~five~~ **three** major facilities of concern for circulation and transportation purposes: (1) Modesto City-County Airport (Harry Sham Field); (2) Oakdale Municipal Airport; ~~(3) Turlock Airpark; (4)~~ **and (3) proposed** Crows Landing **General Aviation Airport** ~~Air Facility~~**.** ~~and (5) Patterson Airport.~~ The Modesto-Stanislaus County Airport is currently the only airport that provides regularly scheduled air passenger service. The remaining air fields in the County are either private, not open to the public, or used purely for agricultural purposes.

Air freight service is characterized by fast shipment of small bulk items or high value items over long distances at higher cost. For these reasons, air service does not account for a significant proportion of the tonnage of goods moved into and out of the region. A significant feature of air movement is its dependability and very short in-transit time. In many new businesses seeking to open new markets, and in businesses dealing in high value items, air shipment is an important means of providing rapid access to distant manufacturing facilities, and thereby eliminating large inventory requirements. In such cases, air shipment makes it possible to establish supply lines quickly and lowers the cost of maintaining inventory significantly. This offsets the higher cost of air service.

~~In 2004, the County acquired title to1,528 acres of federal land formerly occupied by the Crows Landing Naval Air Station. The Crows Landing Air Facility served as an auxiliary landing field for the Moffett Air Field in Santa Clara County until 1991 when the Defense Base Realignment and Closure Commission voted to close the base. The property was transferred from the Navy to the National Space and Aeronautics Administration (NASA) in 1994. NASA continued to conduct aviation research and flight testing until 1997. Through special federal legislation, approved by Congress in 1999, NASA transferred the facility to the County for the expressed purpose of fostering economic development. These economic development opportunities have been explored by the County since 1989 with the adoption of the Stanislaus County Economic Strategic Plan.~~

~~In 2001, the County adopted a Reuse Plan for the Crows Landing Air Facility that identified two distinct phases for development of the former base. Phase 1 would allow occasional fly-by's, touch-and-go training, and other aviation exercises, along with agricultural crop production and ongoing environmental remediation activities required to transfer the remainder of the property to the County. Phase 2 would allow the development of General Aviation airport though an aviation permit application that must be approved by the Aeronautics Division of the California Department of Transportation.~~

The former Crows Landing Air Facility served as an auxiliary landing field for Moffett Field in Santa Clara County until 1991, when the Defense Base Closure and Realignment (BRAC) Commission recommended that the airfield no longer be operated by the U.S. Navy. The National Aeronautics and Space Administration (NASA) assumed custody of the Crows

Landing Naval Auxiliary Field in 1994. In June 1994, NASA proposed to relinquish the Crows Landing Flight Facility, and on October 27, 1999, Congress passed Public Law 106-82, which directed NASA to convey all right, title, and interest of the United States in Crows Landing to Stanislaus County. In 2004, 1,352 acres of the 1,528-acre property were conveyed to Stanislaus County for the purpose of economic development. Conveyance of the remaining 176 acres is anticipated to occur by 2015.

Following federal authorization of the former Crows Landing Air Field in 1999, the County Board of Supervisors convened the Crows Landing Flight Facility Task Force to prepare a Reuse Plan for the former airfield. The Reuse Plan, which focused on the development of a general aviation airport and ground distribution center, was approved by the Board of Supervisors in 2001. The Crows Landing Steering committee identified a reuse scenario in 2006 that retained Runway 11-29 to support the development of a general aviation airport while optimizing the amount of land available for industrial, commercial, and other uses to further support job creation. The Board of Supervisors adopted the Steering Committee's reuse scenario in 2006, and has performed subsequent studies to evaluate development of the former military site.

AIR QUALITY

Stanislaus County falls within the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). ~~The attainment status in Stanislaus County for major criteria air pollutants are summarized in Table 2-56.~~

~~Table 2-56~~
~~San Joaquin Valley Air Quality Attainment Status~~

~~Major Criteria Air Pollutant~~	~~State Designations~~	~~Federal Designation/ Classification~~
~~Ozone (0_3): 1 hour~~	~~Nonattainment~~	~~Nonattainment/Extreme~~
~~Ozone (0_3): 8 hour (*federal only*)~~	~~---------~~	~~Nonattainment/Serious~~
~~Particulate Matter -- finer than 10 microns (PM_{10})~~	~~Nonattainment~~	~~Nonattainment/Serious~~
~~Particulate matter --finer than 2.5 microns ($PM_{2.5}$)~~	~~Nonattainment~~	~~Nonattainment~~
~~Carbon Monoxide (CO)~~	~~Attainment~~	~~Attainment or Unclassified~~
~~Nitrogen Dioxide ($NO_{2)}$~~	~~Attainment~~	~~Attainment or Unclassified~~
~~All others~~	~~Attainment or Unclassified~~	~~Attainment or Unclassified~~

~~An air quality analysis of the improvements contained within this Circulation Element is provided in Chapter 2 of the "Stanislaus County General Plan - Support Documentation." The federal Clean Air Act and federal transportation conformity rule require each transportation improvement program to demonstrate conformance with the federal air quality attainment plans. This analysis demonstrates that the regional emissions generated by the Circulation Element are consistent with the assumptions built into those air quality attainment demonstrations. The County is committed to implementing transportation control measures that reduce emissions generated by on-road and off-road mobile sources. These control measures are adopted by resolution of the Board of Supervisors from time-to-time. Examples of the types of adopted control measures are expansion of public transit systems, transit incentives, adaptive signal timing, internet education, and transit amenities such as bus pullouts and bike racks on buses.~~

IMPLEMENTATION PROGRAMS

The goals, policies, and implementation measures of the Circulation Element are carried out through a variety of implementation programs. Implementation programs fall into two broad categories, those related to new development and those related to the construction of improvements on the system. Major transportation improvements are funded from a variety of State, federal and local revenue sources.

Implementation Programs Applicable to New Development

Zoning Ordinance

The Zoning Ordinance establishes structure setbacks from roadways for all zoning districts in the County. All structures are required to be set back in conformance with Official Plan Lines, where applicable. Special setback requirements for certain roadways are also identified. Vision clearance areas are required at intersections **and at driveway entrances** to ensure that no obstruction is placed, built, parked or allowed to grow such that it blocks the view of a motor vehicle driver. **The Zoning Ordinance also specifies the number of parking spaces required for various types of expanding or new development.**

Subdivision Ordinance

The Subdivision Ordinance establishes design standards for minimum right-of-way road widths, intersection geometrics, road grades, part-width streets, access and curb, gutter and sidewalk. Procedures for establishing fees for the construction of bridges and major thoroughfares, authorized under Government Code Section 66484, are also provided in the Subdivision Ordinance.

Standards and Specifications

The Standards and Specifications Manual establishes the standards for all work performed within the public right-of-way, including roadway pavement sections, road cross sections, driveway access, sidewalks, bicycle facilities, and bus turnouts, and certain on-site improvements, such as parking.

~~*Traffic*~~ *Transportation Impact Studies*

Transportation ~~Traffic~~ impact studies are performed to determine the impact that a proposed development proposal could have on the transportation system. These studies help to determine the significance of the impact, the nexus between the proposed development and the need for a transportation improvement, the type of improvement required, and, in some cases, the contribution that the development project needs to make toward the transportation improvement. Accepted **transportation** ~~traffic~~ engineering principles are applied in preparing these reports.

For impacts on State Highways, Caltrans has adopted formal procedures for performing these studies, called the "Guide for the Preparation of Traffic Impact Studies." The Caltrans procedures are to be followed whenever it is determined that the Caltrans traffic generation thresholds have been exceeded.

All modes of transportation shall be considered in Transportation Impact Studies including the operational and safety impacts of vehicle traffic, bicycle/pedestrian traffic, and transit systems. Impacts shall be mitigated with appropriate improvements to minimize the impacts of the proposed development.

State legislative changes have prohibited vehicular delay, or Level of Service (LOS), from being used as a metric to define a significant impact under CEQA law, and have shifted emphasis of transportation analysis to transit-oriented design, the reduction of vehicle trips, and safety. However, the Highway Capacity Manual (HCM) can still be used to determine Level of Service to evaluate impacts of new developments on the transportation system. Although other factors, such as safety and air quality, will be considered in environmental review, Stanislaus County Policy still maintains a goal of a minimum Level of Service for all modes of transportation.

Improvement Programs

Funding

Funding for improvements to the county's transportation system is generated primarily through State and federal gasoline and diesel fuel taxes paid at the pump by the driving public. These funds are returned to counties and cities throughout the State of California through a variety of State, federal and local programs. Local governments directly receive roughly one-third of the funding from these sources. The remaining funds are distributed either by Caltrans or the Stanislaus Council of Governments, the regional transportation planning agency for Stanislaus County. An increasingly important source of funding comes from public facility fees, dedications, and improvements required from new development. Consideration ~~is being~~ **may be** given to the enactment of a half-cent sales

tax to fund transportation improvements. This **potential** sales tax would be collected countywide and administered by a transportation authority, an agency designated by the cities and County of Stanislaus.

Capital Improvement Program

Each year the County prepares a multi-year, prioritized list of capital projects in its Capital Improvement Program. This list includes those transportation improvement projects that are required to meet the needs of the County in the short- and long-term. The program is reviewed annually for consistency with the General Plan as required under Section 65103(c) of the Government Code. The Capital Improvement Program identifies major projects, exceeding $100,000 in cost, ~~that~~ **which** are being implemented by the County and divides those projects into prioritized groups based on funding availability and on the planning status of each project. Projects included in the Capital Improvement Program are funded by a combination of State, federal, and local sources, including development fees collected through the Public Facility Fee program. Modifications to the Plan are made annually as a normal part of the County's budgeting process and do not require amendment of the General Plan.

GOAL ONE

Provide **and maintain** a **transportation** system ~~of roads and roads~~ throughout the County **for the movement of people and goods** that **also** meets land use **and safety** needs **for all modes of transportation**.

POLICY ONE

Development will be permitted only when facilities for **vehicle** circulation exist, or will exist as part of the development, to adequately handle increased traffic **and safety concerns.**

IMPLEMENTATION MEASURES

1. Future road rights-of-ways shall be protected from development through the adoption and implementation of Official Plan Lines, where necessary (see Table ~~2-3~~**TBD**). The County shall utilize Official Plan Lines provided by cities for roadways that fall within the cities' sphere of influence.
   Responsible Departments: Public Works, Planning

2. Dedication and improvement of right-of-way to conform to the Official Plan Line or ultimate right-of-way line shall be required as a condition of development. Generally, this is accomplished through administration of the Subdivision Ordinance and Building Code requirements.
   Responsible Departments: Public Works, Planning

3. ~~Developers~~ **Applicants** will construct or pay the cost of new roads**, including non-motorized elements,** necessary to serve the development **of all land uses** and to mitigate impacts to the existing roads caused by the development.
   Responsible Department: Chief Executive Office, Public Works, Planning

4. The County shall ensure that new development pays its fair share of the costs of circulation improvements**, including non-motorized modes,** through a combination of public facility fees, ~~traffic~~ **transporatation** impact fees, and other funding mechanisms. The total cost of required improvements shall be paid for by new development.
   Responsible Departments: Chief Executive Office, Public Works, Planning

5. The **internal (on-site)** circulation systems of development proposals shall be reviewed **and approved** to ensure **there are** no adverse effects to adjoining land **and the circulation system.**
   Responsible Departments: Public Works, Planning

6. **Applicants shall identify and mitigate, at the sole cost of the ~~developer~~applicant, all potential impacts to the transportation system from new development that adversely impact the operations and safety of the circulation system.**
   Responsible Departments: Public Works, Planning

~~7~~6. To identify the potential impacts of new development on ~~traffic~~ transportation service levels, the County ~~shall~~ **may** require the preparation of a ~~traffic~~ **transportation** impact study at the

sole expense of the ~~developer~~**applicant.** ~~for developments determined to be large enough to have a potentially significant impact on traffic. As appropriate, the study may be required to follow the Caltrans' "Guide for the Preparation of Traffic Impact Studies" and/or other procedures specified by the Department of Public Works.~~
Responsible Departments: Public Works, Planning

~~8~~**7.** The County will require that newly created parcels will either have frontage on a County-maintained road or access will be provided as required by County Code.
Responsible Departments: Public Works, Planning

~~9~~**8.** Unless a**n** ~~Subdivision Ordinance~~ exception to the **current Public Works Standards and Specification** is granted, no public or private road**, which serves more than one parcel,** shall be altered in such a way that would create a cul-de-sac or dead end street longer than 500 feet.
Responsible Departments: Public Works, Planning

~~10~~**9**. Access to Expressways**,** ~~and Majors~~ **Principal & Minor Arterials and Major Collectors** shall be provided in accordance with the road classification definition, except that all existing driveway access and parking approved by the County may remain until otherwise determined by the Department of Public Works. As development occurs, one driveway with right-in, right-out access only may be provided to an original parcel created, or vested, prior to the adoption of a corridor-specific **access plan. Reciprocal access easements and driveways shall be provided when feasible to minimize the number of existing access driveways.** ~~onto major collectors and arterials. resolution (such as Resolution 2002-507 for the State Route 219 from SR 99 to SR 108 adopted on June 25, 2002) or the Focused General Plan Amendment, GPA 2004-03 (April 18, 2006) after the Department of Public Works determines that no acceptable alternative access can be provided and that providing access would not adversely impact traffic safety.~~
Responsible Departments: Public Works, Planning

~~11~~**10**. **As funding is available, t**~~T~~he County will consider the recommendations of the State Route 99 Task Force to enhance the visual attractiveness of the State Route 99 and major gateways into the County in developing its standards for new development.
Responsible Departments: Planning, Public Works

~~12~~**11**. The Subdivision Ordinance, Zoning Ordinance, and County Standards and Specifications shall be modified to conform with the definitions and requirements of this element ~~by March 2007~~**.**
Responsible Departments: Planning, Public Works

POLICY TWO

The Circulation system~~s~~ shall be designed and maintained to promote **safety by combining multiple modes of transportation into a single, cohesive system.** ~~and minimize traffic congestion.~~

IMPLEMENTATION MEASURES

1. The County shall maintain LOS ~~C~~**D** or better for all County roadways **(Daily LOS)** and **LOS C or better** at intersections **(Peak Hour LOS),** except, within the sphere of influence of a city that has adopted a lower level of service standard, the City standard shall apply. The

County may **allow** ~~adopt~~ either a higher or lower level of service standard for roadways and intersections within urban areas such as Community Plan areas, but in no case shall the adopted LOS fall below LOS D.
Responsible Departments: Public Works, Planning

2. The County will annually review and update its transportation funding mechanisms and, as necessary, adjust its traffic impact fee in compliance with Section 66000 of the Government Code to ensure that adequate funds are collected from local, State, and federal sources to implement improvements required to maintain the County's level of service standard on all County roads. ~~Within six (6) months of adopting the Focused General Plan Update (April 18, 2006), the County shall prepare cost estimates for the State Highway projects identified in this Circulation Element. As needed, the County will develop and adopt the appropriate impact fees to address capacity and safety elements of the intensification of land uses.~~
Responsible Departments: Chief Executive Office, Public Works

3. The County will work with StanCOG and the cities to monitor the performance of the County's circulation system and implement improvements as required by the State-mandated Congestion Management **System (CMS)** ~~Program~~.
Responsible Departments: Public Works, Planning

4. The County will work with StanCOG and the cities to identify and secure funding for improvements to the regional and local circulation system.
Responsible Departments: Chief Executive Office, Public Works, Planning

5. The County shall evaluate the circulation system and recommend amendments a minimum of once every five years.
Responsible Departments: Public Works, Planning

6. The County will work with staff of the nine cities, StanCOG and Caltrans to establish more coordinated standards and routes for Expressways, ~~Majors~~ **Principal & Minor Arterials**, and **Major & Minor** Collectors that cross jurisdictional lines.
Responsible Departments: Chief Executive Office, Public Works, Planning

7. Within the spheres of influence of any city, roadway improvements, dedications, building setbacks, and road reservations shall meet the development standards of the city consistent with the Spheres of Influence Policy in the Land Use Element of the General Plan, except in those areas subject to an individual city/county agreement. These requirements may change from time-to-time through the adoption or revision of local land use plans or standards. To ensure consistency with a city's development standards, additional right-of-way may be required to meet the standards of that city. Where design and access requirements of a city differ from than those established by the County, development shall be required to meet the standards of the city. The County will consult with the city prior to the construction of transportation improvements within the sphere of influence to ensure consistency with the standards of that city.
Responsible Departments: Public Works, Planning

8. Private roads in areas of the County protected by the California Department of Forestry and Fire Protection shall be designed consistent with the standards of that agency, the local fire protection district and the Department of Public Works.
Responsible Departments: Public Works, Consolidated Fire, Planning

9. Street and road standards proposed in any new development that differ from those established in the latest County's Standards and Specifications shall be approved by the Department of Public Works, and shall comply with nationally recognized standards, such as the Institute of Transportation Engineers, the American Association of State Highway and Transportation Officials, or Transportation Research Board, or other standard approved by the Department of Public Works that is based upon adequate research and testing.
Responsible Department: Public Works

10. Traffic control devices (e.g., traffic signals, **roundabouts**), traffic calming, and other transportation system management techniques shall be utilized to control the flow of traffic, improve traffic safety, and minimize delays.
Responsible Department: Public Works

11. On-site circulation among adjacent parcels shall include shared driveways and reciprocal access easements to limit the number of egress points onto a public road.
Responsible Department: Public Works, Planning, Planning Commission.

12. Existing and new development shall be designed to provide open street patterns, with multiple points of ingress and egress, to facilitate emergency response, to minimize traffic congestion, and to facilitate use by diverse modes of transportation.
Responsible Department: Public Works, Planning, Planning Commission.

13. Promote the transformation of major transportation corridors into boulevards that are attractive, comfortable, and safe for pedestrians by incorporating wide sidewalks to accommodate pedestrian traffic, amenities and landscaping; on-street parking between sidewalks and travel lanes; enhanced pedestrian street crossings; buildings located at the back of sidewalk; building entrances oriented to the street; transparent ground floor frontage; street trees and furnishings; and pedestrian-scale lighting and signage.
Responsible Department: Public Works, Planning.

14. A strategy plan should be prepared that includes the identification of areas and/or projects to which new multi-modal transportation guidelines shall apply. New guidelines shall identify strategies for creating communities that increase the convenience, safety and comfort of people using bicycle, pedestrian, and public transit facilities. Existing policies and standards, such as landscaping, parking, and building setback requirements, may require variations on a case by case basis, specifically in Central Business Districts.
Responsible Departments: Planning, ~~Transit Manager/~~Public Works Transit Division

POLICY THREE

The County's Capital Improvement Program (CIP) shall be consistent with the General Plan. Section 65103(c) of the California Government Code states that the Capital Improvement Program shall be periodically reviewed. This review ensures that capital improvements are coordinated with land use policies stated in the General Plan.

IMPLEMENTATION MEASURES

1. The CIP shall be reviewed annually by the Planning Commission for conformity with the General Plan.
Responsible Departments: Public Works, Chief Executive Office

2. The Department of Public Works shall prepare and present a report on public works projects in the County at least once a year, consistent with Section 65401 of the Government Code.
Responsible Department: Public Works, Chief Executive Office

3. Roadway, bicycle, pedestrian**,** ~~and~~ transit**, and aviation** improvements shall be included in the Capital Improvement Program, as appropriate, to implement the policies of this element.
Responsible Department: Public Works, Chief Executive Office

POLICY FOUR

The circulation system shall provide for roads in all classifications ~~(Freeway, Expressway, Major Collector, Local, Minor and Private)~~ as necessary to provide access to all parts of the County and shall be expanded or improved to provide acceptable **accessibility and mobility** ~~levels of service~~ based on anticipated land use.

IMPLEMENTATION MEASURES

1. As required by **Federal Transportation Law,** the Stanislaus ~~County~~**Council of Governments shall maintain and prepare a** Congestion Management ~~Program~~ **Process** (CMP)**.** ~~,t~~**T**he ~~County~~ **CMP shall identify alternative strategies such as travel demand management (TDM), traffic operational improvements, public transit options, Intelligent Transportation System (ITS), Non-motorized alternatives (bicycle and pedestrian) and smart growth alternative land use strategies as alternatives to manage congestion. Stanislaus County shall follow the guidance and strategies set forth in the CMP.**~~will require applicants for proposed General Plan amendments that would generate 1,000 or more average daily vehicle trips to analyze their potential impacts on the designated CMP system of state highways and principal arterials.~~
Responsible Departments: StanCOG, Planning, Public Works

~~2. As required by the Stanislaus County Congestion Management Program (CMP) and the city-county agreements, the County will work with StanCOG to prepare an annual cumulative traffic impact analysis of all general plan amendments approved by the cities and the County, focusing on potential impacts on the designated CMP system of State Highways and principal arterials. This analysis shall be used to amend the County's Public Facility Fee to meet the adopted level of service standard, as appropriate.~~
~~***Responsible Departments: Chief Executive Office, Planning, Public Works***~~
~~***Responsible Agency: StanCOG***~~

~~3. The County shall develop procedures for conducting traffic impact studies consistent with those adopted by Caltrans and the Stanislaus Council of Governments.~~
~~***Responsible Department: Public Works***~~

2. Transportation facilities will be adequately designed, developed and maintained to provide for current and future transportation needs to protect public health, safety and welfare.
Responsible Department: Public Works, Planning

POLICY FIVE

Transportation requirements **shall be considered during planning, design and construction** of commercial and industrial development **to address safety, mobility and accessibility needs.** ~~shall be considered in all planning, design, construction, and improvements.~~

IMPLEMENTATION MEASURES

1. Roads constructed in zoning districts that allow industrial and commercial uses shall be designed and constructed to accommodate truck traffic. The minimum roadway in commercial zones shall be a ~~60-foot~~ **Minor** Collector **(Urban/Rural)** and a ~~70-foot~~ Minor **Collector (**Industrial**)** shall be the minimum required right-of-way width in industrial zones.
   Responsible Department: Public Works

2. Prior to approving new industrial and commercial development, provisions will be made to ensure that roadways providing primary access to these developments from Interstate and State Highways are designed and constructed to the standards necessary to accommodate truck traffic.
   Responsible Department: Public Works

3. Industrial and commercial development shall be planned so that ~~truck~~ **vehicle** access **on local roads** through residential areas is avoided.
   Responsible Departments: Planning, Public Works

4. Specific Plans as defined in Government Code Section 65450 through 65457 shall be encouraged.
   Responsible Department: Planning

5. Off-street truck parking standards shall be developed to ensure that adequate off-street parking is provided in new or expanding industrial and commercial development. Commercial developments serving travelers on Highway 99, Interstate 5 or other routes carrying substantial truck traffic shall be required to include sufficient truck parking in their off-street parking plans and encouraged to provide facilities to accommodate long-term truck parking. Zoning Ordinance provisions for Off-Street Parking Requirements and the Standards and Specifications Manual shall be amended, as necessary, ~~by March 2007~~ to require truck parking as appropriate in new commercial and industrial developments.
   Responsible Departments: Planning, Public Works

6. On-street truck parking shall be discouraged where such parking restricts adequate sight distances, detracts from the visual aesthetics of the area, or poses a potential hazard to motorists, bicyclists, or pedestrians.
   Responsible Departments: Public Works, Planning

~~**GOAL TWO**~~

~~Provide a safe, comprehensive, and coordinated transportation system that includes a broad range of transportation modes.~~

POLICY SIX

The County shall strive to reduce motor vehicle emissions and vehicle **miles traveled (VMT)** ~~trips~~ by encouraging the use of alternatives to ~~the~~ single occupant vehicle**s**.

IMPLEMENTATION MEASURES

1. The use of alternative modes of transportation will continue to be encouraged by participating in programs to promote walking, bicycling, ridesharing, and transit use for commuting and recreation.
   Responsible Departments: ~~Transit Manager/~~Public Works, Planning

2. The County will continue to work with StanCOG, Caltrans, and the cities to identify and secure funding for the development and improvement of bikeways, pedestrian pathways, park-and-ride facilities, transit systems, and other alternatives to the single-occupant vehicle**s**.
   Responsible Departments: Chief Executive Office, ~~Transit Manager/~~Public Works

3. Facilities to support the use of, and transfer between, alternative modes of transportation (i.e., pedestrian, rideshare, bicycle, bus**, rail** and ~~train~~ **aviation**) shall be provided in new development.
   Responsible Departments: Public Works, Planning

~~4.~~ ~~A trip reduction and travel demand ordinance shall be developed to promote the use of alternative modes and ensure that adequate facilities are provided in new development to support the use of alternatives to the single-occupant vehicle. This ordinance may be combined with pedestrian-oriented Development (POD) and/or transit-oriented design (TOD) guidelines specified under Policies Seven and Eight.~~
~~Responsible Departments: Planning, Transit Manager/Public Works Transit Division~~

~~4~~5. The County will continue to work with the Stanislaus Council of Governments and the San Joaquin Valley Air Pollution Control District to develop and implement transportation control measures to improve air quality through reduction in vehicle trips and vehicle miles of travel.
Responsible Departments: Chief Executive Office, ~~Transit Manager/~~Public Works, Planning

5~~6~~. ~~Developers~~ **Applicants** will construct or pay the cost of new pedestrian pathways, bikeways, rideshare facilities, transit amenities, and other improvements necessary to serve the development and to mitigate impacts to the existing circulation system caused by the development.
Responsible Departments: ~~Transit Manager/~~Public Works, Planning

6~~7~~**.** The county shall ~~convert to clean fuels~~ **continue using Compressed Natural Gas (CNG) or another alternative energy source in its** fleet vehicles ~~when possible~~ and **will** pursue special grants and funding ~~sources to facilitate this conversion~~ **to offset the costs of continued-use of CNG in County-owned buses.**
Responsible Departments: ~~Transit Manager/~~Public Works Transit Division

POLICY SEVEN

Bikeways and pedestrian facilities shall be designed to provide **safe and** reasonable access from residential areas to major bicycle and pedestrian traffic destinations such as schools, recreation and transportation facilities, centers of employment, and shopping areas.

IMPLEMENTATION MEASURES

1. Bikeways shall be considered and implemented in accordance with the StanCOG ~~Regional Bicycle Action Plan~~ **Non-Motorized Transportation Plan (**~~2009~~**2013, StanCOG)** and adopted Community Plans or Specific Plans when constructing or improving the roadway system in the unincorporated area outside the spheres of influence of the cities.
   Responsible Departments: Public Works, Planning

2. Within the sphere of influence of a city, bikeways and pedestrian facilities and amenities shall be provided in accordance with the applicable city's general plan and development standards.
   Responsible Departments: Public Works, Planning

3. Facilities to safely move, and support the use of, bicycles, pedestrians, transit and ridesharing shall be considered and implemented in all new development and roadway construction.
   Responsible Departments: Public Works, Planning

4. Class I bicycle and multi-use paths~~, such as the "Highway 108 Scenic Corridor Multi-Purpose Trail Plan,"~~ shall be considered to provide connectivity between major origins-destinations or to major recreational areas when on-road provisions for bicycle traffic cannot be accommodated or no alternative roadway alignment provides adequate connectivity.
   Responsible Departments: Public Works, Planning

~~5. In conjunction with the next comprehensive update of the General Plan, the County shall consider incorporating a bicycle master plan as a component of the Circulation Element.~~
   ~~***Responsible Departments: Planning, Public Works***~~

5. ~~6.~~ To safely accommodate bicycle traffic, adequate pavement shoulder and/or striping shall be planned and implemented ~~for Expressways, Major, and Collector roads, and, in agricultural areas, on Local roads~~ when constructing new roadways or implementing major rehabilitation projects in accordance with the County Standards and Specifications, the Caltrans Highway Design Manual, or other nationally recognized standard.
   Responsible Departments: Public Works, Planning

6. ~~7~~. Whenever a roadway is resurfaced or restored, adequate pavement shoulder and/or striping will be considered to safely accommodate bicycle travel in accordance with the County Standards and Specifications, the Caltrans Highway Design Manual, or other nationally recognized standard, where adequate right-of-way exists.
   Responsible Departments: Public Works, Planning

7. ~~8.~~ Federal funds, special grants, and other sources of funding shall be pursued for the development and improvement of bikeways and pedestrian pathways.
   Responsible Departments: Public Works

~~9. Pedestrian-oriented Design (POD) guidelines shall be prepared which will include the identification of areas and/or projects to which POD guidelines shall apply. POD guidelines shall identify strategies for creating communities that increase the convenience, safety and~~

~~comfort of people walking and bicycling. POD guidelines may be combined with transit-oriented design (TOD) guidelines specified under Policy Eight.~~
~~***Responsible Departments: Planning, Public Works***~~

POLICY EIGHT

Promote public transit as a viable transportation choice.

IMPLEMENTATION MEASURES

1. ~~**Continue to operate an inter-city transit system and cooperate with other agencies and cities**~~ **Continue to operate existing transit systems and coordinate with other County transit operators** to provide public transit serving Stanislaus County.
Responsible Departments: ~~Transit Manager/~~Public Works Transit Division

2. ~~**Where appropriate, new development shall include provisions for connecting to or expansion of existing and/or planned public transit systems**~~. **The County shall continue to work with the Stanislaus Council of Governments (StanCOG) to seek funding to market and promote rideshare programs and where possible, encourage all County employees to use public transit to commute to work.**
Responsible Departments: ~~Transit Manager/~~Public Works Transit Division, Planning

3. Ensure that provisions are made in proposed development for access to current and future public transit services. In particular, continuous segments of walls or fences should not impede pedestrian access to ~~collectors, major, or **expressways**~~ **Expressways, Principal and Minor Arterials, and Major and Minor Collectors** with transit service.
Responsible Departments: Planning, Public Works

4. Where appropriate, new development projects shall **promote the coordination and continuity of all transportation modes and facilities, including park and ride facilities at major activity centers.** ~~**include bus turnouts and shelters and/or park-and-ride lots**~~
Responsible Departments: ~~Transit Manager/~~Public Works Transit Division, Planning

5. Where appropriate, new development projects shall include bus turnouts and site improvements associated with bus stop accessibility for persons with disabilities, including curb cuts for wheel chair access. Where feasible, developments should be encouraged along established or proposed transit routes. The costs associated with the site improvements are paid by the developer and/or applicant.
Responsible Departments: Planning, Public Works

6. Where possible, coordinate public transportation with land use planning, transportation planning and air quality policies such that transit investments are complementary to land use planning and air quality policies.
Responsible Departments: Planning, Public Works

~~5. Transit-oriented design (TOD) shall be prepared that include the identification of areas and/or projects to which TOD guidelines shall apply. TOD guidelines shall identify strategies for creating communities that increase the convenience, safety and comfort of people using public transit. TOD guidelines may be combined with POD guidelines specified under Policy Seven.~~
~~***Responsible Departments: Planning, Transit Manager/Public Works Transit Division***~~

7~~6~~. Financing mechanisms shall be investigated to recover the cost of providing transit service and infrastructure to support new development.
Responsible Departments: ~~Transit Manager/~~Public Works Transit Division, Planning

8. The County shall encourage infill development of vacant parcels and redevelopment projects that will align with and improve the overall effectiveness of the public transit system.
Responsible Departments: Public Works Transit Division, Planning

9. Increase transit use through higher-frequency service of at least 15-minute headways in downtown areas and along major transportation corridors. Transit and land use will be interconnected to support increased ridership.
Responsible Department: Public Works, Planning.

GOAL ~~THREE~~TWO

Maintain a **safe,** balanced and efficient transportation system that facilitates inter-city and interregional travel and goods movement.

POLICY NINE

The County shall promote the development of **safe** inter-city and interregional transportation facilities that more efficiently moves goods and freight within and through the region.

IMPLEMENTATION MEASURES

1. The County will coordinate with the Stanislaus Council of Governments (StanCOG), Caltrans, and other appropriate agencies in the implementation of the Regional Transportation Plan, including the development of a system of State Highways and expressways to allow more efficient people and goods movement.
Responsible Departments: Chief Executive Office, Public Works, Planning

2. The County will continue to work with Caltrans, StanCOG, and other agencies to investigate ways to provide increased inter-city and interregional passenger rail service to Stanislaus County.
Responsible Departments: Chief Executive Office, Public Works, Planning

3. The County shall continue to encourage and support the development of high-security, off-street parking for ~~trucks~~ **commercial vehicles**.
Responsible Departments: Chief Executive Office, Public Works, Planning

4. The County shall investigate the need for new or expanded grade-separated railroad crossings and river crossings for high volume routes and expressways.
Responsible Departments: Chief Executive Office, Public Works, Planning

5. The County will continue to support the development of public use airports consistent with the airport master plans developed for the Oakdale Municipal Airport and the Modesto City-County Airport.
Responsible Departments: Chief Executive Office, Public Works, Planning

6. Consistent with the 1989 Economic Strategic Plan and the 2001 Reuse Plan, **and subsequent studies,** the County will continue to plan the development of the **former** Crows Landing Air Facility**,** including the development of General Aviation **airport** ~~air service~~ and ~~associated~~ **aviation-compatible** business park and industrial development.
Responsible Departments: Chief Executive Office, Public Works, Planning

~~7. The County will coordinate and participate with the San Joaquin Valley Partnership, the Stanislaus Council of Governments, and Caltrans to evaluate the possibility of designating the San Joaquin Valley portion of State Route 99 as part of the Federal Interstate System.~~
~~***Responsible Departments: Chief Executive Office, Public Works***~~

POLICY TEN

The Airport Land Use Commission Plan and County Airport Regulations (Chapter 17 of the County Code) shall be updated as necessary, maintained and enforced.

IMPLEMENTATION MEASURE

1. Continue to implement the strategies identified under Policy Twelve of the Safety Element.
Responsible Departments: Planning, Airport Land Use Commission

GOAL THREE

Provide and manage parking to accommodate vehicle usage while minimizing the impacts of excessive parking supply.

POLICY ELEVEN

Seek to implement more flexible parking requirements to reduce the amount of land devoted to parking and to make alternative modes of transportation more accessible.

IMPLEMENTATION MEASURE

1. Update the Parking Ordinance to allow more flexibility in usage of on-street parking.

2. **Update the Parking Ordinance to allow the use of shared parking facilities.**

3. **Encourage the identification of priority parking areas for vanpools, carpools, and energy efficient and low-pollution vehicles, including consideration of recharge stations for electric vehicles in all Commercial and Business Park designated development projects with 100 or more employees.**

Chapter 3

CONSERVATION/OPEN SPACE ELEMENT

INTRODUCTION

The Conservation/Open Space Element of the Stanislaus County General Plan emphasizes the conservation and management of natural resources and the preservation of open space lands (any parcel or area of land or water which is essentially unimproved). The element: (1) promotes the protection, maintenance, and use of the County's natural resources, with special emphasis on scarce resources and those that require special control and management; (2) prevents wasteful exploitation, destruction, and neglect of natural resources; (3) recognizes the need for natural resources to be maintained for their ecological values as well as for their direct benefit to people; (4) preserves open space lands for outdoor recreation including scenic, historic and cultural areas; and (5) preserves open space for public health and safety including areas subject to landslides, flooding, and high fire risk and areas required for the protection of water and air quality. Information on the various natural, cultural, recreational and aesthetic resources, along with safety issues are discussed in Chapter 3 of the "Stanislaus County General Plan - Support Documentation."

Intro to include any information received as a result of CCIC Data and/or SB 18 – Native American comments received during the environmental review process.

GOALS, POLICIES AND IMPLEMENTATION MEASURES

GOAL ONE

Encourage the protection and preservation of natural and scenic areas throughout the County.

POLICY ONE

Maintain the natural environment in areas dedicated as parks and open space.

IMPLEMENTATION MEASURES

1. Development of County parks shall include provisions for native vegetation conservation. Rare and endangered plants will be protected consistent with state and federal law and consistent with protection standards for private development as established in this General Plan.
   Responsible Departments: Parks and Recreation, Board of Supervisors

2. Continue to use Williamson Act contracts as a means for open space conservation.
   Responsible Departments: Planning Department, Assessor, Board of Supervisors

POLICY TWO

Assure compatibility between natural areas and development.

IMPLEMENTATION MEASURES

1. Review zoning regulations for compatibility between proposed development and natural areas.
   Responsible Department: Planning Department

2. Review all development requests to ensure that sensitive areas (e.g., riparian habitats, vernal pools, rare plants) are left undisturbed or that mitigation measures acceptable to appropriate state and federal agencies are included in the project.
   Responsible Departments: Planning Department, Public Works, Planning Commission, Board of Supervisors.

3. Require Airport Land Use Commission (ALUC) review of the location, compatibility, and design of proposed parks, open space uses, and outdoor recreation areas within adopted Airport Influence Areas.
Responsible Department: Planning Department

4. Discourage the establishment of conservation areas or nature preserves within adopted Airport Influence Areas.
Responsible Department: Planning Department

5. Consider adoption of scenic corridors to protect and preserve natural scenic vistas located throughout the County.
Responsible Departments: Parks and Recreation, Planning Department, Planning Commission, Board of Supervisors

POLICY THREE

Areas of sensitive wildlife habitat and plant life (e.g., vernal pools, riparian habitats, flyways and other waterfowl habitats, etc.) including those habitats and plant species listed in the General Plan Support Document or by state or federal agencies shall be protected from development **and/or disturbance.**

IMPLEMENTATION MEASURES

1. Review all development requests to ensure that sensitive areas (e.g., riparian habitats, vernal pools, rare plants, flyways, etc.) are left undisturbed or that mitigation measures acceptable to appropriate state and federal agencies are included in the project.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. In known sensitive areas, the State Department of Fish and ~~Game~~ **Wildlife** shall be notified as required by the California Native Plant Protection Act; the U.S. Fish and Wildlife Service also shall be notified.
Responsible Department: Planning Department

3. All discretionary projects that will potentially impact riparian habitat and/or vernal pools or other sensitive areas shall include mitigation measures for protecting that habitat.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

4. All discretionary projects within an adopted Airport Influence Area (AIA) that have the potential to create habitat, habitat conservation, or species protection shall be reviewed by the Airport Land Use Commission.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

~~4.~~**5.** Implementation of this policy shall not be extended to the level of an unconstitutional "taking" of property.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

6. Any ground disturbing activities on lands previously undisturbed that will potentially impact riparian habitat and/or vernal pools or other sensitive areas shall include mitigation measures for protecting that habitat, as required by the State Department of Fish and Wildlife.
Responsible Departments: Planning Department, Public Works, Planning Commission, Board of Supervisors

POLICY FOUR

Protect and enhance oak woodlands and other native hardwood habitat.

IMPLEMENTATION MEASURES

1. Require all discretionary projects that will potentially impact oak woodlands and other native hardwood habitat, including but not limited to hardwood rangelands indentified in the maps in Appendix III-A, to include a management plan for the protection and enhancement of oak woodlands and other native hardwood habitat.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. Consider adoption of a tree protection ordinance to promote conservation of native trees or trees with historic significance.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

GOAL TWO

Conserve water resources and protect water quality in the County.

POLICY FIVE

Protect groundwater aquifers and recharge areas, particularly those critical for the replenishment of reservoirs and aquifers.

IMPLEMENTATION MEASURES

1. Proposals for urbanization in groundwater recharge areas shall be reviewed to ensure that (1) as much water as possible is returned to the recharge area, (2) the development will not cause discharge of materials detrimental to the quality of the water, and (3) the development will not result in significant groundwater overdrafting or deterioration in quality. The Department of Environmental Resources shall require:

   A. In those areas where groundwaters are susceptible to overdrafting, the project proponent shall perform a hydrogeological analysis and include appropriate mitigation measures in the proposal.

   B. In those areas where groundwater quality is susceptible to deterioration or is already of reduced quality, the level of wastewater treatment shall be such that it will not cause further quality deterioration.

   Responsible Departments: Environmental Resources, Planning Department, Planning Commission, Board of Supervisors.

2. The Department of Environmental Resources shall identify and require control of point sources for pollutants stored, handled or disposed of on the surface of the soil or in the vadose zone that is located in the zone or aeration immediately above the groundwater level. Potential sources of pollutants to the groundwater may also include high densities of

individual on-site sewage treatment units and/or the use of community package treatment plants. The Department of Environmental Resources shall require the adoption of groundwater monitoring programs for projects where hydrogeological assessments indicate the potential for groundwater deterioration is likely.
Responsible Department: Environmental Resources

3. **Stanislaus County shall discourage the use of** ~~Eliminate reliance on~~ dry wells as a means of street drainage in urban areas. Dry wells collect and discharge toxic, hazardous and designated contaminants into aquifers having beneficial uses. New projects shall have storm water disposal systems that: (1) are designed not to pollute receiving surface or groundwaters, and (2) which could be integrated into an area-wide groundwater recharge program whenever feasible.
Responsible Departments: Environmental Resources, Public Works, Planning Commission, Board of Supervisors

4. ~~During the project and environmental review process,~~ **E**ncourage new development to incorporate water conservation measures to minimize adverse impacts on water supplies. ~~Possible measures include, but are not limited to, low-flow plumbing fixtures, use of reclaimed wastewater for landscaping when feasible, and use of drought-tolerant landscaping.~~
Responsible Departments: Environmental Resources, ~~*Building Inspection Division*~~ ***Planning Department-Building Permits Division***

5. Continue to implement the landscape provisions of the Zoning Ordinance, which encourage drought-tolerant landscaping and water-conserving irrigation methods.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

6. During the project and environmental review process, encourage new urban development to be served by community wastewater treatment facilities and water systems rather than by package treatment plants or private septic tanks and wells.
Responsible Departments: Planning Department, Environmental Resources, Planning Commission, Board of Supervisors

POLICY SIX

Preserve **natural** vegetation to protect waterways from bank erosion and siltation.

IMPLEMENTATION MEASURES

1. Development proposals **and mining activities** including or in the vicinity of waterways and/or wetlands shall be closely reviewed to ensure that destruction of riparian habitat and vegetation is minimized. This shall include referral to the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, ~~and the~~ State Department of Fish and ~~Game~~ **Wildlife, and the State Department of Conservation**.
Responsible Departments: Planning Department, Public Works, Planning Commission, Board of Supervisors

2. Continue to encourage best management practices for agriculture and coordinate with soil and water conservation efforts of Stanislaus County Farm Bureau, Resource Conservation Districts, the U.S. Soil Conservation Service, and local irrigation districts.
Responsible Departments: Agricultural Commissioner, U.C. Cooperative Extension

POLICY SEVEN

New development that does not derive domestic water from pre-existing domestic and public water supply systems shall be required to have a documented water supply that does not adversely impact Stanislaus County water resources.

IMPLEMENTATION MEASURES

1. Proposals for development to be served by new water supply systems shall be referred to appropriate water districts, irrigation districts, community services districts, the State Water Resources Board and any other appropriate agencies for review and comment.
   Responsible Department: Planning Department, Environmental Resources

2. Review all development requests to ensure that sufficient evidence has been provided to document the existence of a water supply sufficient to meet the **short and long term water** needs of the project without adversely impacting the quality and quantity of existing local water resources.
   Responsible Departments: Planning Department, Environmental Resources, Planning Commission, Board of Supervisors

POLICY EIGHT

The County shall **support** ~~continue and, if necessary, expand the water monitoring program of the~~ **efforts** ~~of the Stanislaus County Department of Environmental Resources~~ **to develop and implement water management strategies.**

IMPLEMENTATION MEASURES

1. The County ~~will consider applying for Community Development Block Grant Funds and other~~ will pursue state and federal ~~various grants~~ **funding options** to improve water **management resources** ~~quality~~ in the County.
   Responsible Department: Planning Department, Environmental Resources, Board of Supervisors

2. The Department of Environmental Resources should continue to monitor groundwater quality by reviewing well water chemical and bacterial analysis results **for public water systems under the department's supervision** and **by** overseeing investigations involving soil and groundwater contamination.
   Responsible Department: Environmental Resources

3. The County will coordinate with water purveyors, private landowners and other water resource agencies in the region on data collection of groundwater conditions and in the development of a groundwater usage tracking system, including well location/construction mapping (within the extent that prevailing law allows) and groundwater level monitoring, to guide future policy development.
   Responsible Department: Environmental Resources

4. The County shall promote efforts to increase reliability of groundwater supplies through water resource management tools ranging from surface water protection programs, demand management programs (conservation), continued public

education programs, and expanded opportunities for conjunctive use of groundwater, surface water, and appropriately treated wastewater and stormwater reuse opportunities.
Responsible Department: Environmental Resources, Agricultural Commissioner, Public Works, Public Health, Planning.

5. **The County will support and where appropriate help facilitate the formation of an integrated and comprehensive county-wide, and where appropriate regional, water resources management plan which incorporates existing water management plans and identifies and plans for management within the gaps between existing water management plans.**
Responsible Department: Planning Department, Environmental Resources

6. **The County will cooperate with other pertinent agencies, including cities and water districts, in the preparation and adoption of a groundwater sustainability plan pursuant to the Sustainable Groundwater Management Act (SGMA) and any subsequent legislation. The County will use its regulatory authority, as appropriate, to implement the requirements of the groundwater sustainability plan.**
Responsible Department: Environmental Resources, Planning.

7. **The County will obtain the technical information, and develop the planning and policy needs to improve groundwater recharge opportunities and groundwater conditions in the County.**
Responsible Department: Environmental Resources, Planning.

8. **As information becomes available, the County will adopt General Plan changes to protect recharge areas and manage land use changes that have an impact on groundwater use and quality.**
Responsible Department: Environmental Resources, Planning.

POLICY NINE

The County will investigate additional sources of water for domestic use.

IMPLEMENTATION MEASURE

1. The County will work with irrigation and water districts, community services districts, municipal and private water providers in developing surface water and other potential water sources for domestic use.
Responsible Departments: Planning Department, Chief Executive Officer, Environmental Resources, Stanislaus County Water Advisory Committee

GOAL THREE

Provide for the long-term conservation and use of agricultural lands.

POLICY TEN

Discourage the division of land which forces the premature cessation of agricultural uses.

IMPLEMENTATION MEASURES

1. Use of the 40-acre or larger parcel size or agricultural Planned Developments with average residential densities equivalent to those allowed by parcel sizes of at least 40 acres shall be continued throughout most of the area designated Agriculture on the Land Use Element of the General Plan.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. The County will continue to ~~offer the financial benefits of the~~ **participate in the** Williamson Act, consistent with **the** Polici**es**~~y~~ ~~Sixteen, Implementation Measure 5~~ of the Land Use **and Agricultural** Element**s.**
   Responsible Departments: Planning Department, Assessor, Board of Supervisors

3. The County will continue to participate in the Farmland Mapping and Monitoring Program. ~~(Comment: The major purpose of this program is to monitor conversion of the state's agricultural land to and from agricultural use, and to report that conversion annually to the legislature, local government, and the public. The program began in 1980 to supplement the land inventory and monitoring activity of the U.S. Department of Agriculture's Soil Conservation Service (SCS). Growing public concern over farmland losses in California and a low federal priority for the mapping program in our State were the basis for California's participation in the land inventory. The State's involvement in the SCS inventory program led to the passage of AB 966 in 1981. The primary purpose of the bill was to create a map inventory of the State's crop and grazing lands, and set up an ongoing monitoring system to document the quantity of land put into production and land converted to urban usage in California. As a result, three key areas of local governmental involvement in the State's Farmland Mapping and Monitoring Program are: (1) identifying farmland of local importance, (2) identifying land committed to nonagricultural use, and (3) advising the Department each year of lands which have been converted to urban use.)~~
   Responsible Departments: U.C. Cooperative Extension, Planning Department

~~4. In designated areas of agricultural land, the County will encourage clustering, or grouping together, of allowable dwelling units on relatively small parcels instead of the dispersal of such dwelling units on larger parcels. Any changes to County zoning and/or subdivision regulations to allow clustering should be submitted by staff to the Planning Commission and Board of Supervisors by June 30, 1996.~~
   ~~***Responsible Departments: Planning Department, Planning Commission, Board of Supervisors***~~

POLICY ELEVEN

In areas designated "Agriculture" on the Land Use Element, discourage land uses which are incompatible with agriculture.

IMPLEMENTATION MEASURES

1. All development proposals that require discretionary approval shall be reviewed to ensure that the project will not adversely affect an existing agricultural area.
   Responsible Department: Planning Department, Agricultural Commissioner, Planning Commission, Board of Supervisors.

2. The County shall continue to implement the strategies identified in the Agricultural Element to ensure that new development is compatible with agricultural uses.
Responsible Department: Agricultural Commissioner, Planning Department, Planning Commission, Board of Supervisors.

3. The County shall continue to work with LAFCO to ensure that expansion of urban boundaries minimizes the area of conflict between urban and agricultural uses.
Responsible Department: Planning Department

GOAL FOUR

Provide for the open-space recreational needs of the residents of the County.

POLICY TWELVE

Provide a system of local and regional parks which will serve the residents of the County. (Comment: The County should acquire future park sites in areas where growth is planned when funding is available.)

IMPLEMENTATION MEASURES

1. The County shall consider adoption of an amendment to the Subdivision Ordinance ~~by June 30, 1996~~ to require parkland dedication~~, or~~ park in-lieu fees, **public facility fees, or other methods acceptable to the Parks Department**, to be paid by subdividers and developers.
Responsible Departments: Planning Department, Parks Department, Parks Commission, Planning Commission, Board of Supervisors

2. ~~The County Department of Parks and Recreation shall prepare and implement a plan to identify, acquire and maintain future park site locations. The parks plan should be adopted by June 30, 1996 and should address neighborhood parks and open space in urban settings as well as regional parks that serve the entire County population~~. **The County shall continue to implement the Parks Master Plan. The Plan shall be comprehensively updated as found necessary by the Board of Supervisors.**
Responsible Departments: Parks Department, Parks Commission, Planning Department, Planning Commission, Board of Supervisors

~~3. The County shall adopt design standards for urban parks by June 30, 1996.~~
~~***Responsible Departments: Parks Department, Parks Commission, Planning Department, Planning Commission, Board of Supervisors***~~

3. ~~4.~~ The County shall consider establishing appropriate funding mechanisms for park operations and maintenance, including benefit assessment districts and County Service Areas (CSAs), with appropriate exemptions included for those landowners that provide open space amenities.
Responsible Departments: Parks Department, Parks Commission, Planning Department, Planning Commission, Treasurer-Tax Collector, Auditor-Controller, Chief Executive Office, Board of Supervisors

4. ~~5.~~ The County shall encourage the interconnection of recreational areas, open spaces and parks that are oriented to pedestrian and bicycle travel along public highway rights-of-way, while protecting private property **and river corridors,** to the greatest extent possible.
Responsible Departments: Parks Department, Parks Commission, Planning Department, Planning Commmission, Public Works, Board of Supervisors

~~6. The County Department of Parks and Recreation will cooperate with efforts by the State Parks Department to make Henry Coe State Park more accessible to Stanislaus County residents.~~
~~***Responsible Department: Parks and Recreation***~~

5. ~~7.~~ The County shall require **dedication and improvement of parks and open space in accordance with the Stanislaus County Parks Master Plan, as amended from time to time**. ~~at least three net acres of developed neighborhood parks to be provided for every 1,000 residents~~.
Responsible Departments: Parks Department, Parks Commission, Planning Department, Planning Commission, Board of Supervisors

POLICY THIRTEEN

Promote the use of water reservoirs for multiple recreational purposes, where appropriate.

IMPLEMENTATION MEASURES

1. The County shall encourage the multiple use of reservoirs as flood control devices, recreational facilities, and wildlife habitats**.**
Responsible Departments: Parks and Recreation, Board of Supervisors

2. The County shall, when funds become available, install **and maintain** boat**ing** ~~ramps~~ **facilities,** where appropriate.
Responsible Departments: Parks and Recreation, Board of Supervisors

3. The County shall encourage the development of on-site resort services and accessory sales designed to enhance recreational opportunities, where appropriate.
Responsible Departments: Parks and Recreation, Board of Supervisors

POLICY FOURTEEN

Provide for diverse recreational opportunities such as horseback riding trails, hiking trails, and bikeways.

IMPLEMENTATION MEASURES

1. In areas where appropriate, equestrian facilities may be provided. (The County should consider equestrian facilities when developing new parks. Also, in large land subdivisions where horses are permitted, the County should encourage the development of equestrian facilities.)
Responsible Departments: Parks and Recreation, Planning Department, Planning Commission, Board of Supervisors

2. Bikeways and pedestrian paths shall be considered when constructing or improving the

road and street system within the sphere of influence of cities or other urban areas**, consistent with the Non-Motorized Transportation Plan adopted by StanCOG**.
Responsible Departments: Public Works, Planning Department, Planning Commission, Board of Supervisors

POLICY FIFTEEN

Coordinate the provision of recreation needs with other providers such as the Army Corps of Engineers, the State Resources Agency, school districts, **local cities,** river rafters, horse stable operators, and private organizations such as the Sierra Club, and Audubon Society**.**

IMPLEMENTATION MEASURES

1. The County will pursue various funding options for providing recreational opportunities.
Responsible Departments: Parks and Recreation, Board of Supervisors

2. The County will assume responsibility for parks, when financially feasible, dedicated to them by state or federal agencies.
Responsible Departments: Parks and Recreation, Board of Supervisors

3. Prior to the issuance of any building permit on parcels fronting ~~the Stanislaus River~~ **on rivers and streams**, it shall be verified that the building site is outside of Army Corps of Engineers easements.
Responsible Department: ~~*Building Inspection Division*~~ ***Planning Department-Building Permits Division***

4. An inventory of recreational facilities shall be maintained for use in parks and recreation facilities planning.
Responsible Department: Parks and Recreation

5. Proposals to establish new or expanded recreational areas shall be reviewed for consistency with policies of the Safety Element when located within an adopted Airport Influence Area as a means to prevent the creation of potential wildlife strike hazards or other hazards to park users, aviators, and the traveling public.
Responsible Department: Parks and Recreation

GOAL FIVE

Reserve, as open space, lands subject to natural disaster in order to minimize loss of life and property of residents of Stanislaus County.

POLICY SIXTEEN

Discourage development on lands that are subject to flooding, landslide, faulting or any natural disaster to minimize loss of life and property.

IMPLEMENTATION MEASURES

1. Enforce the provisions of the Alquist-Priolo Earthquake Fault Zoning Act.
   Responsible Departments: ~~*Building Inspection Division*~~ ***Planning Department-Building Permits Division, Planning Department, Planning Commission, Board of Supervisors***

2. Development will not be permitted in floodways unless it meets the requirements of Chapter ~~16.40~~ **16.50** of the County Code and is approved by the State Reclamation Board.
   Responsible Departments: Public Works, Planning Department, Planning Commission, Board of Supervisors

3. Development proposals in an area identified as having unstable soils (bluff, landslide areas in the foothills, etc.) shall include measures for mitigating possible hazards.
   Responsible Departments: Public Works, ~~*Building Inspection Division*~~ ***Planning Department-Building Permits Division, Planning Department, Planning Commission, Board of Supervisors***

4. The County shall enforce the subdivision ordinance requirement for soils reports, which may be required to include a geologic report.
   Responsible Departments: Public Works, Planning Commission, Board of Supervisors

5. The County shall utilize the California Environmental Quality Act (CEQA) process to ensure that development does not occur that would be subject to natural disasters.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

6. **Development proposals shall be reviewed for conformance with all applicable Hazard Mitigation Plans and consistency with policies of the Safety Element.**
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY SEVENTEEN

Develop a plan to minimize the impacts of a disaster.

IMPLEMENTATION MEASURES

1. The County Office of Emergency Services will continue to work with other jurisdictions to develop evacuation routes to be used in case of a disaster. Evacuation routes will serve all of the jurisdictions in the County. Plans for evacuation routes must be coordinated with the cities.
Responsible Department: Emergency Services

2. In case of a disaster, the County will use the adopted emergency plan and the procedures established in that document **(Multi-Jurisdictional Hazard Mitigation Plan).**
Responsible Departments: Emergency Services, Sheriff, ~~Fire Safety~~ Fire Warden's Office and the Local Fire Agency Having Jurisdiction, Board of Supervisors

3. The County will provide information to anyone interested in forming a flood control district in Stanislaus County.
Responsible Department: Public Works

GOAL SIX

Improve air quality.

POLICY EIGHTEEN

The County will promote effective communication, cooperation and coordination among agencies involved in developing and operating local and regional air quality programs.

IMPLEMENTATION MEASURES

1. Refer discretionary projects under CEQA review to the San Joaquin Valley ~~Unified~~ Air Pollution Control District (SJV~~U~~APCD), neighboring jurisdictions and other affected agencies for review and comment.
Responsible Department: Planning Department

2. Work with other agencies in the San Joaquin Valley to establish coordinated air quality programs and implementation measures.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY NINETEEN

The County will strive to accurately determine and fairly mitigate the local and regional air quality impacts of proposed projects.

IMPLEMENTATION MEASURES

1. Require all development proposals, where appropriate, to include reasonable air quality mitigation measures.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. Minimize case-by-case analysis of air quality impacts through the use of standard criteria for determining significant environmental effects, a uniform method of calculating project emissions, and standard mitigation methods to reduce air quality impacts.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY TWENTY

The County shall strive to reduce motor vehicle emissions by reducing vehicle trips and vehicle miles traveled and increasing average vehicle ridership.

IMPLEMENTATION MEASURES

1. Through strategies identified in the Circulation Element, ensure that circulation systems are designed and maintained to minimize traffic congestion and vehicle emissions.
Responsible Departments: Public Works, Planning Department, Planning Commission, Board of Supervisors

2. Support a broad range of transportation modes, including public transit, bicycling and pedestrian travel, through the strategies identified in the Circulation Element.
Responsible Departments: Public Works, Planning Department, Planning Commission, Board of Supervisors

3. Help achieve a jobs/housing balance by working with appropriate organizations to attract employers to Stanislaus County.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY TWENTY-ONE

The County will support efforts to increase public awareness of air quality problems and solutions.

IMPLEMENTATION MEASURES

1. Support and participate in the air quality education programs of the SJV~~U~~APCD to the greatest extent possible.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. Support education programs that increase public awareness of techniques to reduce ~~fine~~ particulate matter ~~(PM-10)~~ emissions.
Responsible Departments: U.C. Cooperative Extension, Agricultural Commissioner, Agricultural Advisory Board, Planning Department, Department of Environmental Resources, Public Health, ~~Building Inspection Division~~ Planning Department-Building Permits Division, Board of Supervisors

3. Work with the local building industry, utilities, and the SJV~~U~~APCD to educate developers and builders on the benefits of energy-efficient designs and the use of low-emission equipment for new residential and commercial construction.
Responsible Departments: Planning Department, ~~Building Inspection Division~~ Planning Department-Building Permits Division

GOAL SEVEN

Support efforts to minimize the disposal of solid waste through source reduction, reuse, recycling, composting and transformation activities.

~~(Comment: As urbanization spreads and populations increase, more and more refuse is produced. Public Resources Code, Section 41780, requires Stanislaus County to reduce solid waste disposal 50% by the year 2000 through maximizing the use of all feasible source reduction, recycling and composting options. For wastes that cannot be feasibly reduced at their source, recycled, or composted, the practices of environmentally safe transformation or land disposal, or both, may be used. Barriers to siting such disposal facilities include environmental factors and costs.)~~

POLICY TWENTY-TWO

The County will support the solid waste management hierarchy established by the California Public Resources Code, Section 40051, and actively promote the goals and objectives specified in the Countywide Integrated Waste Management Plan.

IMPLEMENTATION MEASURES

1. Encourage and promote activities, projects, legislation, business and industries that cause solid waste to be reduced at the source, reused, recycled and/or composted.
   Responsible Departments: Planning Department, Environmental Resources, Planning Commission, Board of Supervisors, ~~SCEDCO~~

2. ~~Complete and adopt the state-mandated Countywide Integrated Waste Management Plan by January 31, 1996.~~ **Maintain an up to date Countywide Integrated Waste Management Plan.**
   Responsible Departments: Environmental Resources, Board of Supervisors

3. Encourage the use of transformation facilities (such as waste-to-energy plants) as a component of the County's integrated waste management system.
   Responsible Departments: Planning Department, Environmental Resources, Planning Commission, Board of Supervisors

4. Actively pursue the identification, siting, permitting and operation of additional landfill capacity to receive solid wastes that are not diverted from disposal and for the disposal of ash from transformation facilities.
   Responsible Departments: Environmental Resources, Planning Department, Planning Commission, Board of Supervisors

5. Encourage and promote activities, projects, legislation, businesses and industries that cause special wastes (e.g., food processing ~~residue~~ **by-products,** demolition/construction waste, inert wastes, **e-waste/universal waste,** tires, de-watered sludge, household hazardous waste, etc.) to be safely diverted from landfills or transformation facilities, including composting and co-composting operations.
   Responsible Departments: Environmental Resources, Planning Department, Planning Commission, Board of Supervisors

6. **Permitting and operation of recycling facilities that receive waste materials diverted from landfills or transformation facilities shall be evaluated for compatibility with surrounding land uses.**
Responsible Departments: Environmental Resources, Planning Department, Planning Commission, Board of Supervisors

POLICY TWENTY-THREE

The County will protect existing solid waste management facilities, including the waste-to-energy plant and the Fink Road landfill, against encroachment by land uses that would adversely affect their operation or their ability to expand.

IMPLEMENTATION MEASURES

1. Do not approve any discretionary projects within 1,000 feet of existing solid waste management facilities, including the Fink Road landfill and the waste-to-energy plant, unless such projects will have no adverse impact on those facilities or vice versa.
Responsible Departments: Public Works, Environmental Resources, Planning Department, Planning Commission, Board of Supervisors

2. Explore the possibility of establishing an appropriate mechanism to preclude issuance of any building permits within 1,000 feet of solid waste management facilities, including the Fink Road landfill and the waste-to-energy plant.
Responsible Departments: Public Works, County Counsel, ~~Building Inspection Division~~ Planning Department-Building Permits Division, Board of Supervisors

GOAL EIGHT

Preserve areas of national, state, regional and local historical importance.

Policies under Goal 8 may include additional Information as a result of SB 18 – Native American Consultations during Environmental Phase

POLICY TWENTY-FOUR

The County will support the preservation of Stanislaus County's cultural legacy of archeological, historical, ~~and archeological~~ and paleontological resources for future generations.

(Comment: Landmarks of historical consequence not only include old schoolhouses, and covered bridges, but also such sites as Native American burial grounds, cemeteries, pottery, rock carvings, and rock paintings. Normally, "sensitive" areas are often located near natural watercourses, springs or ponds, or on elevated ground. However, due to the silt build-up in the valley and the meandering of rivers, archaeological and historical sites may be found in unsuspected areas.)

IMPLEMENTATION MEASURES

1. The County shall continue to utilize the HS (Historical Site) zone in Knight's Ferry and La Grange to protect the historical character of the communities.
Responsible Departments: Planning Department, Planning Commission, Board of

Supervisors

2. The County shall seek input from the Knight's Ferry Municipal Advisory Council concerning any development proposals in the HS zone in Knight's Ferry.
Responsible Departments: Planning Department, Historical Sub-Committee of the Planning Commission, Planning Commission, Board of Supervisors

3. The County shall work with the County Historical Society, and other organizations and interested individuals to study, identify and inventory archeological resources and historical sites, structures, buildings and objects.
Responsible Department: Planning Department, Parks and Recreation

4. The County will cooperate with the State Historical Preservation Officer to identify and nominate historical structures, objects, buildings and sites for inclusion under the Historical Preservation Act.
Responsible Department: Planning Department, Parks and Recreation

5. The County shall utilize the California Environmental Quality Act (CEQA) process to protect archaeological, ~~or~~ historic, or paleontological resources. Most discretionary projects require review for compliance with CEQA. As part of this review, potential impacts must be identified and mitigated.
Responsible Departments: Planning Department, Parks and Recreation, Planning Commission, Board of Supervisors

6. The County shall make referrals to the Office of Historic Preservation and the Central California Information Center as required to meet CEQA requirements and require.
Responsible Department: Planning Department

7. The County will work with all interested individuals and organizations to protect and preserve the mining heritage of Stanislaus County.
Responsible Department: Parks and Recreation

POLICY TWENTY-FIVE

"Qualified Historical Buildings" as defined by the State Building Code shall be preserved.

IMPLEMENTATION MEASURES

1. Whenever possible, the County Building ~~Inspection~~ **Permits** Division shall utilize the provisions of the State Building Code that allow historical buildings to be restored without damaging the historical character of the building.
Responsible Department: ~~Building Inspection Division~~ Planning Department-Building Permits Division

2. The County shall continue to utilize the HS (Historical Site) zone in Knight's Ferry and La Grange to protect the historical character of the communities.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

GOAL NINE

Manage extractive mineral resources to ensure an adequate supply without degradation of the environment.

POLICY TWENTY-SIX

Surface mining in areas classified by the State Division of Mines and Geology as having significant deposits of extractive mineral resources shall be encouraged.

IMPLEMENTATION MEASURES

1. The County shall encourage and support the State Division of Mines and Geology or other public or private organizations in designating the County's sand and gravel resources.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. The County shall utilize the California Environmental Quality Act (CEQA) process to protect mineral resources as well as the environment. Most discretionary projects require review for compliance with CEQA. As a part of this review, environmental impacts and alternatives, must be identified and the manner for such significant effects to be avoided or mitigated must be indicated. ~~The Legislature declares that in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects.~~
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors.

3. **Areas identified in Special Reports prepared by the California Geological Survey, shall be covered by the Mineral Resource land use designation of the Land Use Element.** ~~The County shall adopt the Mineral Resources land use designation for those areas designated by the state as significant deposits of mineral by the State Division of Mines and Geology resources at such time as the State Division of Mines and Geology completes the countywide mineral resources designation process under the Surface Mining and Reclamation Act (SMARA).~~
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors.

4. **As necessary, t**he County shall ~~consider adopting~~ **update and maintain the** Mineral Resources land use designation for those areas**, within Stanislaus County,** identified as significant deposits of mineral resources in ~~the 1993 (Special Report 173) Mineral Land Classification of Stanislaus County~~ **Special Reports** prepared by the ~~State Division of Mines and Geology~~ **California Department of Conservation, California Geological Survey**.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY TWENTY-SEVEN

The County shall emphasize the conservation and development of lands having significant deposits of extractive mineral resources by not permitting uses that threaten the potential to extract the minerals.

IMPLEMENTATION MEASURES

1. Requests for conversion of lands with significant deposits of extractive mineral resources (e.g., sand and gravel) to urban uses shall not be approved unless provisions are made for extraction prior to development.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. Any approval of potentially incompatible land uses in and surrounding areas containing significant deposits of extractive mineral resources shall include conditions mitigating the significant land use conflicts.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

3. The classification maps and mineral information contained in ~~the Mineral Land Classification of Stanislaus County, California (Special Report 173),~~ **Special Reports identifying mineral resources within Stanislaus County and prepared by the California Geological Survey,** together with Public Resources Code Section 2710 et seq. (SMARA) and state policy, are hereby incorporated in this General Plan by reference.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY TWENTY-EIGHT

Lands used for the extraction of mineral resources shall be reclaimed as required by the Surface Mining and Reclamation Act of 1975 **(SMARA)** to minimize undesirable impacts.

IMPLEMENTATION MEASURES

1. Approval of any excavation permits shall include requirements for reclamation of the land consistent with the land use designation.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. Mineral excavation on productive agricultural land should have a reclamation plan that retains or restores a maximum amount of agricultural or open space land.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

GOAL TEN

Protect fish and wildlife species of the County.

~~**POLICY TWENTY-NINE**~~

~~Adequate water flows should be maintained in the County's rivers to allow salmon migration.~~

~~**IMPLEMENTATION MEASURE**~~

~~1. The County should continue to lobby the federal government to provide adequate water flow in the County's rivers to allow salmon migration.~~
~~***Responsible Department: Board of Supervisors***~~

~~POLICY THIRTY~~ **POLICY TWENTY-NINE**

Habitats of rare and endangered fish and wildlife species**, including special status wildlife and plants,** shall be protected. ~~Information on rare and endangered species and habitats is constantly being updated in response to a 1982 state law by the California State Department of Fish and Game through various sources which include the Stanislaus Audubon Society, California Native Plant Society, and the Sierra Club.~~

IMPLEMENTATION MEASURES

1. The County shall utilize the California Environmental Quality Act (CEQA) process to ensure that development does not occur that would be detrimental to fish, plant life, or wildlife species.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. The County shall **utilize the California State Department of Fish and Wildlife's California Natural Diversity Data Base and the California's Native Plant Society plant lists as the primary sources of information on special status wildlife and plants.** ~~maintain information regarding fish and wildlife habitats and rare and endangered flora and fauna species.~~
   Responsible Department: Planning Department

3. The County shall protect sensitive wildlife habitat and plant life through the strategies identified under Policy Three of this element.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

GOAL ELEVEN

Conserve resources through promotion of waste reduction, reuse, recycling, composting, ride-share programs and alternative energy sources such as mini-hydroelectric plants, gas and oil exploration, and transformation facilities such as waste-to-energy plants.

~~POLICY THIRTY-ONE~~ POLICY THIRTY

The County shall provide zoning mechanisms for locating material recovery facilities, recycling facilities, composting facilities, and new energy producers when the proposed location does not conflict with surrounding land uses.

IMPLEMENTATION MEASURES

1. The County shall include provisions in its zoning ordinance for siting material-recovery facilities, recycling facilities, composting facilities, mini-hydroelectric plants and **alternative energy sources.** ~~transformation facilities by June 30, 1997.~~
   Responsible Departments: Planning Department, Environmental Resources, Planning Commission, Board of Supervisors

2. The County shall actively pursue and implement projects, plans and programs that will effectively protect and conserve existing and future landfill capacity.
   Responsible Departments: Environmental Resources, Board of Supervisors

~~POLICY THIRTY-TWO~~ POLICY THIRTY-ONE

New construction by the County shall meet or exceed code requirements for energy conservation.

IMPLEMENTATION MEASURES

1. New County facilities should be designed to maximize energy efficiency.
   Responsible Departments: County Executive Office, ~~Building Inspection Division~~ Planning Department-Building Permits Division

2. Existing County facilities should be made to maximize energy efficiency where it is found to be economically reasonable.
   Responsible Departments: County Executive Office, ~~Building Inspection Division~~ Planning Department-Building Permits Division

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Maps & appendix to be updated during environmental process.

APPENDIX III-A

STANISLAUS COUNTY HARDWOOD RANGELANDS

Source: California Department of Forestry and Fire Protection (CDF) maps prepared by Pillsbury, N.H., et al. 1991. From 1981 1:24,000 CDF aerial photos. Hardwoods above 5,000 feet were not mapped.

Refer to Extent and Ownership of California's Hardwoods for additional information.

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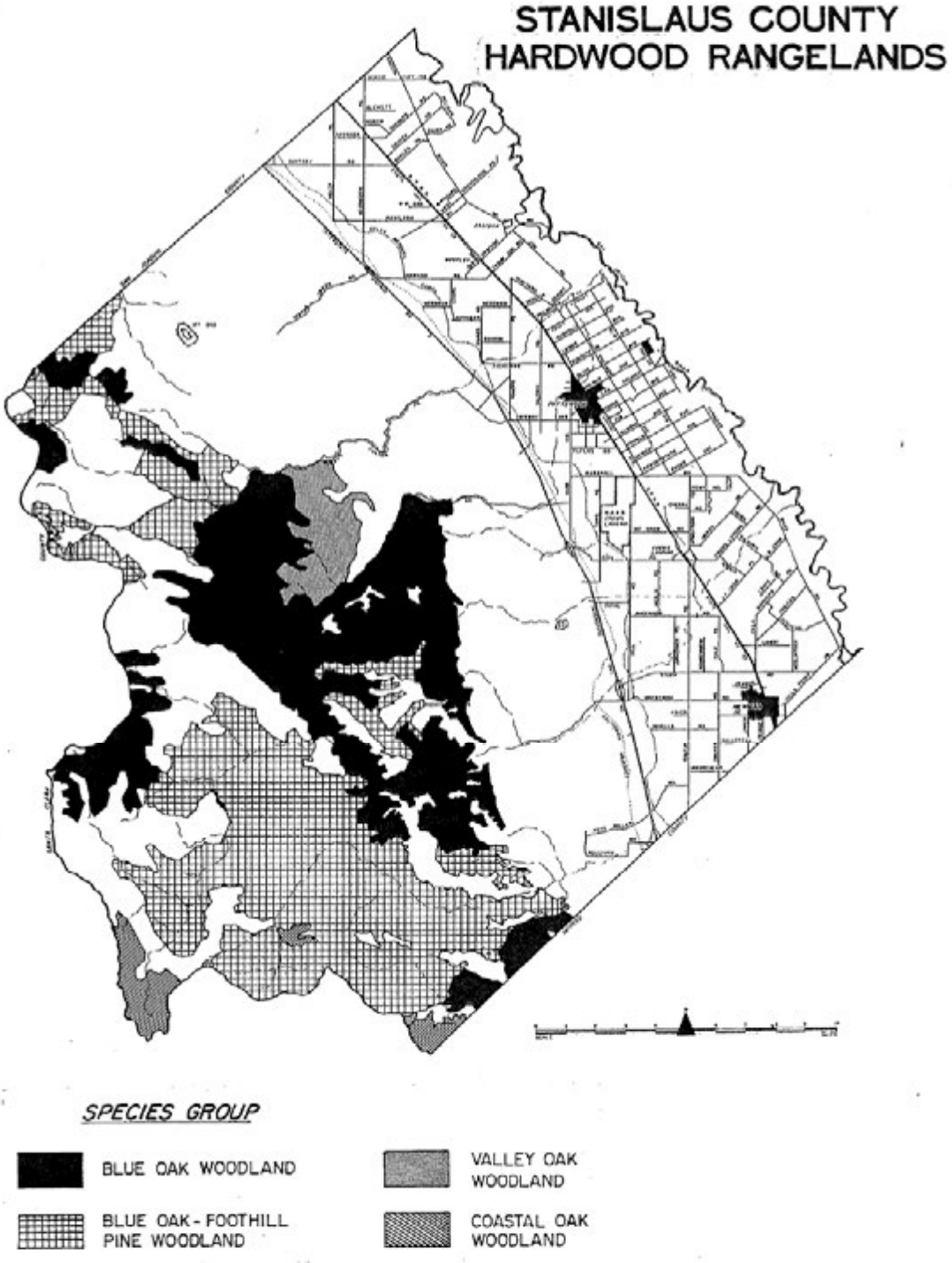
STANISLAUS COUNTY
HARDWOOD RANGELANDS
SPECIES GROUP
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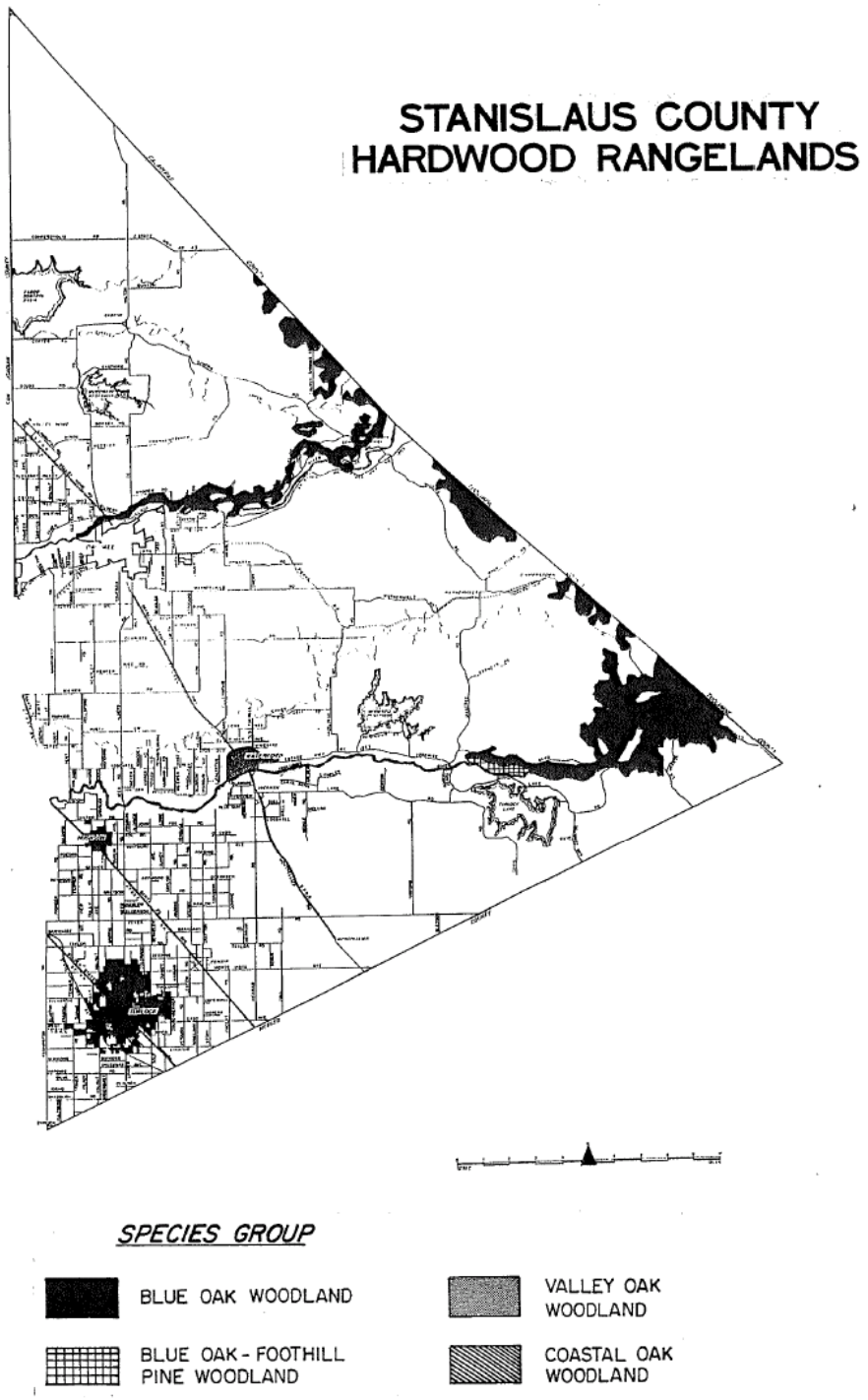
BLUE OAK - FOOTHILL PINE WOODLAND
VALLEY OAK WOODLAND
COASTAL OAK WOODLAND


STANISLAUS COUNTY
HARDWOOD RANGELANDS
SPECIES GROUP
BLUE OAK WOODLAND
VALLEY OAK WOODLAND
BLUE OAK - FOOTHILL PINE WOODLAND
COASTAL OAK WOODLAND

APPENDIX III-B

AGGREGATE RESOURCE AREAS OF STANISLAUS COUNTY, CALIFORNIA

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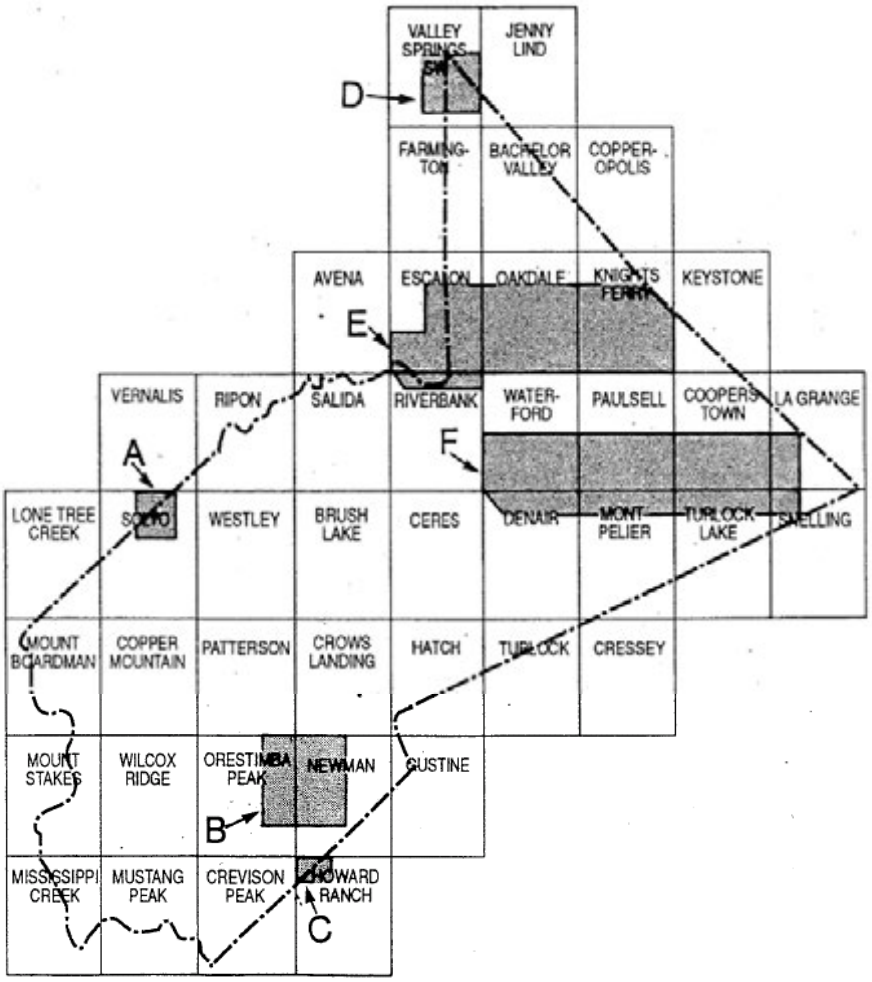

Index map of U.S.G.S. 7.5-minute quadrangles used to compile bases.

Topographic base maps by U.S. Geological Survey.

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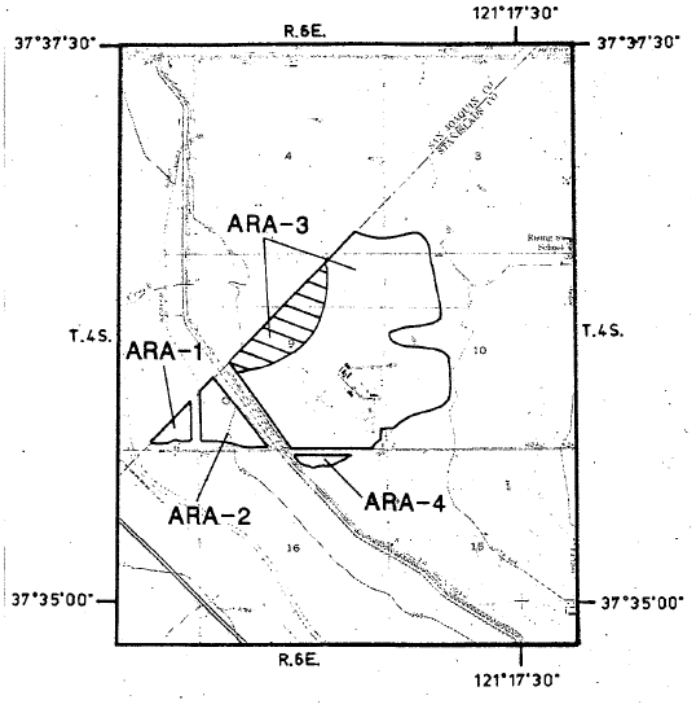
AGGREGATE RESOURCE AREAS OF STANISLAUS COUNTY

State Division of Mines & Geology
Special Report 173 (1993)

AGGREGATE RESOURCE AREAS OF STANISLAUS COUNTY

State Division of Mines & Geology
Special Report 173 (1993)



A-HOSPITAL CREEK FAN ARA's

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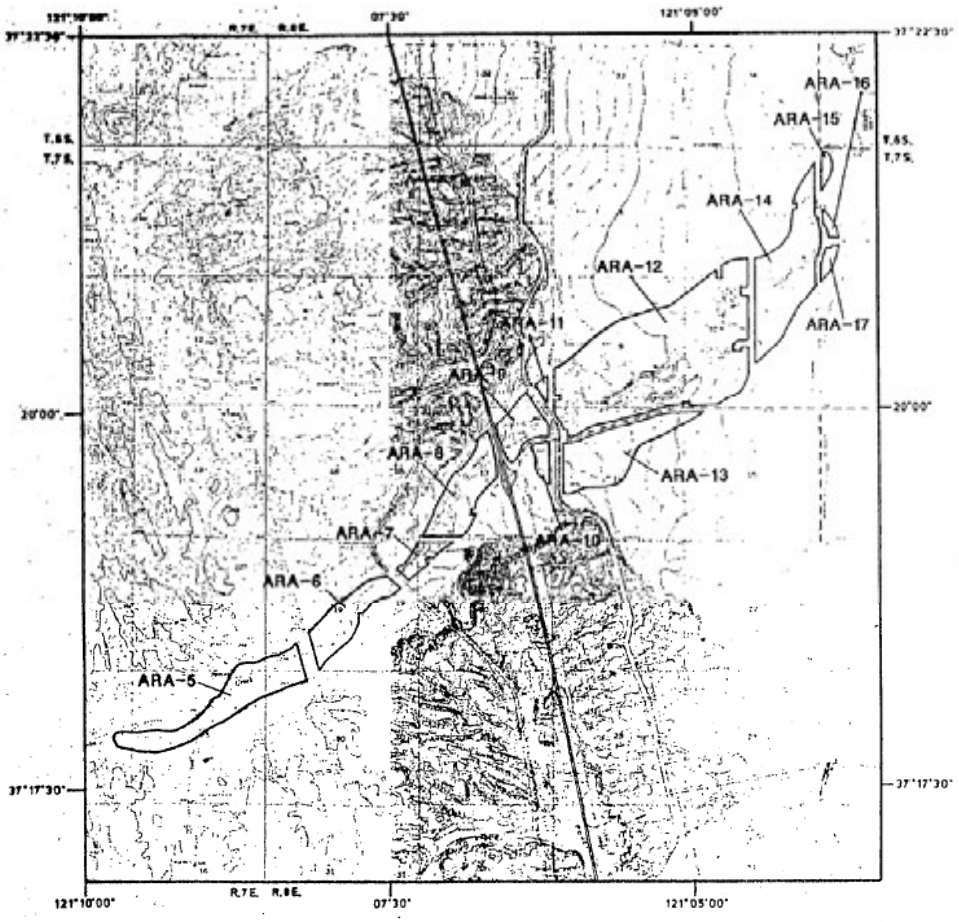
AGGREGATE RESOURCE AREAS OF STANISLAUS COUNTY

State Division of Mines & Geology
Special Report 173 (1993)



B-ORESTIMBA CREEK FAN ARA's

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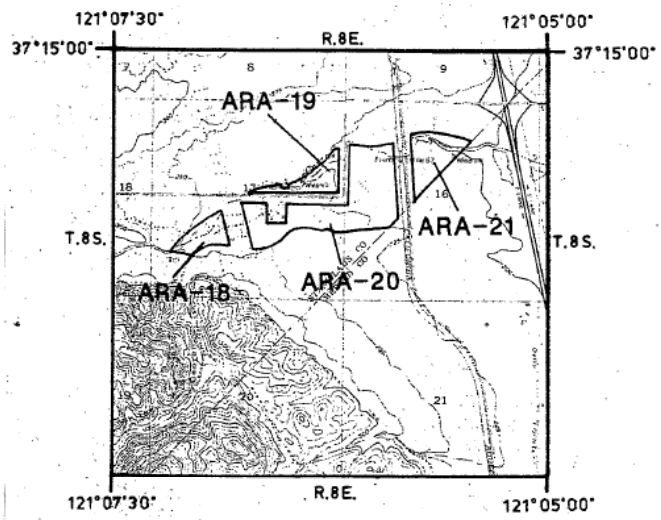
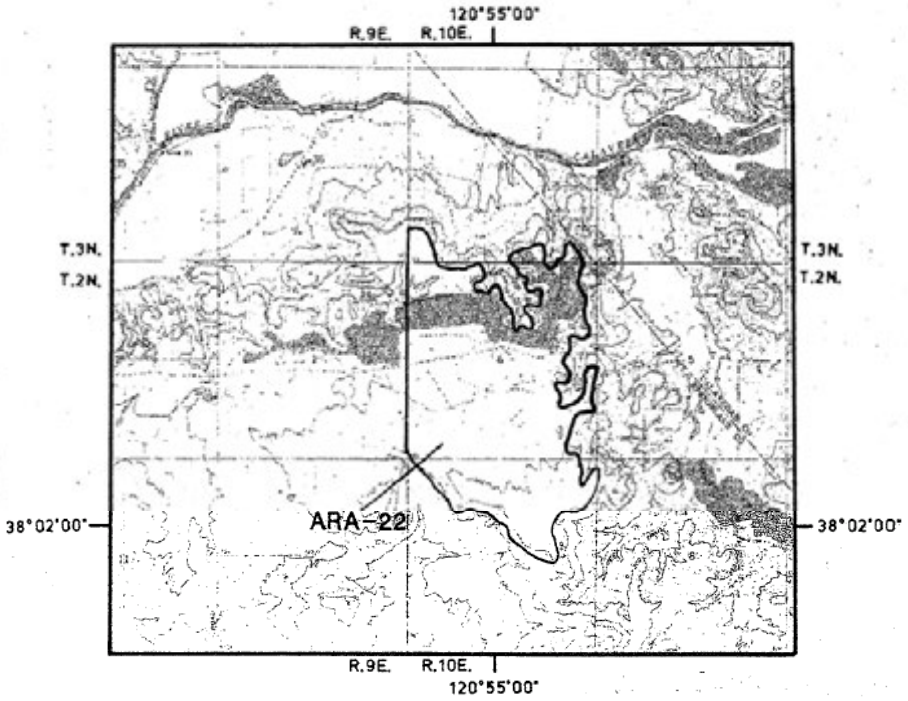


C-GARZAS CREEK FAN ARA's



D-CALAVERAS RIVER TERRACE ARA

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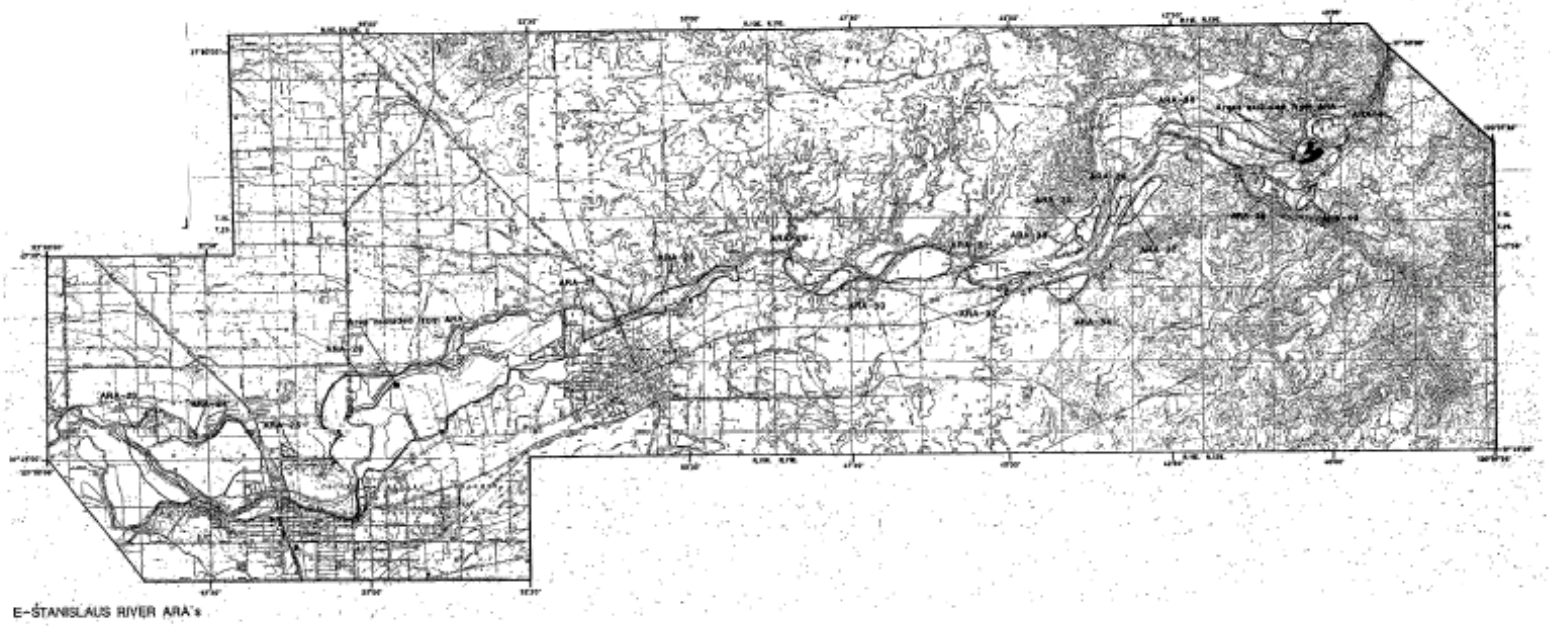

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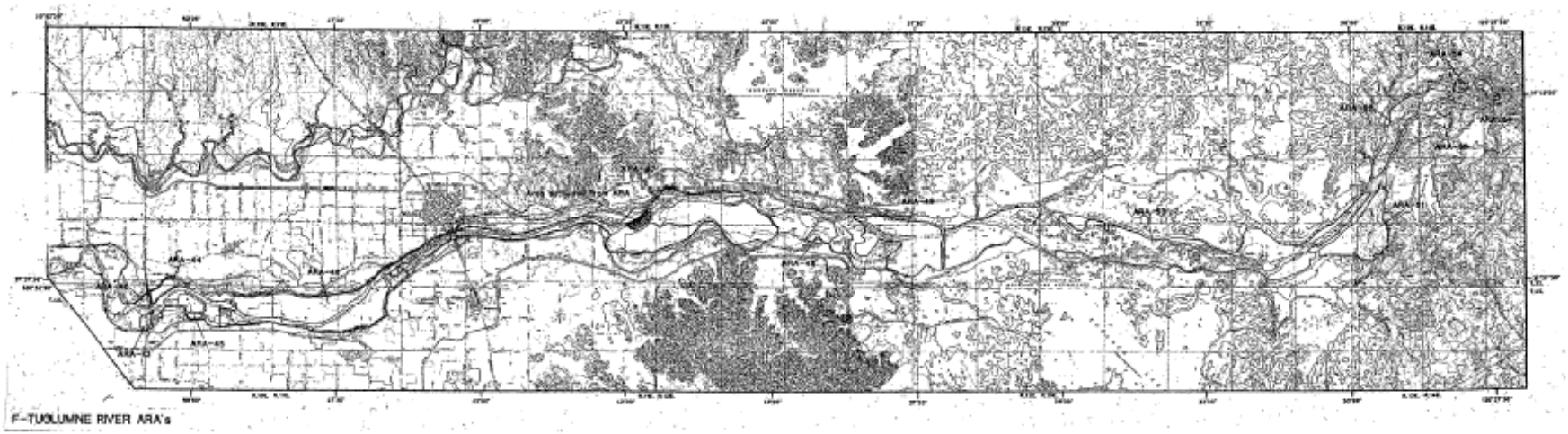
Special Report 173 (1993)



F–TUOLUMNE RIVER ARA's

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AGGREGATE RESOURCE AREAS
OF STANISLAUS COUNTY
State Division of Mines & Geology
Special Report 173 (1993)

Chapter 4

NOISE ELEMENT

1.0 INTRODUCTION

1.1 Authority

The purpose of the noise element is to limit the exposure of the community to excessive noise levels. The 2003 Noise Element Guidelines requires local governments to analyze and quantify noise levels and the extent of noise exposure through field measurements or noise modeling, and implement measures and possible solutions to existing and foreseeable noise problems. California Government Code Section 65302(f) requires that current and projected noise levels be analyzed and quantified for highways, freeways, primary arterials, and major local streets. Noise contours for current and projected conditions within the community are required to be prepared in terms of either the Community Noise Equivalent Level (CNEL) or the Day-Night Average Level (L_{dn}), which are descriptors of total noise exposure at a given location for an annual average day. CNEL and L_{dn} are generally considered to be equivalent descriptors of the community noise environment within plus or minus 1.0 dBA. Section 1.4 provides an explanation of the acoustical terminology used in this document.

It is intended that the noise exposure information developed for the Noise Element be incorporated into the General Plan to serve as a basis for achieving Land Use compatibility within the unincorporated areas of the County. It is also intended that the noise exposure information developed for the Noise Element be used to provide baseline levels for use in the development and enforcement of a local noise control ordinance to address noise levels generated by non-preempted noise sources within the County.

According to the Noise Element Requirements and Noise Element Guidelines, the following major noise sources should be considered in the preparation of a Noise Element:

1. Highways and freeways
2. ~~Primary arterials and major local streets~~ **Principal Arterial, Minor Arterial, or Major Collector**
3. Passenger and freight online railroad operations and ground rapid transit systems
4. Commercial, general aviation, heliport, helistop, and military airport operations, aircraft over flights, jet engine test standards, and all other ground facilities and maintenance functions related to airport operation
5. Local industrial plants, including, but not limited to, railroad classification yards
6. Other ground stationary sources identified by local agencies as contributing to the community noise environment

Noise-sensitive areas to be considered in the Noise Element should include areas containing the following noise sensitive land uses:

1. Schools
2. Hospitals
3. Convalescent homes
4. Churches
5. Sensitive wildlife habitat, including the habitat of rare, threatened, or endangered species
6. Other uses deemed noise sensitive by the local jurisdiction

1.2 Relationship to Other Elements of the General Plan

The Noise Element is most related to the Land Use and Circulation Elements of the General Plan. Its relationship to the Land Use Element is direct in that the implementation of either element has the potential to result in the creation or elimination of a noise conflict with respect to differing land uses. The Land Use Element must be consistent with the Noise Element in discouraging the development of incompatible adjacent land uses to prevent impacts upon noise sensitive uses and to prevent encroachment upon existing noise-generating facilities.

The Circulation Element is linked to the Noise Element in that traffic routing and volume directly affect community noise exposure. For example, increased traffic volume may produce increased noise in a residential area so that noise control measures are required to provide an acceptable noise environment. Similarly, rerouting traffic from a noise-impacted neighborhood may provide significant noise relief to that area. Implementation of the Circulation Element should include consideration of potential noise effects.

1.3 Noise and Its Effects on People

The Technical Reference Document, included in the General Plan Support Document, is an update of a previous technical reference document and provides a discussion of the fundamentals of noise assessment, the effects of noise on people and criteria for acceptable noise exposure. It is intended that the Technical Reference Document serve as a reference for Stanislaus County when reviewing documents or proposals which refer to the measurement and effects of noise within the County.

1.4 Acoustical Terminology

"Ambient noise levels" means the composite of noise from all sources near and far. In this context it represents the normal or existing level of environmental noise at a given location for a specific time of the day or night.

"A weighted sound level" means the sound level in decibels as measured with a sound level meter using the "A" weighted network (scale) at slow meter response. The unit of measurement is referred to herein as dBA.

"CNEL" means Community Noise Equivalent Level. The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and after addition of ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.

"Decibel, dB" means a unit for describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

"Equivalent Energy Level, L_{eq}" means the sound level corresponding to a steady state sound level containing the same total energy as time varying signal over a given sample period. L_{eq} is typically computed over 1, 8 and 24-hour sample periods.

"Impulsive Noise" means a noise of short duration, usually less than one second, with an abrupt onset and rapid decay.

"L_{max}" means the maximum A-weighted noise level recorded during a noise event.

"Day/Night Average Sound Level, L_{dn}" is a 24-hour measure of the cumulative noise exposure in a community, with a 10 dBA penalty added to nocturnal (10:00 p.m. - 7:00 a.m.) noise levels.

"Noise Exposure Contours" Lines drawn about a noise source indicating constant energy levels of noise exposure. CNEL and L_{dn} are the decriptors utilized herein to describe community exposure to noise.

"Preempted Noise Source" means a noise source which cannot be regulated by the local jurisdiction due to existing state or federal regulations already applying to the source. Examples of such sources are vehicles operated on public roadways, railroad trains and aircraft.

"Pure Tone Noise" means any noise which is distinctly audible as a single pitch (frequency) or set of pitches. For the purposes of this document, a pure tone shall exist if the one-third octave band sound pressure level in the band with the tone exceeds the arithmetic average of the sound pressure levels of the two contiguous one-third octave bands by 5 dB for center frequencies of 500 Hz and above and by 8 dB for center frequencies between 160 and 400 Hz and 15 dB for center frequencies less than or equal to 125 Hz.

2.0 EXISTING AND FUTURE NOISE ENVIRONMENT

2.1 Overview of Sources

Based on discussion with County of Stanislaus Department of Planning and Community Development staff regarding potential major noise sources and field studies conducted by Brown Buntin Associates (1986) and updated by Illingworth & Rodkin (2004), it was determined that there are a number of potentially significant sources of community noise within Stanislaus County. These sources include traffic on state highways and major County roadways, railroad operations, airport operations and industrial activities. Specific noise sources selected for study are described in the Technical Reference Document.

2.2 Methods and Noise Exposure Maps

The California Department of Transportation (Caltrans) Noise Prediction Model LeqV2 was used in conjunction with field noise level measurements to develop L_{dn} contours for the state highways and major county roadways within the unincorporated areas of Stanislaus County. Annual average daily traffic volumes (AADT) and truck mixes for existing (2000) and future (2030) conditions were obtained from Caltrans and the Stanislaus County Department of Public Works. CNEL contours for operations at the Oakdale Municipal Airport and the Modesto City/County Airport were derived from existing Airport Master Plan reports.

Tabulated existing noise contours for the major railroad lines throughout the county are shown in Table 1. Figure 1 shows the locations and generalized L_{dn} 2030 noise contours of major roadway noise sources. Noise exposure contours for major transportation sources of noise within the unincorporated areas of Stanislaus County are also contained within Appendix A (Existing Noise Sources) and B (Future Noise Sources) of the Technical Reference Document (2004). Generalized

L_{dn} noise contours of major industrial noise sources can be found in Part C-7 (Existing Noise Environment, Industrial and Other Stationary Noise Sources) of the Technical Noise Document (2004). It should be noted that these contours are generally based upon annual average conditions, and are not intended to be site-specific where local topography, vegetation or intervening structures may significantly affect noise exposure at a particular location. The noise contour maps have been prepared to assist Stanislaus County with the implementation of the Noise Element through the project review and long range planning processes.

3.0 COMMUNITY NOISE SURVEY

As required by the Government Code and ~~ONC~~ **State's Office of Planning and Research (OPR), General Plan** Guidelines, a community noise survey was conducted to document noise exposure in areas of the County containing noise sensitive land uses. The following noise sensitive land uses have been identified within Stanislaus County:

1. Residential uses in Single-Family Residential, Medium-Density Residential and Multiple-Family Residential zones.
2. Schools **and churches**
3. Long-term care medical facilities, such as hospitals, nursing homes, etc.
4. **Sensitive Wildlife areas**

Noise monitoring sites were selected to be representative of typical conditions in the unincorporated areas of the County where noise sensitive land uses are located. A combination of short-term and long-term (24-hour) noise monitoring was used to document existing noise levels at these locations during July and August of 2004. A total of 30 monitoring sites were selected, including 20 long-term noise measurements and 10 short-term noise measurements. Measurement locations are shown in Figure 2.

Long-term noise measurements were conducted to show the daily trend in noise levels throughout a 24-hour to 48-hour period. Noise level data collected during continuous monitoring included the Leq, maximum noise level and the statistical distribution of noise levels for each hour of the sample period. The hourly fluctuations of noise levels at the long-term sites are summarized in graphic form in Appendix A of the Technical Reference Document (2004).

Short-term noise measurements were conducted in simultaneous intervals with traffic volume and speed observations. L_{dn} noise levels at each receiver were calculated by adjusting for differences in traffic conditions during measurements and the loudest existing hourly traffic conditions (based on the existing AADT traffic volumes). The data collected during the short-term sampling program included the L_{eq}, maximum noise level, minimum noise level and a description of major sources of noise which were audible. Long and short-term measured noise level data collected during the community noise survey are summarized in Tables 2 and 3.

The quietest areas of unincorporated Stanislaus County are those which are removed from major transportation-related noise sources and local industrial or other stationary noise sources. Good examples of these quiet areas are rural areas such as Hickman, Valley Home, and La Grange. The noisier areas surveyed were those located near state highways (Salida), major county roadways (Westport and Shackelford), or railroads (Empire). Typically, maximum noise levels observed during the survey were generated by local automobile traffic or heavy trucks. Other sources of maximum noise levels included occasional aircraft over flights and, in some areas, railroad operations (especially horns). Background noise levels in the absence of the above-described sources were caused by distant traffic, wind in the trees, running water, birds and distant industrial or other

stationary noise sources.

4.0 LAND USE COMPATIBILITY GUIDELINES

Figure 3 is provided as reference concerning the sensitivity of different land uses to their noise environment. It is intended to illustrate the range of noise levels which will allow the full range of activities normally associated with a given land use. For example, exterior noise levels in the range of 50-60 L_{dn} (or CNEL) are generally considered acceptable for residential land uses, since these levels will usually allow normal outdoor and indoor activities such as sleep and communications to occur without interruption. Industrial facilities, however, can be relatively insensitive to noise and may generally be located in a noise environment of up to 75 L_{dn} (or CNEL) without significant adverse effects. Specific noise compatibility criteria in terms of L_{dn} or CNEL for residential and noise sensitive land uses in Stanislaus County are defined in Section 5.0.

Table 1: Noise Contour Distances for Major Railroad Lines (2004)

Railroad Description*	Distance from Centerline of Roadway (in feet)			
	75-Ldn	70-Ldn	65-Ldn	60-Ldn
Union Pacific Railroad (UPRR)	70	150	320	680
Burlington Northern and Santa Fe (BN & SF) Railway	100	200	440	950
Sierra Railroad	**	**	**	80
Tidewater Southern Railroad	**	**	60	140

**** Noise contour distances for the Modesto and Empire Traction Company Railroad were not calculated due to a lack of specific information regarding train movements along this track.***

***** Distances of less than 50 feet are not included in this table.***

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Figure 1: Noise Contours for Major Roadways (2030)

Updated during Environmental Phase of GP Update.

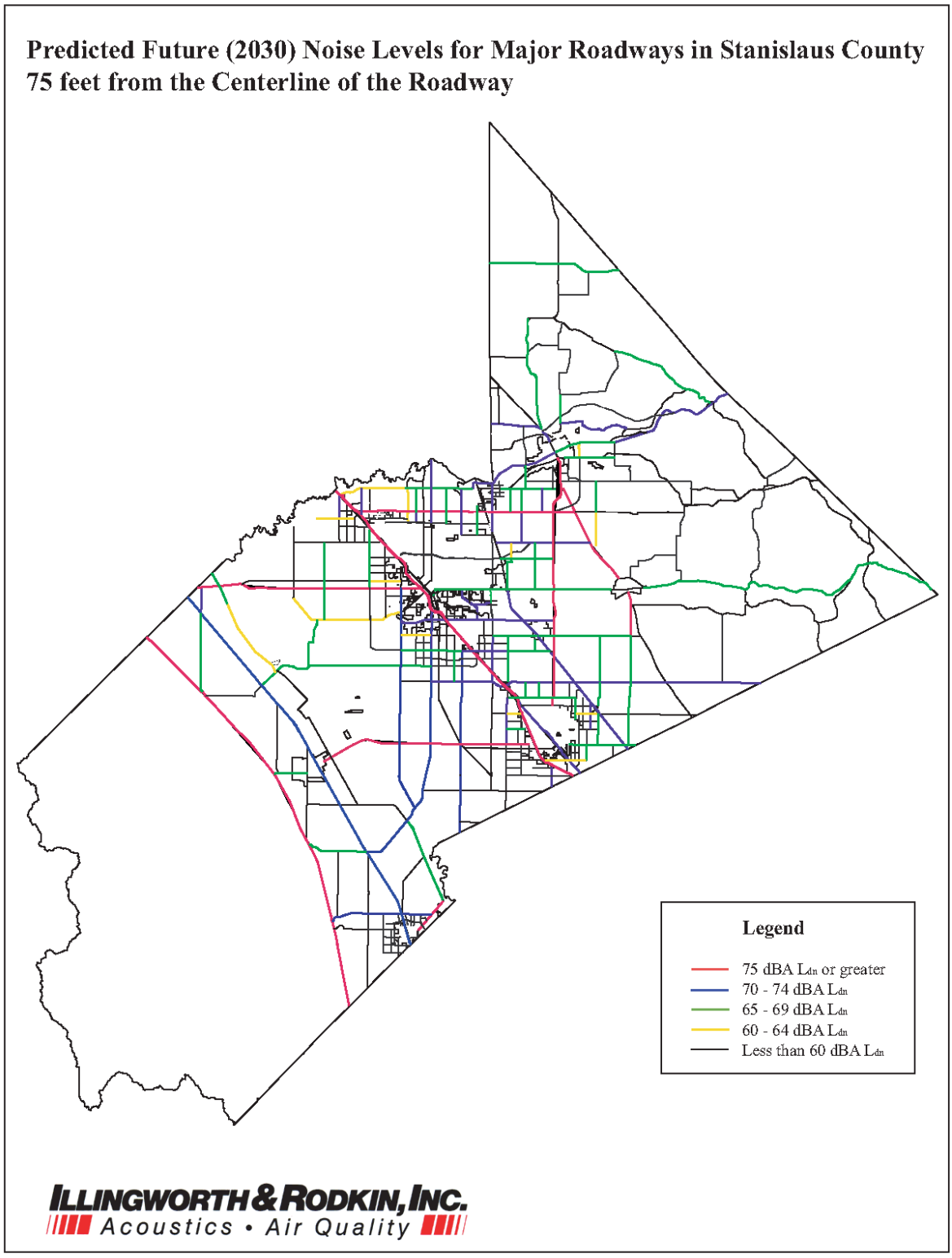

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Figure 2: Community Noise Survey Monitoring Sites

Updated during Environmental Phase of GP Update.

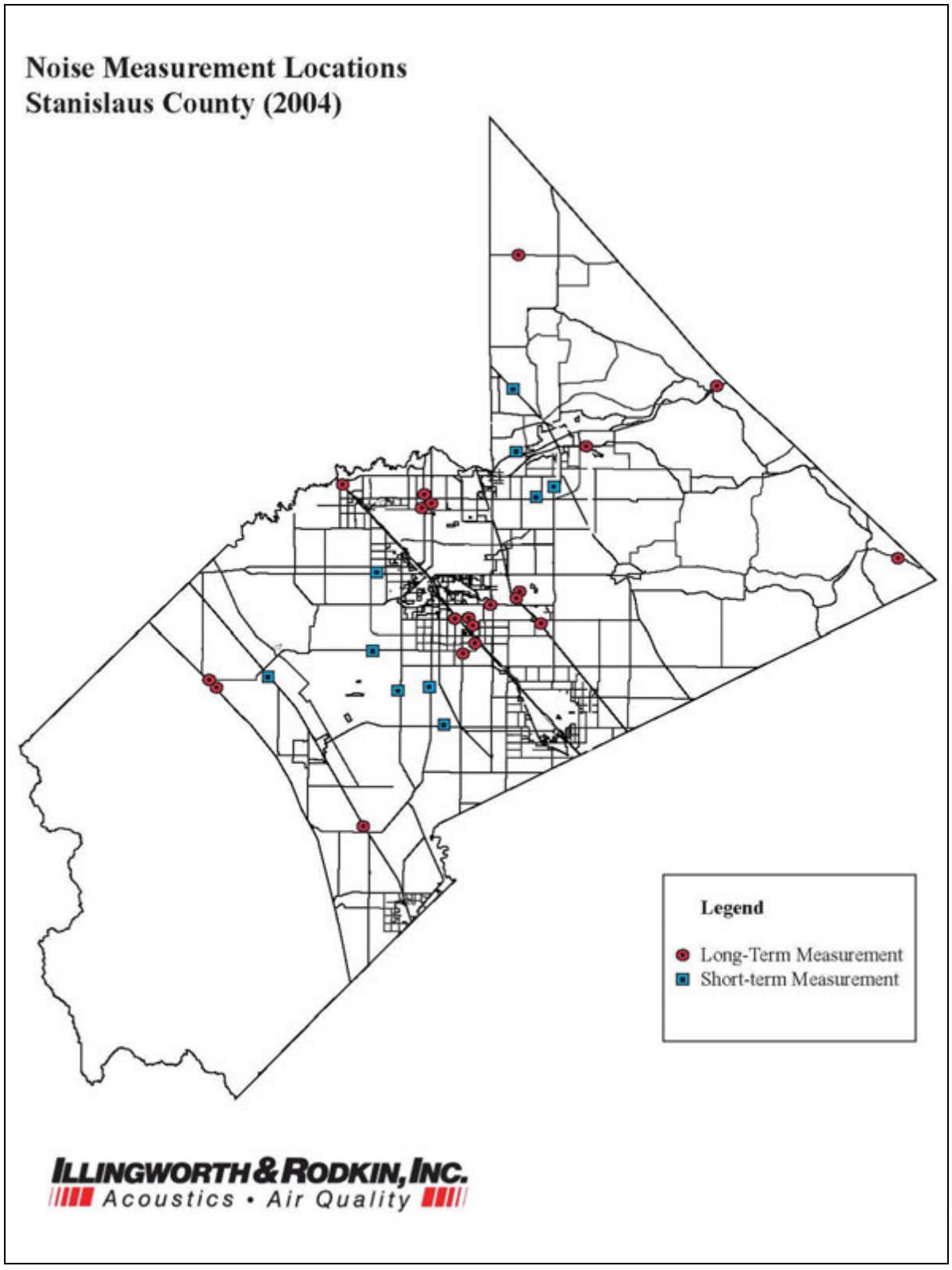

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Table 2: Summary of Long-Term Noise Measurements

Updated during Environmental Phase of GP Update.

Site	Location	Date	Time	Daytime Noise Levels	**Nighttime Noise Levels**	L_{dn}
Long-Term Measurements				**dBA**	**dBA**	**dBA**
LT-1	Residential Land Use, 907 Kiernan Road	7/20/04 to 7/21/04	11:00 am to 1:00 pm	65-68	56-65	**68**
LT-2	~50 feet from the centerline of Hwy 108, near intersection with Hwy 219	7/20/04 to 7/21/04	11:30 am to 12:30	71-74	64-73	**76**
LT-3	~200 feet to center of SR 99 near lane, ~350 feet toUPRR Rail line	7/20/04 to 7/22/04	12:20 pm to 2:30 pm	72-75	69-75	**78**
LT-4	~30 feet from centerline of 132, near county line	7/20/04 to 7/21/04	12:00 pm to 4:00 pm	62-66	51-66	**68**
LT-5	~50 feet from centerline of 120, near County line	7/20/04 to 7/21/04	1:00 pm to 5:00 pm	70-73	62-72	**75**
LT-6	~45 feet from centerline of Hwy. 4	7/20/04 to 7/21/04	2:00 pm to 7:00 pm	64-67	54-67	**69**
LT-7	~30 feet from centerline of Central Ave, south of Ceres near Grayson	7/20/04 to 7/22/04	6:00 pm to 2:00 pm	67-70	59-69	**72**
LT-8	~65 feet from near lane of I-5	7/21/04 to 7/22/04	11:00 am to 12:00	73-75	73-75	**80**
LT-9	~50 feet from centerline of SR 33, north of Crows Landing	7/21/04 to 7/22/04	11:30 am to 1:00 pm	66-70	57-69	**72**
LT-10a	~50 feet from the centerline of Santa Fe Ave., near Leedom	7/21/04 to 7/22/04	3:30 pm to 4:00 pm	68-75	62-76	**78**
LT-10b	~50 feet from the centerline of Santa Fe Avenue at Leedom	8/31/04 to 9/2/04	2:00 pm to 2:00 pm	69-75	60-74	**76**
LT-11	3831 Hatch Road, ~65 feet from centerline of Hatch Road	7/21/04 to 7/22/04	3:30 pm to 4:00 pm	68-71	62-71	**74**
LT-12	~20 feet west of SPTCo Railroad and ~105 feet west of SR 99, in Ceres	5/18/04 to 5/21/04	12:30 pm to 2:00 pm	77-81	71-79	**83**
LT-13	~30 feet from the edge of Service Road, at Service and Moffet in Ceres	5/18/04 to 5/21/04	1:00 pm to 2:00 pm	69-73	62-73	**75**
LT-14	2805 Evalee Lane ~270 feet east of SR 99, in Ceres	5/18/04 to 5/20/04	1:30 pm to 3:00 pm	66-69	60-69	**72**
LT-15	Little Orchard Mobile Home Park ~130 feet east of SR 99, in Ceres	5/18/04 to 5/20/04	2:30 pm to 3:00 pm	72-74	64-73	**78**
LT-16	~60 feet from near lane of I-5 in Westley	8/31/04 to 9/2/04	10:30 am to 10:30	72-74	71-75	**80**
LT-17	~150 feet from AT&SF Railroad in Hughson	8/31/04 to 9/2/04	1:00 pm to 2:00 pm	69-80	59-80	**81**
LT-18	~50 feet from the Sierra Railroad tracks east of Oakdale	8/31/04 to 9/2/04	3:00 pm to 3:00 pm	66-71	58-70	**72**
LT-19	~35 feet from the Tidewater Railroad, south of Del Rio	8/31/04 to 9/2/04	4:00 pm to 4:00 pm	63-70	43-63	**70**

Table 3: Summary of Short-Term Noise Measurements

Updated during Environmental Phase of GP Update.

Site	Location	Date	Time	L_{eq}	L_1	L_{10}	L_{50}	L_{90}
Short-Term Measurements				**dBA**	**dBA**	dBA	dBA	dBA
ST-1	~75 feet from the centerline of Maze Blvd/ Hwy. 132 at Garrison	7/20/04	12:55 pm to 1:00 pm	71	81	76	66	50
ST-2	~75 feet from the centerline of Grayson Road, east of Jennings Road	7/20/04	1:48 pm to 1:58 pm	61	75	63	45	37
ST-3	~80 feet from the centerline of Carpenter Road, at Monte Vista Avenue	7/20/04	2:22 pm to 2:32 pm	64	74	68	54	44
ST-4	~60 feet from the centerline of West Main Street, west of Blaker Road	7/20/04	3:00 pm to 3:10 pm	68	77	72	62	49
ST-5	~60 feet from the centerline of Crows Landing Road, at Zeering	7/20/04	3:33 pm to 3:43 pm	67	78	70	60	48
ST-6	~40 feet from the centerline of SR 33, south of Westley	7/21/04	10:50 am to 11:00 am	71	81	75	60	47
ST-7	~50 feet from the centerline of Albers, between Patterson and Claribel	7/21/04	5:50 pm to 6:00 pm	72	82	76	67	54
ST-8	~50 feet from the centerline of Claribel, between Albers and Hwy. 108	7/21/04	6:15 pm to 6:25 pm	69	78	74	62	50
ST-9	~60 feet from the centerline of Hwy. 108, at Orchard Ave.	7/21/04	6:40 pm to 6:50 pm	70	77	74	69	56
ST-10	~60 feet from the centerline of Valley Home Rd, at 12542 Valley Home Road	7/21/04	7:10 pm to 7:20 pm	65	76	71	52	42

Figure 3: ~~Land Use Compatibility for~~ Normally Accepted Community Noise Environments

Land Use Category	Exterior Noise Exposure Ldn or CNEL, dBA					
	55	60	65	70	75	80
*Residential – Low Density Single Family, Duplex, and Mobile Homes						
*Multi Family Residential						
Hotels and Motels						
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches						
Auditoriums, Concert Halls, and Amphitheaters						
Sports Arena and Outdoor Spectator Sports						
Playgrounds and Neighborhood Parks						
Golf Courses, Riding Stables, Water Recreation, and Cemeteries						
Office Buildings, Business Commercial, and Professional						
Industrial, Manufacturing, Utilities, and Agriculture						

**** Residential development sites exposed to noise levels exceeding 60 Ldn shall be analyzed following protocols in Appendix Chapter 12, Section 1208A, Sound Transmission Control, California Building Code.***

~~** Interior noise levels shall not exceed 45 Ldn in all new residential units (single and multi family). Development sites exposed to noise levels exceeding 60 Ldn shall be analyzed following protocols in Appendix Chapter 12, Section 1208A, Sound Transmission Control, 1998 California Building Code.*~~

NORMAL ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special insulation requirements.

CONDITIONALLY ACCEPTABLE
Specified land use may be permitted only after detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

NORMALLY UNACCEPTABLE
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken because mitigation is usually

not feasible to comply with noise element policies.

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GOALS, POLICIES AND IMPLEMENTATION MEASURES

GOAL ONE

Prevent the encroachment of incompatible land uses near known noise producing industries, railroads, airports and other sources to protect the economic base of the County.

POLICY ONE

It is the policy of Stanislaus County to utilize the noise exposure information contained within the General Plan to identify existing and potential noise conflicts through the Land Use Planning and Project Review processes.

IMPLEMENTATION MEASURE

1. Areas within Stanislaus County shall be designated as noise-impacted if exposed to existing or projected future noise levels exterior to buildings exceeding the standards in Figure 3 or the performance standards described by Table 4. Maps showing existing and projected future noise exposures exceeding 60 L_{dn} or CNEL for the major noise sources are depicted in Figure 1, Table 1, and are included in Appendix A and B of the Technical Reference Document (2004). ***Responsible Departments: Environmental Resources, Planning Department, Planning Commission, Board of Supervisors***

GOAL TWO

Protect the citizens of Stanislaus County from the harmful effects of exposure to excessive noise.

POLICY TWO

It is the policy of Stanislaus County to develop and implement effective measures to abate and avoid excessive noise exposure in the unincorporated areas of the County by requiring that effective noise mitigation measures be incorporated into the design of new noise generating and new noise sensitive land uses.

IMPLEMENTATION MEASURES

1. New development of noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels to the following levels:

    a) For transportation noise sources such as traffic on public roadways, railroads, and airports, 60 L_{dn} (or CNEL) or less in outdoor activity areas of single family residences, 65 L_{dn} (or CNEL) or less in community outdoor space for multi-family residences, and

45 L_{dn} (or CNEL) or less within noise sensitive interior spaces. Where it is not possible to reduce exterior noise due to these sources to the prescribed level using a practical application of the best available noise-reduction technology, an exterior noise level of up to 65 L_{dn} (or CNEL) will be allowed. Under no circumstances will interior noise levels be allowed to exceed 45 L_{dn} (or CNEL) with the windows and doors closed in residential uses.

b) For other noise sources such as local industries or other stationary noise sources, noise levels shall not exceed the performance standards contained within Table 4.

Responsible Departments: Environmental Resources, Planning Department, Building Inspections, Planning Commission, Board of Supervisors

2. New development of industrial, commercial or other noise generating land uses will not be permitted if resulting noise levels will exceed 60 L_{dn} (or CNEL) in noise-sensitive areas. Additionally, the development of new noise-generating land uses which are not preempted from local noise regulation will not be permitted if resulting noise levels will exceed the performance standards contained within Table 4 in areas containing residential or other noise sensitive land uses.
Responsible Departments: Environmental Resources, Planning Department, Planning Commission, Board of Supervisors

TABLE 4

MAXIMUM ALLOWABLE NOISE EXPOSURE - STATIONARY NOISE SOURCES[1]

	Daytime 7 a.m. to 10 p.m.	Nighttime 10 p.m. to 7 a.m.
Hourly L_{eq}, dBA	**55**	**45**
Maximum level, dBA	**75**	**65**

Each of the noise level standards specified in Table 4 shall be reduced by five (5) dBA for pure tone noises, noise consisting primarily of speech or music, or for recurring impulsive noises. The standards in Table 4 should be applied at a residential or other noise-sensitive land use and not on the property of a noise-generating land use. Where measured ambient noise levels exceed the standards, the standards shall be increased to the ambient levels.

3. Prior to the approval of a proposed development of noise-sensitive land uses in a noise impacted area, or the development of industrial, commercial or other noise generating land use in an area containing noise-sensitive land uses, an acoustical analysis shall be required. Where required, an acoustical analysis shall:

[1] As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures.

a) Be the responsibility of the applicant.
b) Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.
c) Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.
d) Include estimated noise levels in terms of L_{dn} (or CNEL) and the standards of Table 4 (if applicable) for existing and projected future (10-20 years hence) conditions, with a comparison made to the adopted polices of the Noise Element.
e) Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.
f) Include estimates of noise exposure after the prescribed mitigation measures have been implemented. If compliance with the adopted standards and policies of the Noise Element will not be achieved, a rationale for acceptance of the project must be provided.

Responsible Departments: Planning Department, Environmental Resources, Planning Commission, Board of Supervisors

4. Projects which through the CEQA review process require an acoustical analysis shall include a monitoring program to specifically implement the recommended mitigation to noise impacts associated with the project.
Responsible Departments: Planning Department, Environmental Resources, Planning Commission, Board of Supervisors

5. Noise level criteria applied to land uses other than noise sensitive uses shall be consistent with the recommendations of Figure 3: ~~Land Use Compatibility for~~ **Normally Accepted** Community Noise Environments.
Responsible Department: Planning Department, Environmental Resources, Planning Commission, Board of Supervisors

6. Stanislaus County shall enforce Sound Transmission Control Standards in the **California Administrative Code, Title 25, Section 1092** ~~1998 California Building Code, Appendix Chapter 12, Section 1208, and Chapter 35 of the Uniform Building Code~~ concerning the construction of new multiple-occupancy dwellings such as hotels, apartments, and condominiums in areas where the existing or projected future noise environment exceeds 60 L_{dn} or CNEL.
Responsible Department: Building Inspection

7. Replacement of noise-sensitive land uses located in noise-impacted areas which are destroyed in a disaster shall not be considered in conflict with this element if replacement occurs within one year.
Responsible Departments: Building Inspections, Planning Department, Environmental Resources.

POLICY THREE

It is the objective of Stanislaus County to protect areas of the County where noise-sensitive land uses are located.

IMPLEMENTATION MEASURES

1. Require the evaluation of mitigation measures for projects that would cause the L_{dn} at noise-sensitive uses to increase by 3 dBA or more and exceed the normally acceptable" level, cause the L_{dn} at noise-sensitive uses to increase 5 dBA or more and remain normally acceptable, or cause new noise levels to exceed the noise ordinance limits (after adoption).
   Responsible Departments: Environmental Resources, Planning Department, Planning Commission, Board of Supervisors

2. Actively enforce the Stanislaus County Noise Control Ordinance to reduce the number of incidents of excessive noise.
   Responsible Departments: Sheriff's Department, Environmental Resources, Planning Department, Planning Commission, Board of Supervisors

~~2. In conjunction with or subsequent to a comprehensive update of the Noise Element, the County shall consider writing a community noise control ordinance based on the noise exposure information included in the research for the Noise Element. The "Model Community Noise Control Ordinance" prepared by the State Office of Noise Control should be considered for a guideline.~~
   ~~***Responsible Departments: Environmental Resources, Planning Department, Planning Commission, Board of Supervisors***~~

3. New equipment and vehicles purchased by Stanislaus County shall comply with noise level performance standards of the industry and be kept in proper working order to reduce noise impacts.
   Responsible Department: County Executive Office

4. Stanislaus County should encourage the California Highway Patrol and local law enforcement officers to actively enforce existing sections of the California Vehicle Code relating to **excessive vehicle noise.** ~~adequate vehicle mufflers[2], modified exhaust systems, and vehicle stereo systems[3].~~
   Responsible Department: Board of Supervisors

POLICY FOUR

It is the objective of Stanislaus County to ensure that the Noise Element is consistent with and does not conflict with other elements of the Stanislaus County General Plan **or adopted Airport Land Use Compatibility Plan(s) (ALUCP).**

IMPLEMENTATION MEASURES

1. The Noise Element shall be reviewed and updated as necessary to remain consistent with the Land Use and Circulation Elements of the General Plan.
   Responsible Departments: Planning Department, Department of Environmental

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~~[2] Section 27150 of the California Motor Vehicle Code discusses the control of excessive exhaust noise.~~

~~[3] Section 27007 of the California Motor Vehicle Code prohibits amplified sound which can be heard 50 or more feet from a vehicle.~~

Resources, Planning Commission, Board of Supervisors

2. The Land Use and Circulation Elements of the General Plan shall be continually reviewed to ensure consistency with the findings and policies of the Noise Element as they relate to the prevention of future noise conflicts.
   Responsible Department: Planning Department

3. The Noise Element and Land Use Elements of the General Plan shall be reviewed and amended as necessary to ensure consistency with the policies of the Airport Land Use Compatibility Plan(s) (ALUCP) as they relate to the prevention of future noise conflicts.
Responsible Department: Planning Department, Planning Commission, Board of Supervisors, and Airport Land Use Commission

4. Update the Stanislaus County Noise Control Ordinance as necessary to be consistent with the General Plan and/or adopted Airport Land Use Compatibility Plan(s) (ALUCP).
Responsible Departments: Environmental Resources, Planning Department, Planning Commission, Board of Supervisors

Chapter Five ~~5~~

SAFETY ELEMENT

INTRODUCTION

Section 65302 of the California Government Code requires that every jurisdiction in California adopt a Safety Element for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides, subsidence; liquefaction; and other geologic hazards known to the legislative body; flooding; military installations; and wildland and urban fires.

Stanislaus County is susceptible to ~~nearly every type~~ **many** of **the** safety hazard**s** ~~in existence~~ **listed above** with the exception of tidal waves**, military installations,** and major hazardous waste disposal sites. **No special airspace or aircraft training routes are located in Stanislaus County.** Information on the various types of safety hazards **are**~~is~~ ~~provided in Chapter 5 of the "Stanislaus County General Plan - Support Documentation" and~~ summarized herein.

SAFETY HAZARDS

Seismic and Geological Hazard

Several known faults exist within Stanislaus County. They are located in the **western**~~extreme eastern~~ part of the County and in the Diablo Range west of I-5. These faults could cause ground shaking of an intensity approaching "X" (ten) on the Modified Mercalli Scale, which would result in very serious damage to most structures. The existence of unreinforced masonry buildings could cause severe loss of life and economic dislocation in an earthquake. **However, with exception of the Diablo Grande community, most development in the unincorporated county is not located near the areas of greatest shaking potential.**

The area west of I-5 (Diablo Range) is noted for unstable geologic formations that are susceptible to landslide. A portion of the southern part of this area includes the Ortigalita Fault, part of which is designated as an Alquist-Priolo Earthquake Fault Zone. This prohibits most construction without a geologic study.

(See Figures V-1 – Fault Map and V-2 – Earthquake Hazard Map)

Dam Inundation

One of the hazards associated with **major** seismic activity that has a ~~major~~ potential for destruction and loss of life is dam failure. ~~Entire cities~~**Large portions of the county** could be under 10 feet of water or more within a few hours of failure.

Seven dams present an inundation risk for Stanislaus County, including: Don Pedro, Exchequer, La Grange, New Melones, Pine Flat, San Luis, and Tulloch Reservoirs. The risks of inundation resulting from failure of a dam pose a threat to the entire valley floor and, in particular, from New Melones and Don Pedro dams within the area of greatest population density.

(See Figure V–3– Dam Inundation Map)

Flood Hazards

The ~~major flooding~~ **main flood risk** in Stanislaus County ~~occurs~~**exists** along the San Joaquin River and isolated stretches of **Dry Creek and** the Tuolumne River. Creeks such as Salado, Sand, and Orestimba also experience flooding. ~~Portions of the Stanislaus River still flood to the extent that there can be crop damage, but the Corps of Engineers has purchased flowage easements so that they have the "right" to flood this area.~~ **Nine Reclamation Districts maintain levees along the San Joaquin River, built by the Corps of Engineers. Since these levees do not extend the full length of the river, flooding still occurs. There are two flood control districts in the County, the Orestimba Flood Control District and Sand Creek Flood Control District (Denair).**

(See Figures V–4 – Flood Hazard Map, and V-5 – 100-Year and 200-Year Flood Zone, Best Available Maps)

Fire Hazards

Urban fires are generally man-caused fires that can be mitigated through proper building code requirements, fire flow minimums and zoning or subdivision ordinance requirements.

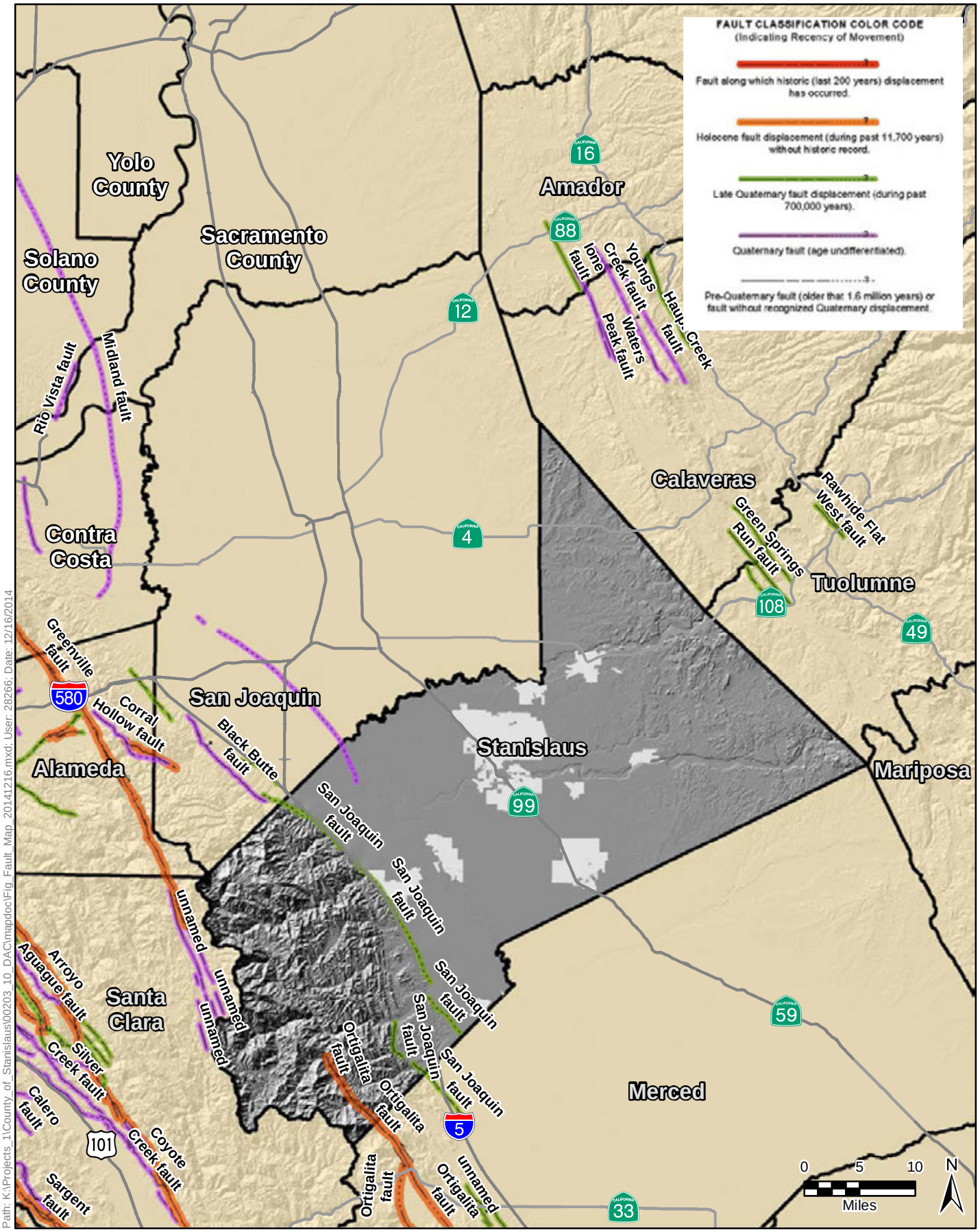
Wildland fires are generally limited to the foothills on either side of the County. Although there is less of a hazard to structures and people, controlling such fires is more difficult because of their inaccessibility. **Four factors contribute to wildland fires: vegetation, climate, topography, and people. Chaparral, grasslands and other wild plant life provide the major sources of fire fuel. Within Stanislaus County, the areas of potential wildland fires are designated as State Responsibility Areas (SRA), and are located along the Diablo Range, generally west of Interstate 5, and the Sierra Nevada foothills in the eastern portions of the County. SRAs are under the responsibility of the California Department of Forestry and Fire Protection (CDF, or CAL FIRE). Government Code Section 51178 requires the Department of Forestry and Fire Protection to identify very high fire hazard severity zones in the state. These areas of the county are sparsely populated. Evacuation routes are available along existing roads.**

(See Figures V-6 – Fire Hazard Severity Zones, and V-7 – State Responsibility Areas)

Hazardous Materials

The use, transportation and disposal of hazardous materials is ~~becoming~~ an issue of increasing concern. State laws were passed in 1985 that require users of hazardous materials to disclose the type and location of such materials so that emergency response teams can be prepared for potential disasters. ~~Routes are being specified to limit transportation of hazardous material such as nuclear waste.~~

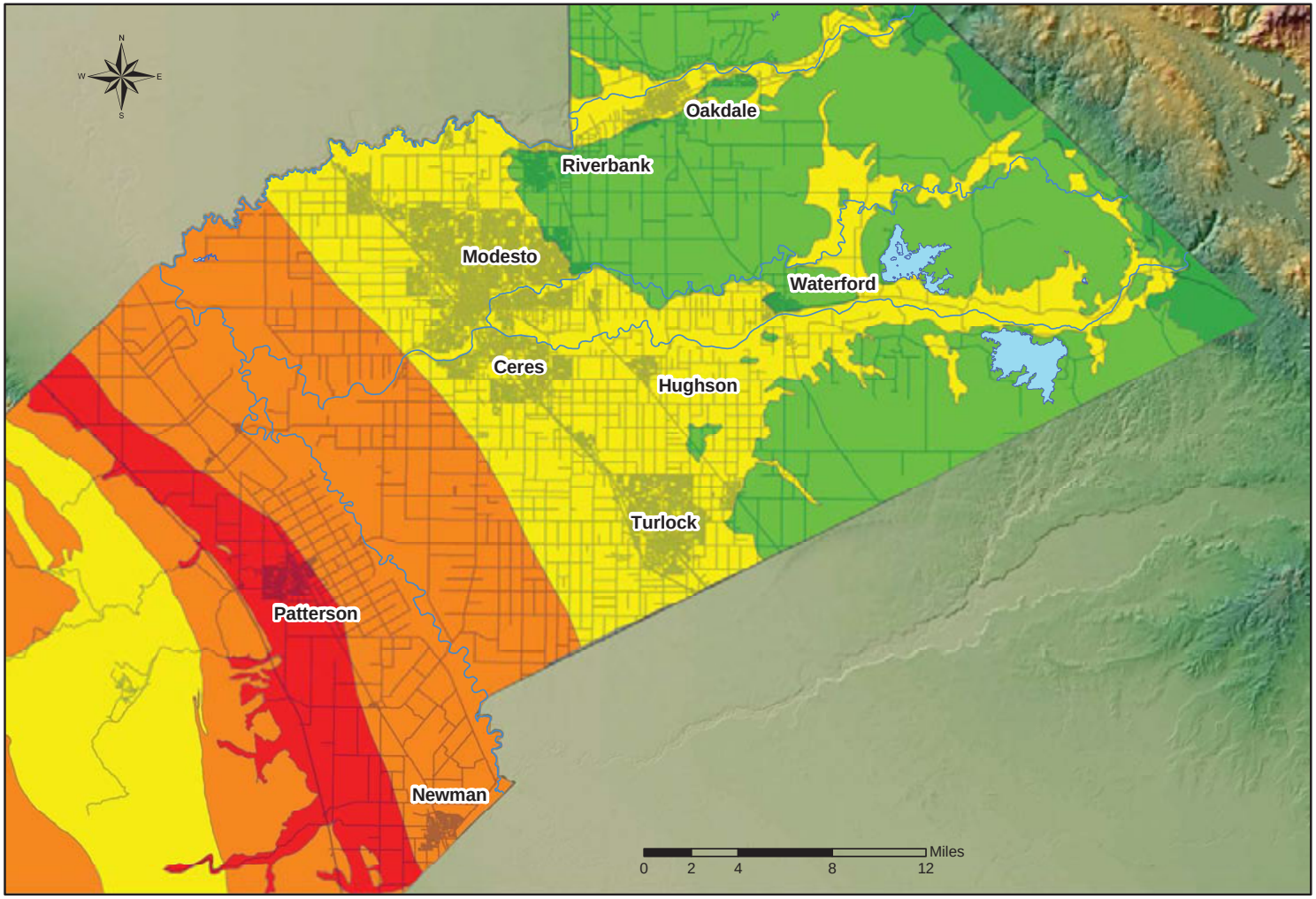
Cal EPA can delegate responsibility for hazardous materials oversight, permitting, and regulation to local agencies through the Certified Unified Program Agency (CUPA) program. The local CUPA is responsible for writing and updating a Hazardous Materials Area Plan (for the public safety response in the jurisdiction) and providing guidelines for the Hazardous Materials Business Plan (for local businesses designated as handlers of hazardous materials). The Stanislaus County Hazardous Material Division of the Department of Environmental Resources is the CUPA.



Path: K:\Projects_1\County_of_Stanislaus\00203_10_DAC\mapdoc\Fig_Fault_Map_20141216.mxd; User: 28266; Date: 12/16/2014

Figure V-1
Stanislaus County Fault Map

Figure V-2 2010 Stanislaus County -- Earthquake Hazard



Map Legend:

- Rivers
- Lakes
- Roads

Shaking Potential

Peak Ground Acceleration

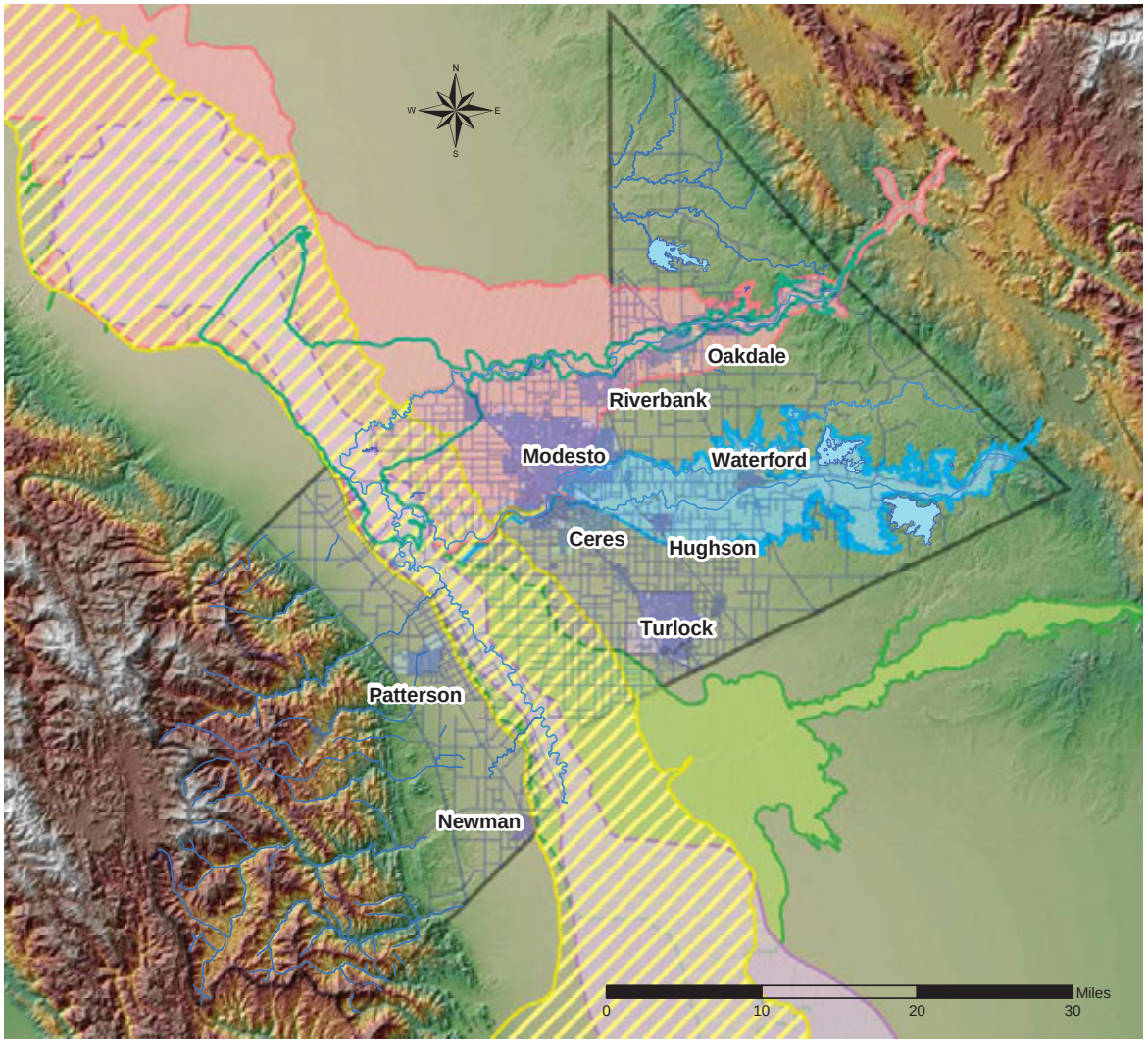
- 0.45 G's
- 0.35 G's
- 0.25 G's
- 0.15 G's
- 0.05 G's

Intensity

Map displays Stanislaus County with Earthquake Shaking Zones at PGA.
(Peak Ground Acceleration)

Prepared by:
Stanislaus County
Public Works - GIS
November, 2009

Figure V-3 - Stanislaus County Dam Inundation Hazards (2010)



Map Legend:

- Lakes
- Rivers
- Streams
- Roads

Dam Inundation Areas

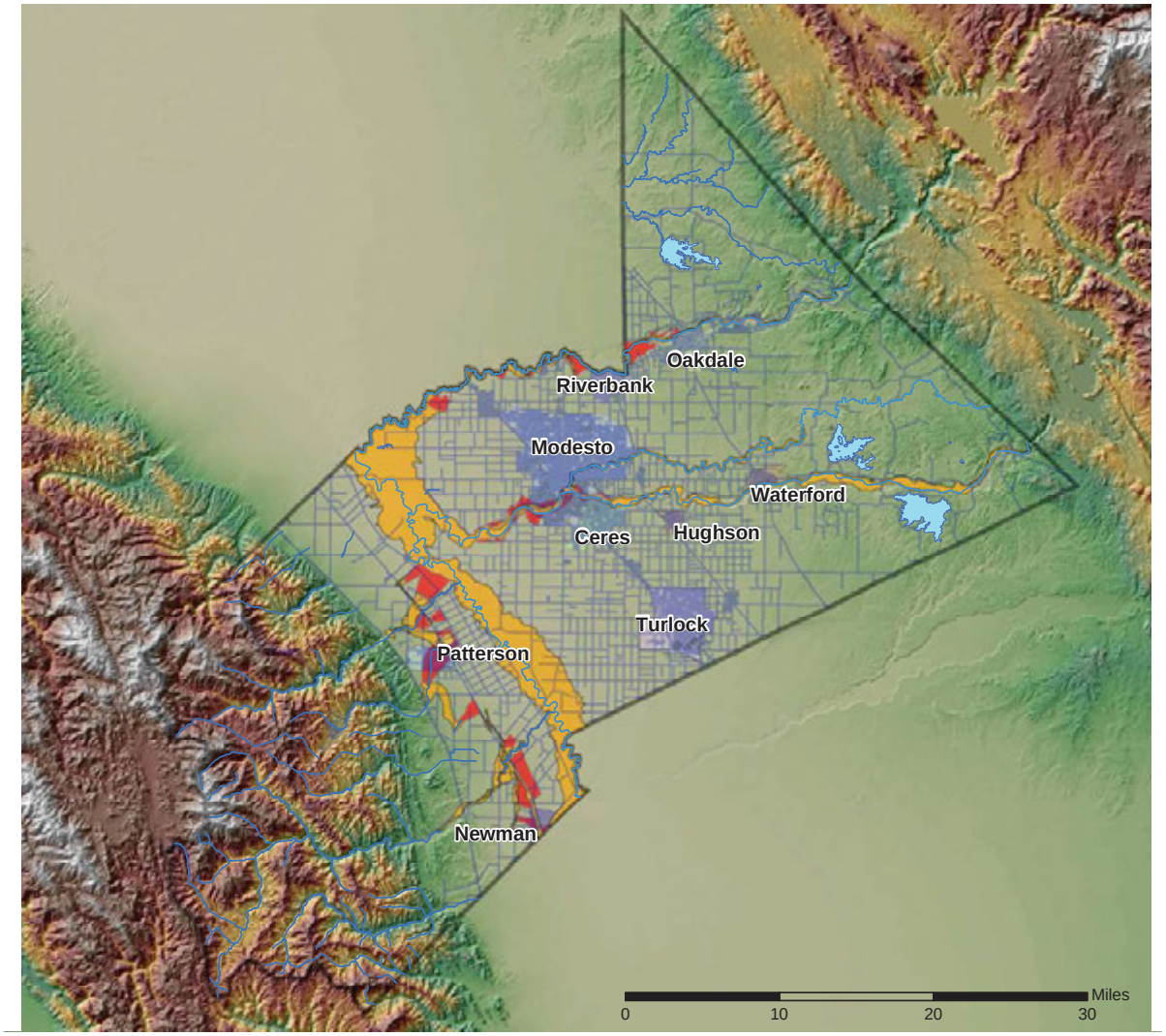
Dam Name

- Don Pedro
- Exchequer
- New Melones
- San Luis
- Pine Flat
- Tulloch

Map displays Stanislaus County with Dam Inundation Areas of regional dams.

Prepared by:
Stanislaus County
Public Works - GIS
November, 2009

Figure V-4 - Stanislaus County Flood Hazards (2010)



Map Legend:

- Rivers
- Streams
- Lakes
- Roads

FEMA Flood Zones

Federal Emergency Mgt Agency

- 100 Year Flood Zone
- 500 Year Flood Zone

N
W
E
S

Map displays Stanislaus County with 100 and 500 year FEMA floodplain boundaries.
(1% and 0.2% chance of flood)

Prepared by:
Stanislaus County
Public Works - GIS
November, 2009

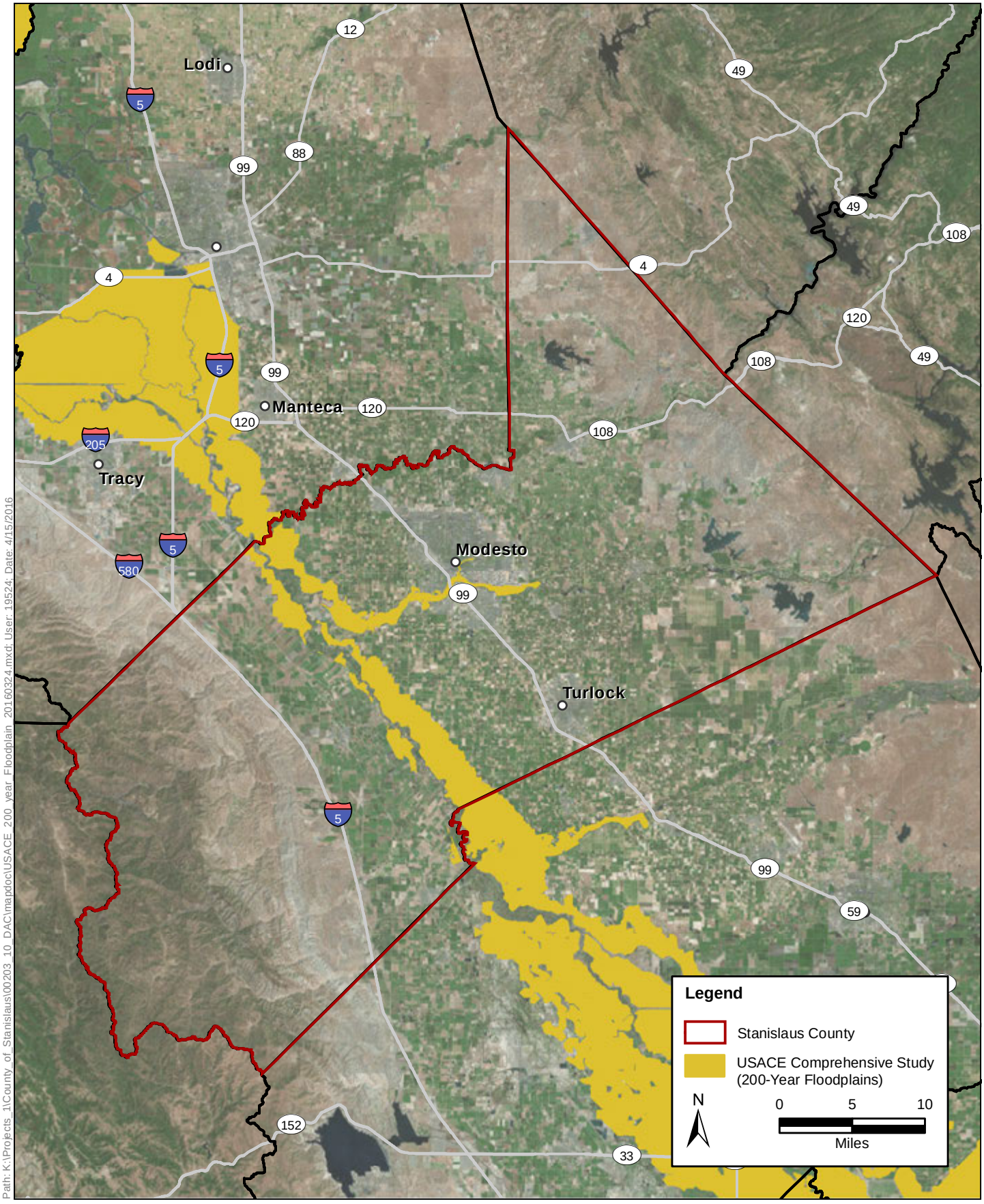


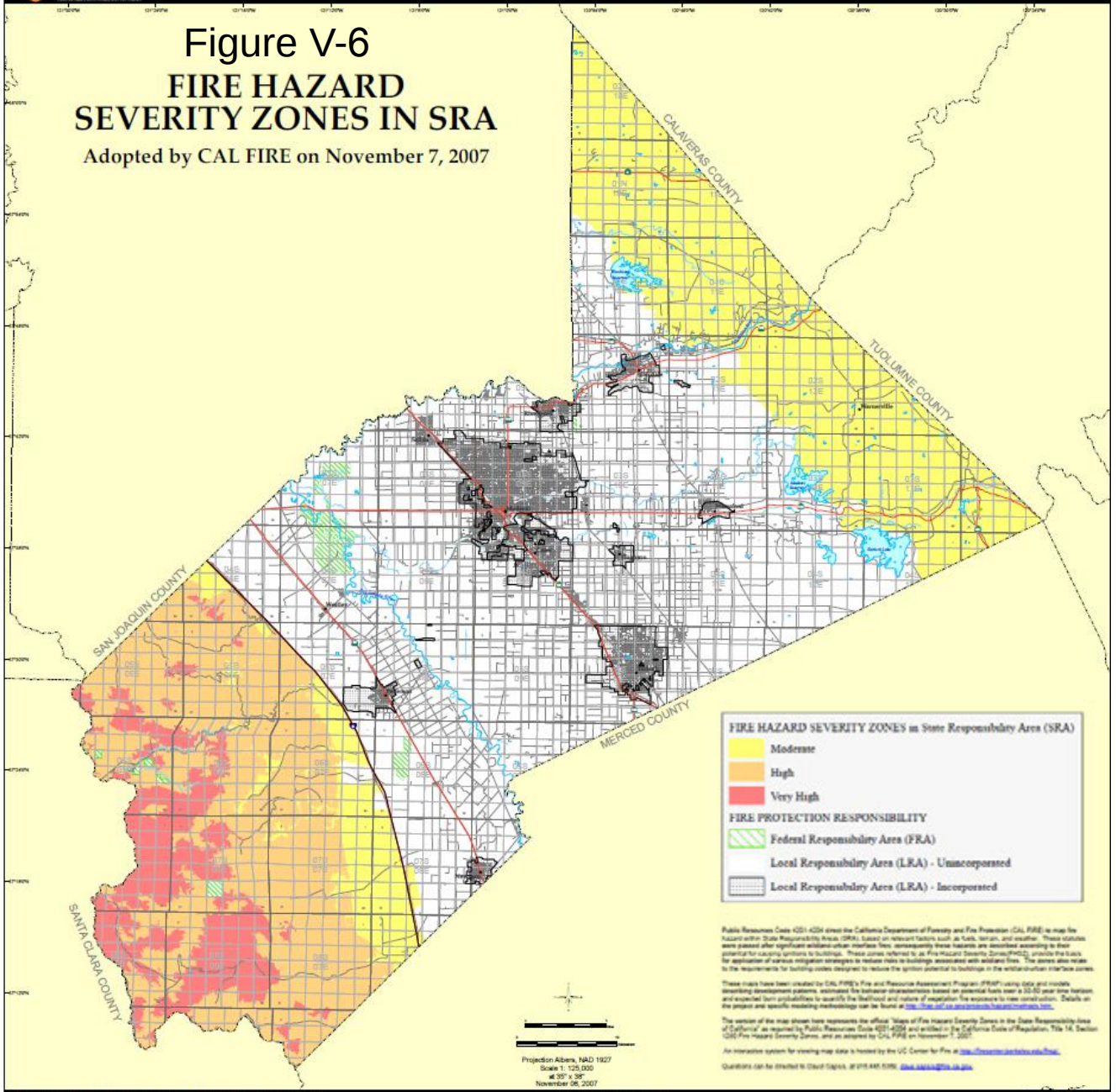
Figure V-5 **Stanislaus County 200-year Floodplain**

STANISLAUS COUNTY

Figure V-6

FIRE HAZARD SEVERITY ZONES IN SRA

Adopted by CAL FIRE on November 7, 2007

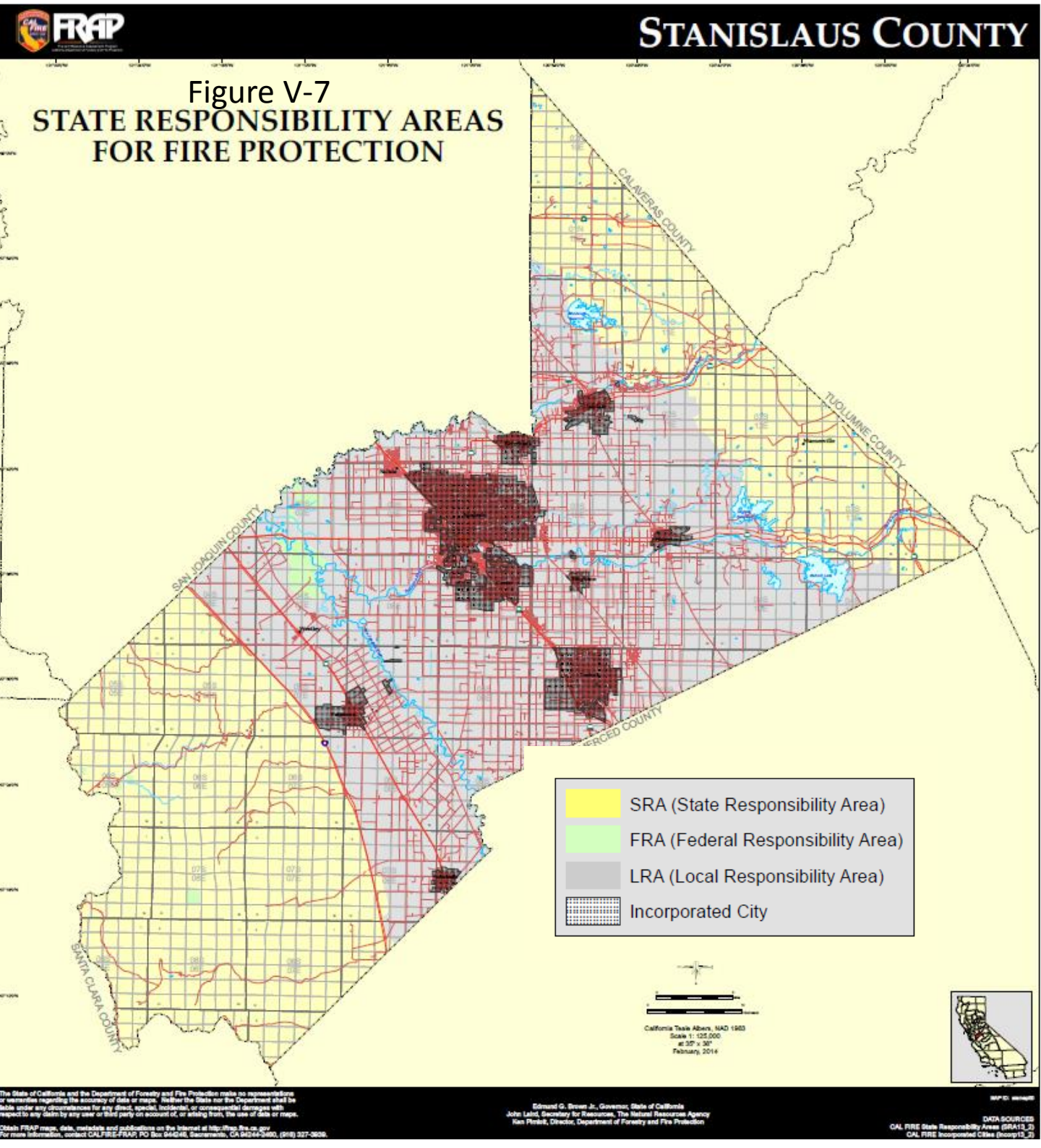


Obtain FRAP maps, data, matedata and publications on the Internet at http://frap.cdf.ca.gov
For more information, contact CAL FIRE-FRAP, PO Box 944246, Sacramento, CA 94244-2460, (916) 327-3939.

Arnold Schwarzenegger, Governor,
State of California
Mike Chrisman, Secretary for Resources,
The Resources Agency
Ruben Grijalva, Director,
Department of Forestry and Fire Protection

MAP ID: FHSZS_MXD

DATA SOURCES:
CAL FIRE Fire Hazard Severity Zones (FHSZS06_3)
CAL FIRE State Responsibility Areas (SRA05_5)
CAL FIRE Incorporated Cities (incorp07_3)
PLSS (1:100,000 USGS, Land Grants with CAL FIRE grid)


FRAP
STANISLAUS COUNTY
Figure V-7
STATE RESPONSIBILITY AREAS
FOR FIRE PROTECTION
CALAVERAS COUNTY
TUOLUMNE COUNTY
SAN JOAQUIN COUNTY
MERCED COUNTY
SANTA CLARA COUNTY
SRA (State Responsibility Area)
FRA (Federal Responsibility Area)
LRA (Local Responsibility Area)
Incorporated City
California Teale Albers, NAD 1983
Scale 1: 125,000
at 35" x 36"
February, 2014
The State of California and the Department of Forestry and Fire Protection make no representations or warranties regarding the accuracy of data or maps. Neither the State nor the Department shall be liable under any circumstances for any direct, special, incidental, or consequential damages with respect to any claim by any user or third party on account of, or arising from, the use of data or maps.
Obtain FRAP maps, data, metadata and publications on the Internet at http://frap.fire.ca.gov
For more information, contact CALFIRE-FRAP, PO Box 944246, Sacramento, CA 94244-2460, (916) 327-3939.
Edmund G. Brown Jr., Governor, State of California
John Laird, Secretary for Resources, The Natural Resources Agency
Ken Pimlott, Director, Department of Forestry and Fire Protection
DATA SOURCES
CAL FIRE State Responsibility Areas (SRA13_2)
CAL FIRE Incorporated Cities (incorp13_2)

Airports

Airports located in urban areas**,** or areas with dwellings in the approach or take-off pattern may cause safety problems for both the airplanes and occupants on the ground. **Stanislaus County has an Airport Land Use Commission (ALUC) which reviews land use proposals within the approach patterns of airports (not air strips). The Commission bases its determinations on whether or not the proposed development meets compatibility criteria identified in the adopted ALUC plan. Location of air strips is governed by the County Zoning Ordinance and, in some cases, the State. The County has an adopted policy regarding the siting of air strips that requires approach patterns to be free from development (See Appendix V-A – Airport Siting Standards). County regulations require new communications antennas in agricultural areas be referred to crop dusters for input regarding safety.** ~~to obtain a Use Permit. Findings have to be made in order to approve such a use which includes the finding that the antenna will not be detrimental to the health, safety or general welfare of people or property in the area.~~

Other Safety Hazards

Other safety concerns include unprotected canals, and insufficient lightingand ~~L~~large antennas**, communication facilities, and wind power facilities located** in ~~the~~ agricultural area**s.** ~~may be hazardous to crop dusters if not properly located.~~ Streets and roads in terms of width, location and level of maintenance are important to safe travel of the public and for emergency vehicle (sheriff, fire, ambulance) access. ~~Unprotected canals in urban areas and lack of, or insufficient, street lighting are safety problems.~~ **Road safety is discussed in more detail in the Circulation Element of the Stanislaus County General Plan.** Dust and dirt moved as a result of erosion can also cause safety problems, as can the uncovered transportation of sand and gravel material.

MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

The **Stanislaus County Board of Supervisors has adopted, and will routinely update, the Stanislaus County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP)** ~~State Office of Emergency Services approved the County's Multi-Jurisdictional Hazard Mitigation Plan on April 29, 2005 and t~~**~~T~~**~~he Adopted plans are submitted to the Federal Emergency Management Agency (FEMA) on July 22, 2005. The Board of Supervisors adopted the Plan on December 13, 2005.~~

~~The County and 48 other jurisdictions participated in the Multi-Jurisdictional Hazard Mitigation Plan. Each of these 48 participating jurisdictions had their governing body formally adopt the County of Stanislaus Multi-Jurisdictional Hazard Mitigation Plan, along with their individual plan, as their own Local Hazard Mitigation Plan. The County's plan serves as the umbrella plan with each individual jurisdiction's plan considered an annex. The Stanislaus County Multi-Jurisdictional Hazard Mitigation Plan is incorporated into the Safety Element of the General Plan and shall be implemented as appropriate.~~

Detailed information on the various types of safety hazards and mitigation strategies to help reduce risk and prevent future losses in Stanislaus County are provided in the MJHMP. Dam Inundation and Flood Hazard maps from the 2010 MJHMP have been incorporated into the Safety Element for reference. However the MJHMP is required to be updated every five years and, as such, more recent maps and data may be found in

subsequent MJHMPs. The county is relying upon the MJHMP to meet its requirements under Government Code Section 65302(g)(4).

The hazards in the County's adopted MJHMP were identified through a process that utilized input from the various multi-jurisdictional partners, Work Groups, Stanislaus County Emergency Operations Plan, the Safety Element of the General Plan, input from the County's Planning Director, Public Health Director, Assistant Director of Emergency Services, City governments, researching past disaster declarations in the County, and public input. Hazards that are unlikely to occur, or for which the risk of damage is accepted as being very low, were eliminated from consideration. The MJHMP focuses on the five hazards with the greatest potential to cause a negative impact on the community. They are: earthquake, landslide, dam failure, flood, and wildfire.

The MJHMP accomplishes the following:

- **Ensures compliance with the Disaster Mitigation Act of 2000 that establishes requirements for local governments and requires that in order to remain eligible to receive Federal funding for both pre-disaster and post-disaster mitigation project funding, a local government must have a FEMA approved Local Hazard Mitigation Plan written in accordance with Section 322 of the Act; and**

- **Ensures that Stanislaus County complies with the Disaster Mitigation Act requirement that only local governments with a State and FEMA approved Local Hazard Mitigation Plan will be eligible to receive Hazard Mitigation Grant Program project grants for disasters declared after November 1, 2004; and**

- **Ensures compliance with the requirement that only local governments with a State and FEMA approved Local Hazard Mitigation Plan will be eligible to receive future mitigation project funding awarded through the Flood Mitigation Administration Assistance program, the Pre-Disaster Mitigation grant programs, and the U.S. Small Business Administration's (SBA) low-interest, pre-disaster, small business loan program; and**

- **Unlike past years, when a local plan was created after the disaster damage, the County must now have an approved local plan in place before a disaster strikes.**

The MJHMP includes the following components:

1. **Prerequisites – includes the adoption of the final plan by the local governing body. This demonstrates the County's commitment to fulfilling the mitigation goals and objectives outlined in the plan.**

2. **Planning Process – documents the planning process used to develop the plan, including how it was prepared and who was involved in the process.**

3. **Risk Assessment – includes seven requirements for each of the five hazards identified in the MJHMP**

    A. Identifying Hazards – includes a description of the hazards.

B. **Profiling Hazard Events – identifies the location, extent, previous occurrences and probability of future events.**
C. **Assessing Vulnerability/Overview – identifies an overall summary description of the vulnerability to each hazard and the impact of each hazard on the jurisdiction.**
D. **Assessing Vulnerability/Identifying Structures – includes the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas.**
E. **Assessing Vulnerability/Estimating Potential Losses – includes estimates of potential dollar losses to vulnerable structures and describes the methodology used to prepare the estimate.**

- **Assessing Vulnerability: Addressing Repetitive Loss Properties**

  As of October 1, 2008, all mitigation plans must also address National Flood Insurance Program (NFIP) insured structures that have been repetitively damaged by floods. Repetitive Loss Properties (RLP) are those for which two or more loses of at least $1,000 each have been paid under the NFIP within any 10 year period since 1978.

F. **Assessing Vulnerability/Analyzing Development Trends – includes the land uses and development trends.**

G. **Multi-Jurisdictional Risk Assessment – each of the participating jurisdictions must include their unique risks, if different from the County's, in their individual plan.**

4. **Mitigation Strategy – provides the County's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources and expands on and improves these existing tools. This entails the development of goals from which specific mitigation actions will be derived. All mitigation actions must be prioritized and the plan must describe the strategy for implementation.**

5. **Plan Maintenance – describes the method and schedule for monitoring, evaluating and updating the plan every five years to make sure the plan remains an active and relevant document.**

CLIMATE ADAPTATION

The State of California's Cal-Adapt website provides information on key environmental changes that are expected to be the results of climate change. These include: temperature, snowpack, sea level rise, wildfire risk, and precipitation. Cal-Adapt estimates, as of 2016, that the average temperature in Stanislaus County will increase from 60.7 degrees F to 67.2 degrees under a high greenhouse gas emissions scenario or to 64.6 degrees under a low greenhouse gas emissions scenario. Stanislaus County is not subject to snowfall, so changes in snowpack would not directly impact the county. Sea level rise will not affect Stanislaus County, as it is an inland county. Wildfire risk is

not predicted to change, nor is the level of precipitation (although precipitation is expected to include more rain and less snow at higher elevations).

The County can be expected to experience the following effects as a result of climate change, most of which are related to the increase in average temperature:

- **Increased health risks for vulnerable populations during extended heat waves**
- **Changes in insect vector populations due to warmer temperatures, and associated increase in human health risk**
- **Increased drought potential due to less reliable snowfall**
- **Increased flood risk due to the expected increase in winter rains in relation to winter snow at higher elevations**
- **Reduced carry-over storage in multi-purpose reservoirs as a result of the need to maintain a larger flood control capacity later into the year**
- **Extended wildfire season**

These effects have the potential to affect the following community resources:

- **Essential facilities (hospitals, fire stations, police stations, water and wastewater treatment plants, etc.), transportation systems, utilities, and developed areas, where there is a risk of flooding**
- **Vulnerable populations, including disadvantaged unincorporated communities, where there is a risk of flooding and where air conditioning is limited**
- **Industrial or commercial businesses, where flood damage could result in economic losses or the release hazardous materials**

The Safety Element policies and implementation measures relating to efforts to improve flood control and reduce risks for future development, and efforts to improve the standard of living in disadvantaged unincorporated communities, along with the MJHMP, comprise the county's adaptation strategy. The risk assessments of flood and wildfire hazard in the MJHMP, and the associated goals and mitigation actions, describe these risks to life, property, and essential facilities in more detail and contain additional adaptation strategies to be undertaken by the County and other jurisdictions within the county.

GOALS, POLICIES AND IMPLEMENTATION MEASURES

GOAL ONE

Prevent loss of life and reduce property damage
as a result of natural disasters.

~~(Comment: Stanislaus County is prone to a variety of natural disasters. With several rivers traversing the County, flooding is a concern. Although there are no major faults in the valley portion of Stanislaus County, some faults do exist in the foothills on the eastern and western edges of the County. Earthquakes could occur that would cause severe damage in portions of the County.)~~

POLICY ONE

The County will adopt (and implement as necessary) plans inclusive of the Multi-Jurisdictional Hazard Mitigation Plan, to minimize the impacts of a natural and man-made disasters.

IMPLEMENTATION MEASURES

1. The County ~~Office of Emergency Services~~**Sheriff's Department** will continue to work with other jurisdictions to develop evacuation routes to be used in case of a disaster, including dam failure. Evacuation routes will serve all of the jurisdictions in the County; therefore plans for evacuation routes must be coordinated with these cities.
   Responsible Department~~s~~: Sheriff's Department, Office of Emergency Services / Fire Warden~~Emergency Services~~

2. The County will follow the policies included in the adopted ~~emergency~~ **County of Stanislaus Multi-Jurisdictional Hazard Mitigation P~~p~~lan.** New development shall not conflict with policies included in that document.
   Responsible Department~~s~~: *Sheriff's Department, Office of Emergency Services / Fire Warden, Planning*

3. The County will make information available to landowners in areas subject to flooding to help them form a flood control district.
   Responsible Department: Planning – Flood Plain Administrator ~~Public Works~~

4. Development, except that which is consistent with the County General Plan at the time the Patterson Agreement is executed, in the area known as the Sperry Avenue Corridor, shall be required to participate in the solution of the Salado Creek flooding problem.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

5. In the event of a major **threat,** ~~wildfire threatening the towns of Knight's Ferry or La Grange,~~ the Sheriff, **Office of** Emergency Services **/ Fire Warden,** ~~and Fire Safety Departments~~ **and the Local Fire Agency having jurisdiction** may mandate and coordinate evacuation of ~~those towns~~ **the threatened area**.
Responsible Departments: Sheriff's Department, ~~Fire Safety~~ Office of Emergency Services / Fire Warden, Local Fire Agency Having Jurisdiction, ~~Emergency Services~~

6. The County has adopted a Multi-Jurisdictional Hazard Mitigation Plan, and will implement and evaluate the Plan on a regular basis as necessary to comply with state and federal laws. **This includes implementing the mitigation actions of the Plan through the Safety Element.**
Responsible Department: Office of Emergency Services / Fire Warden

POLICY TWO

Development should not be allowed in areas that are within the designated floodway **or any areas that are known to be susceptible to being inundated by water from any source.**

(Comment: The Federal Emergency Management Agency (FEMA) has developed floodway maps which identify areas prone to flooding.)

IMPLEMENTATION MEASURES

1. Development within the 100-year flood boundary shall meet the requirements of Chapter ~~16.40~~ **16.50** (Flood Damage ~~Protection~~ **Prevention**) of the County Code and within the designated floodway shall obtain ~~Reclamation Board~~ **Central Valley Flood Protection Board** approval.
Responsible Departments: Planning – Flood Plain Administrator~~Public Works~~, Planning Commission, Board of Supervisors

2. The County shall utilize the California Environmental Quality Act (CEQA) process to ensure that development does not occur that would be especially susceptible to flooding. Most discretionary projects require review for compliance with CEQA. As part of this review, potential impacts must be identified and mitigated.
Responsible Departments: Planning Department, Public Works, Planning Commission, Board of Supervisors

3. The County shall amend its Zoning Ordinance, as needed, for compliance with the Central Valley Flood Protection Act of 2008 (and any subsequent amendments)
Responsible Departments: Planning Department, Public Works, Planning Commission, Board of Supervisors

POLICY THREE

Development should not be allowed in areas that are particularly susceptible to seismic hazard.

IMPLEMENTATION MEASURES

1. The County shall enforce the Alquist-Priolo Earthquake Fault Zoning Act.
Responsible Departments: Building Permits Division ~~Inspections~~, Planning Department, Planning Commission, Board of Supervisors

2. Development in areas of geologic hazard shall be considered for approval only where the development includes an acceptable evacuation route.
Responsible Departments: Sheriff's Department, ~~Fire Safety~~ Office of Emergency Services / Fire Warden, Local Fire Agency Having Jurisdiction, ~~Emergency Services,~~ Public Works, Planning Department, Planning Commission, Board of Supervisors

3. Development proposals adjacent to reservoirs shall include evaluations of the potential impacts from a seismically induced seiche.
Responsible Departments: Planning Department, Parks and Recreation, Planning Commission, Board of Supervisors

4. The routes of new public roads in areas subject to significant seismic hazard shall be designed to minimize seismic risk.
Responsible Departments: Public Works, Planning Commission, Board of Supervisors

5. Where it is found that right-of-way widths greater than those specified in the Circulation Element are necessary to provide added safety in geologically unstable areas, additional width shall be required.
Responsible Departments: Public Works, Planning Department, Planning Commission, Board of Supervisors

POLICY FOUR

Development west of I-5 in areas susceptible to landslides (as identified in this element) shall be permitted only when a geological report is presented with (a) documented evidence that no such potential exists on the site, or (b) identifying the extent of the problem and the mitigation measures necessary to correct the identified problem.

IMPLEMENTATION MEASURES

1. The County shall utilize the California Environmental Quality Act (CEQA) process to ensure that development does not occur that would be especially susceptible to landslide. Most discretionary projects require review for compliance with CEQA. As part of this review, potential impacts must be identified and mitigated or a statement of overriding concerns adopted.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. Development west of I-5 shall include a geological report unless the Chief Building Official ~~and Planning Director~~ ~~are~~**is** satisfied that no need for the study is present.
Responsible Departments: Planning Department, ~~Building Inspections~~ Building Permits Division

3. The routes of new public **and private** roads in areas subject to landslides shall be designed to minimize landslide risks.
Responsible Departments: Public Works, Planning Commission, Board of Supervisors

POLICY FIVE

Stanislaus County shall support efforts to identify and rehabilitate structures that are not earthquake resistant.

IMPLEMENTATION MEASURE

1. The County shall take advantage of programs that would provide funds to identify and rehabilitate structures that do not currently meet building standard minimums for earthquake resistance.
   Responsible Department*s*: Board of Supervisors, Chief Executives Office, Building Permits Division ~~Inspections~~, Planning Department

GOAL TWO

Minimize the effects of hazardous conditions that might cause loss of life and property.

POLICY SIX

All new development shall be designed to reduce safety and health hazards.

IMPLEMENTATION MEASURES

1. Review development proposals and require redesign when necessary to ensure that buildings are designed and sited to minimize crime and assure adequate access for emergency vehicles. **The County shall promote the design of structures, streetscapes, pathways, project sites and other elements of the built environment that allow for surveillance of publically accessible areas.**
   Responsible Departments: Sheriff's Department, ~~Fire Safety~~ Office of Emergency Service / Fire Warden, Local Fire Agency Having Jurisdiction

2. Fencing shall be required between canals and new urban development when recommended by an irrigation district.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

3. Development standards shall be imposed to provide street lighting, storm drainage, **adequate** setbacks, fire walls **and fire safe standards for defensible space, pursuant to California Code of Regulations Title 14, Fire Safe Regulations**.
   Responsible Departments: Public Works, Planning Department, ~~Fire Safety~~ Office of Emergency Services / Fire Warden, Local Fire Agency Having Jurisdiction, Planning Commission, Board of Supervisors

4. All building permits shall be reviewed to ensure compliance with the ~~Uniform Building Code~~ **California Code of Regulation, Title 24, California Building Codes, and California Code of Regulations Title 14, Fire Safe Regulations**.
   Responsible Departments: Building Permits Division ~~Inspections,~~ Local Fire Agency Having Jurisdiction

POLICY SEVEN

Adequate fire and sheriff protection shall be provided.

IMPLEMENTATION MEASURES

1. The County shall continue to implement the funding strategies **for Capital Improvements and ongoing operations as** identified under Policy Twenty-~~Two~~**Four** of the Land Use Element.
   Responsible Departments: Building Permits Division ~~Inspections~~, Board of Supervisors, Public Works

2. All discretionary projects in the County shall be referred to the ~~Fire Safety Department and to the appropriate fire district~~ **Office of Emergency Services / Fire Warden, and the Local Fire Agency having jurisdiction** for comment. The comments of these

agencies will be used to condition or recommend modifications of the project as it relates to fire safety and rescue issues**, including emergency access and evacuation routes**. **All projects in State Responsibility Areas or Very High Fire Hazard Severity Zone shall be routed to CALFire for comments.**

Responsible Departments: Planning Department, ~~Fire Safety~~ Office of Emergency Services / Fire Warden, Local and State Fire Agency Having Jurisdiction

3. The County ~~Fire Safety Department~~ **Fire Warden and the Local Fire Agency having jurisdiction** shall work with the California Department of Forestry and Fire Protection and with local fire ~~districts~~ **agencies** to minimize the danger from wildfire **by establishing adequate fire suppression, setbacks, and other requirements pursuant to California Code of Regulations Title 14, Fire Safe Regulations**. **All building permits and discretionary projects located within State Responsibility Areas and Very High Fire Hazard Severity Zones, the Strategic Fire Plans of the local and adjoining jurisdictions CalFire units shall be followed.**

Responsible Departments: ~~Fire Safety~~ Office of Emergency Services / Fire Warden, Local and State Fire Agency Having Jurisdiction

4. Discretionary projects ~~outside of fire districts~~ shall be considered for approval only when they are found to include adequate fire protection.

Responsible Departments: ~~Fire Safety~~ Office of Emergency Services / Fire Warden, Local Fire Agency Having Jurisdiction, Planning Department, Planning Commission, Board of Supervisors

5. New development~~, other than agricultural,~~ shall have ~~adequate~~ water to meet the fire flow standards established in ~~Appendix 5-A~~ **the current adopted fire code, and the current California Public Resources Code 4290, and when located within the State Responsibility Area and Very High Fire Hazard Severity Zones, the National Fire Protection Association 1142 Standard on Water Supplies for Suburban and Rural Fire Fighting.**

Responsible Departments: ~~Fire Safety~~ Office of Emergency Services / Fire Warden, Local and State Fire Agency Having Jurisdiction, Planning Department, Planning Commission, Board of Supervisors

6. All discretionary projects shall be referred to the Sheriff's Department for comment **and evaluation of security features including crime prevention through design.** Comments from the Sheriff will be used to either condition or modify the project.
Responsible Departments: Sheriff's Department, Planning Department, Planning Commission, Board of Supervisors

7. All building permits and discretionary projects within the State Responsibility Areas **and Very High Fire Hazard Severity Zones**, as identified by the **current** California Department of Forestry and Fire Protection **Fire Hazard Severity Zone maps,** shall meet the minimum **State** development standards, ~~included in Article 1-5, Subchapter 2 SRA Fire Safe Regulations, Chapter 7 - Fire Protection, Division 1.5 - Department of Forestry, Title 14 - Natural Resources,~~ **including the current chapters of the California Fire Code regarding requirements for wild land – urban interface fire areas, the California Building Code and Residential Code Materials and Construction Methods for Exterior Wildfire Exposure, and California Code of Regulations Title 14, Fire Safe Regulations**, or more stringent specific standards as may be adopted by the Board of Supervisors for this County.

Responsible Departments: Building Permits Division ~~Inspections~~, Public Works, Planning Department, ~~Fire Safety~~ Office of Emergency Services / Fire Warden, Local Fire Agency Having Jurisdiction, Planning Commission, Board of Supervisors, CalFire

8. All discretionary projects shall be referred to the ~~Regional Emergency Medical Services Office~~ **Agency Local Emergency Medical Services Agency** for comments related to ambulance service.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY EIGHT

Roads shall be maintained for the safety of travelers.

IMPLEMENTATION MEASURES

1. New urban development shall provide street lighting, storm drainage, setbacks, ~~fire walls~~, and other safety features as the specific case may require **for all modes of travel (automobile, pedestrian, bicycle, etc.)**.
Responsible Departments: Public Works, ~~Fire Safety~~ Office of Emergency Services / Fire Warden, Local Fire Agency Having Jurisdiction, Planning Commission, Board of Supervisors

2. New development shall conform to the standards in the County **Department of Public Works** Specifications and Improvement Standards for maintenance and improvement of roads.
Responsible Departments: Public Works, Planning Commission, Board of Supervisors

3. The Sheriff's Department shall enforce California Vehicle Code Section 23114 related to material falling from overloaded trucks carrying sand, gravel and other materials.
Responsible Department: Sheriff's Department

4. Private access roads in the State Responsibility Areas, as designated by the California Department of Forestry and Fire Protection, shall be designed to meet state-mandated standards for such roads **and all requirements under California Code of Regulations Title 14, Fire Safe Regulations**.
Responsible Departments: ~~Fire Safety~~ Office of Emergency Services / Fire Warden, Local Fire Agency Having Jurisdiction, Planning Department, Planning Commission, Board of Supervisors

5. Private access roads in agricultural parcel maps should not include "dead ends" longer than one mile.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY NINE

The County shall support the formation of improvement districts (including flood control districts) **or overlay zones** to ~~eliminate~~ **mitigate** safety hazards.

IMPLEMENTATION MEASURES

1. Fire ~~Districts~~ **Agencies**, Sheriff's Department, etc. should be encouraged to request that the Board of Supervisors impose development fees to help support **capital needs.** ~~their services~~. Such requests shall be accompanied by supporting documentation.
Responsible Departments: ~~Fire Safety~~ Office of Emergency Services / Fire Warden, Local Fire Agency Having Jurisdiction, Sheriff's Department, County Executive Office, Board of Supervisors

2. The County will work with ~~the Fire Safety Department~~ the State Department of Forestry and Fire Protection and **the** local fire ~~districts~~ **agencies having jurisdiction** to ensure that adequate fire suppression measures are provided in areas without access to a public water system. These measures may include restrictions on building materials as well as the provision of adequate access and appropriate facilities for suppressing a fire.
Responsible Departments: ~~Fire Safety~~ Office of Emergency Services / Fire Warden, Local Fire Agency Having Jurisdiction, Building Permits Division ~~Inspections~~, Board of Supervisors

3. The County may consider the adoption of overlay zones for the purpose of alerting property owners to restrictions relating to safety hazards.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY TEN

The County shall limit the siting of air strips.

IMPLEMENTATION MEASURE

1. The County policy regarding the siting of air strips shall be enforced. (See Appendix **V-A**~~5-B~~)
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. Development proposals for the establishment of an air strip shall include easements to restrict development on neighboring properties as required by County policy. The developer shall document existing easements and demonstrate the ability to acquire additional easements, if needed, prior to project approval. Projects shall be conditioned to require easements be recorded prior to development of the air strip.
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

POLICY ELEVEN

Restrict large communication **and wind power facilities** ~~antennas~~ within the agricultural area with respect to maximum height, markings (lights) and location to provide maximum safety levels.

IMPLEMENTATION MEASURES

1. **All communication facilities shall meet the siting standards established by Chapter 21.90 -Communication Facilities of the Zoning Ordinance.** ~~An amendment to the A-2 (General Agriculture) zoning districts will be processed by June 30, 1995 to require that, before communication towers are approved, a finding must be made that measures have been taken to minimize the effect of the tower on crop dusting activities. (On September 19, 1995, the Board of Supervisors approved an amendment to the zoning ordinance establishing siting standards for communication towers in all zoning districts.)~~
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. **Discretionary development proposals** ~~Use permit applications~~ for communication ~~towers~~ **and wind power facilities** in the A-2 (General Agriculture) zone district shall be referred to the crop dusting companies which typically service the area of the proposed tower for notice and comment.
   Responsible Department: Planning Department

POLICY TWELVE

The Airport Land Use Commission Plan and County Airport Regulations (Chapter 17 of the County Code) shall be updated as necessary, maintained and enforced.

IMPLEMENTATION MEASURES

1. Development within areas protected by the Airport Land Use Commission Plan shall only be approved if they meet the requirements of the Plan.
   Responsible Departments: Planning, Airport Land Use Commission, Planning Commission, Board of Supervisors

2. The Airport Land Use **Commission** Plan shall be updated, **as necessary,** to conform to current state **and federal** law ~~when funds are budgeted for the project~~.
   Responsible Departments: Planning Department, Airport Land Use Planning Commission

3. All amendments to a land use designation, zoning district, or zoning regulation affecting land within the Airport Land Use Plan boundary shall be referred to the Airport Land Use Commission for comment. If that commission recommends denial, the Board of Supervisors may overrule that recommendation only by a two-thirds majority vote.
   Responsible Departments: Planning Department, Airport Land Use Commission, Board of Supervisors

4. The height and exterior materials of new structures, **protected by the Airport Land Use Commission Plan** ~~in the Airport Zone of the Modesto, Oakdale, Patterson or Turlock airports as defined in the Stanislaus County Airport Regulations,~~ shall be reviewed to determine whether they conform to those regulations.
Responsible Departments: Planning Department, Board of Supervisors

POLICY THIRTEEN

The Department of Environmental Resources shall continue to coordinate efforts to identify locations of hazardous materials and prepare and implement plans for management of spilled hazardous materials as required.

IMPLEMENTATION MEASURES

1. The County will continue to provide planning efforts to locate and minimize the effects of hazardous materials through the County's adopted emergency plan.
Responsible Department: Environmental Resources

2. The County has prepared a Hazardous Waste Management Plan which is the guideline for managing hazardous waste in this County. The goals, objectives, conclusions, recommendations and implementation measures of that plan are hereby incorporated as a part of the Safety Element, along with any modifications which may result from state review of the Hazardous Waste Management Plan.
Responsible Departments: Board of Supervisors, Environmental Resources

3. The Area Plan for Emergency Response to Hazardous Substance Release, required by the California Health and Safety Code, will be incorporated as part of the Safety Element when that plan is adopted.
Responsible Departments: Environmental Resources, Office of Emergency Services / Fire Warden, Sheriff's Department, Emergency Services

POLICY FOURTEEN

The County will continue to enforce state-mandated structural Health and Safety Codes, including but not limited to the ~~Uniform~~ **California** Building Code, the ~~Uniform~~ ~~Housing~~ **International Property Maintenance** Code, the ~~Uniform~~ **California** Fire Code, the ~~Uniform~~ **California** Plumbing Code, ~~the National~~ **California** Electric Code, and Title 24**, Parts 1-9**.

(Comment: The ~~Uniform~~ **California** Building Code includes provisions for safe construction under the most current standards. The ~~Uniform~~ ~~Housing~~ **International Property Maintenance** Code provides for upgrading of existing dwellings to eliminate health and safety problems without requiring upgrading of non-hazardous conditions.)

IMPLEMENTATION MEASURES

1. All building permits shall be reviewed to ensure compliance with the ~~Uniform~~ **California** Building Code.
Responsible Department: Planning Department - Building Permits Division ~~***Inspections***~~

2. All complaints of substandard dwellings shall be acted upon to ensure compliance with the ~~Uniform~~ ~~Housing~~ **International Property Maintenance** Code.
Responsible Departments: ~~***Building Inspections***~~ ***Planning Department - Building***

Permits Division*, *Environmental Resources

3. The ~~Uniform~~ **California** Fire Code shall be followed in inspections and maintenance of structures regulated under that code.
   Responsible Department~~s~~: ~~Fire Safety~~ Office of Emergency Servicers / Fire Warden, Local Fire Agency Having Jurisdiction

POLICY FIFTEEN

The County will support the Federal Emergency Management Agency (FEMA) Flood Insurance Program so that residents who qualify may purchase such protection.

(Comment: If Stanislaus County adopts a flood hazard reduction ordinance that meets FEMA standards, property owners whose property is located within certain areas identified by FEMA as flood hazard areas may purchase insurance against flood damage. Chapter ~~16.40~~ **16.50** of the Stanislaus County Code meets the FEMA standards.)

IMPLEMENTATION MEASURE

1. Stanislaus County will maintain and enforce Chapter ~~16.40~~ **16.50** (Flood Damage ~~Protection~~ **Prevention**) of the County Code to meet FEMA standards.
   Responsible Departments: Public Works, Board of Supervisors

APPENDIX 5-A

FIRE FLOW STANDARDS

New or Existing Water Systems

New development shall not be permitted to diminish the fire flow of an existing water system below the following minimum standards:, established in the current adopted Fire Code.

1. Lot density of three or more single-family residential units per acre. 1,000 gpm

2. Duplex residential units, neighborhood business of one story. 1,500 gpm

3. Multiple residential, one and two stories; light commercial or light industrial. 2,000 gpm

4. Multiple residential, three stories or higher; heavy commercial or heavy industrial. 2,500 gpm

New water systems also must meet the minimum fire flow standards established above. in the current adopted Fire Code.

Exception:With the installation of an approved, supervised, automatic sprinkler system in accordance with the National Fire Protection Association Pamphlet #13, throughout the building, a 50% reduction may be granted. In no case shall there be less than 500 gpm provided on site.

No Existing Water System

Where there is no established water system, in the rural areas of Stanislaus County, the following guidelines shall apply:

The installation of reservoirs, pressure tanks, elevator tanks, or other fixed systems capable of supplying the required fire flow and/or static source shall be in accordance with the National Fire Protection Association Pamphlet #1231, Water Supplies for Rural and Suburban Fire Fighting.

Source: Stanislaus County Fire Warden's Office

APPENDIX V-A~~5-B~~

AIRPORT SITING STANDARDS

THE BOARD OF SUPERVISORS OF THE COUNTY OF STANISLAUS
STATE OF CALIFORNIA

Date: March 6, 1984 No. 84-367

On motion of Supervisor Blom, Seconded by Supervisor Simon,
and approved by the following vote,
Ayes: Supervisors: Blom, Simon, Cannella and Chairman Starn
Noes: Supervisors: None
Excused or Absent: Supervisors: Terry
Abstaining: Supervisor: None

D-2

THE FOLLOWING RESOLUTION WAS ADOPTED:

IN RE: ESTABLISHING POLICIES FOR THE SITING OF NEW AIRPORTS, AGRICULTURAL SERVICE AIRPORTS AND TEMPORARY AGRICULTURAL SERVICE AIRPORTS

WHEREAS, after receiving a report concerning private airports in Stanislaus County, this Board referred the matter to the Planning Commission for study and possible recommendations; and

WHEREAS, the Commission held a public hearing to gain input from private airport owners, pilots, cropdusters and other interested parties; and

WHEREAS, after much discussion, the Planning Commission recommends that this Board adopt the "Establishing Policies for the Siting of New Airports, Agricultural Service Airports and Temporary Agricultural Service Airports" as submitted,

NOW, THEREFORE, BE IT RESOLVED that this Board of Supervisors does hereby adopt the "Establishing Policies for the Siting of New Airports, Agricultural Service Airports and Temporary Agriclutural Service Airports" to wit:

ATTEST: BETH MEYERSON-MARTINEZ, Clerk
Stanislaus County Board of Supervisors,
State of California,
Rochelle A. Tilton
By: Rochelle A. Tilton, Assistant Clerk

5-14

File No. S-18-CC-27

ESTABLISHING POLICIES FOR THE SITING OF NEW AIRPORTS, AGRICULTURAL SERVICE AIRPORTS, AND TEMPORARY AGRICULTURAL SERVICE AIRPORTS

WHEREAS, it is the duty of the Stanislaus County Board of Supervisors to promote and protect the health, safety, comfort, convenience and general welfare of the residents of Stanislaus County; and

WHEREAS, private airstrips, private airports, crop duster landing strips and heliports are presently permitted upon approval of a use permit in A-2 (Exclusive Agriculture) and certain R-A (Rural Residential) zones; and

WHEREAS, the Board of Supervisors recognizes the fact that airports, agricultural service airports and temporary agricultural service airports are necessary for the economy and convenience of the people of Stanislaus County; and

WHEREAS, careful consideration must be given to the siting, layout and design of any new airport, agricultural service airport or temporary agricultural service airport in these areas to protect the health, safety, comfort, and general welfare of the residents of Stanislaus County,

NOW, THEREFORE, BE IT RESOLVED that the following policies shall be utilized as guidelines by Stanislaus County when considering an application for a use permit or staff approval application to locate any new airport or temporary agricultural service airport or expand any existing airport or temporary agricultural service airport.

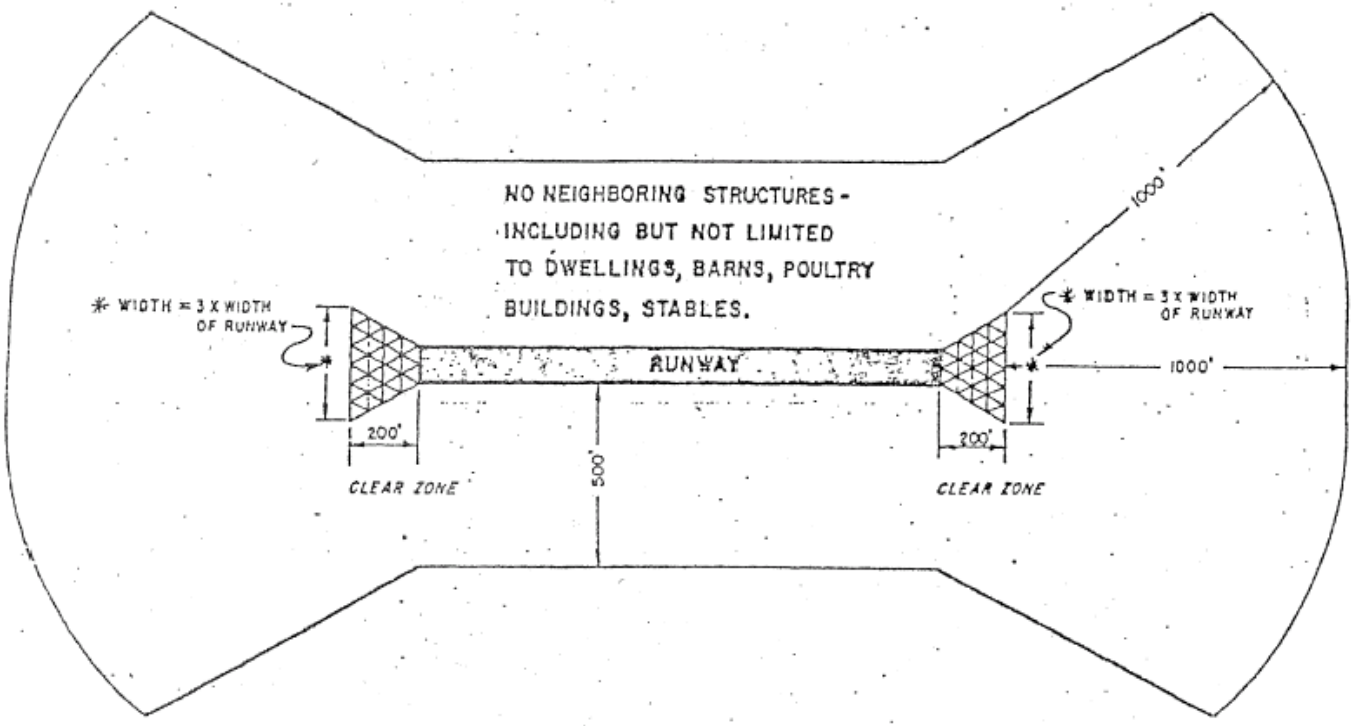
1. Provide a clear zone for a distance of two-hundred feet (200') from the end of the runway. The clear zone shall start at the ends of the runway and at a point two-hundred feet (200') from the end of the runway be three (3) times the width of the runway.

2. Be no closer to any neighboring dwelling, barn, shop, poultry building, or similar agricultural structure than: (a) 1000 feet from the ends of the runway, or (b) 500 feet to the sides of the runway. This shall not be construed so as to prohibit the owner of any airport from having their own dwelling(s), barn(s), shop(s), poultry building(s), or similar agricultural structure(s) within this area.

3. Be located so that air or surface traffic shall not constitute a nuisance or danger to neighboring property, farms, dwellings or structures.

4. Show that adequate controls or measures will be taken to prevent offensive dust, noise, vibrations, or bright lights.

5. Obtain when necessary approval of the California Department of Transportation, Division of Aeronautics and the Federal Aviation Administration prior to the issuance of the use permit.


NO NEIGHBORING STRUCTURES -
INCLUDING BUT NOT LIMITED
TO DWELLINGS, BARNS, POULTRY
BUILDINGS, STABLES.
* WIDTH = 3 X WIDTH OF RUNWAY
RUNWAY
* WIDTH = 3 X WIDTH OF RUNWAY
1000'
1000'
200'
200'
500'
CLEAR ZONE
CLEAR ZONE

Additions shown as red **Bold** text
Deletions shown as red ~~strike through~~ text

Agricultural Element

Chapter 7

AGRICULTURAL ELEMENT

Agriculture is the leading industry in Stanislaus County generating an annual gross agricultural value in excess of a billion dollars into the local economy. This initial value of farm production has a ripple, or multiplier, effect in the economy by generating related activities such as food processing, retail and wholesale trade, marketing, transportation, and related services. Located in the Central Valley, which has long been known as California's agricultural heartland, Stanislaus County consistently ranks among the top ten agricultural counties in the state. Stanislaus County also plays a major role in agriculture at the national level, based on market value of agricultural product sold.

The success of agriculture in Stanislaus County is largely due to our favorable climate and the flat, fertile soils that comprise the resource base of our biggest industry. The availability of affordable, high quality irrigation water and low-cost electrical power also gives local agriculture a competitive advantage. Agriculture in Stanislaus County is characterized by a broad diversity of commodities. While overall production trends for leading commodities have continued to grow, these trends are not always reflective of the overall health of agriculture in Stanislaus County.

The same elements that make Stanislaus County so well suited for agriculture – favorable climate, flat land, available water and low-cost power – also make the County attractive for urban development. Like other areas of the Central Valley, the County has become a magnet for those in search of affordable housing within commuting distance of the San Francisco Bay Area and other major employment centers.

Confronted with unprecedented population growth, diminishing agricultural resources, and increased production costs, it can no longer be assumed local agriculture will always be a major supplier to the nation with fresh fruits and vegetables and remain the mainstay of our economy. The challenge of solving the problems confronting agriculture in Stanislaus County requires the coordinated efforts of both government and private citizens. The goals to sustain a healthy agricultural economy, conserve our agricultural land, and protect our natural resources are goals for which our community as a whole can strive, from which our community as a whole will benefit.

Purpose

The purpose of the Agricultural Element is to promote and protect local agriculture through the adoption of policies designed to achieve three main goals:

1. Strengthen the agricultural sector of our economy.
2. Conserve our agricultural lands for agricultural uses.
3. Protect the natural resources that sustain agriculture in Stanislaus County.

The policies are intended to provide clear guidelines for County decision-making. The policies also are intended to express the County's commitment to specific programs and strategies that will ensure the continued success of our agricultural industry and productivity of our agricultural lands.

Focus

The overall focus of the Agricultural Element is on the mitigation of negative economic and environmental impacts to agricultural land and the natural resources needed to support local agriculture. The Agricultural Element establishes policies to protect the economy of Stanislaus County by minimizing conflicts between agriculture, the environment, and urban development. By minimizing the impacts of urbanization on agriculture, the County will help protect local agriculture and ensure its continued success.

Scope

This document represents a broad-based effort to analyze the status of local agriculture, address agricultural issues, consolidate existing County policies and propose strategies to solve problems that exist. Not limited to land use issues, this document goes beyond the scope of most agricultural elements to include strategies for economic development and resource protection related to agriculture. Because of its comprehensive approach, this document can be considered a strategic plan for agriculture in Stanislaus County.

Authority & Relationship to Other General Plan Elements

In recognition of the importance of agriculture to our local economy, the Stanislaus County General Plan includes an Agricultural Element to promote and protect local agriculture. Under Section 65303 of the California Government Code, optional elements of the General Plan, are authorized but not mandated by the state legislature. The Agricultural Element is coordinated with several other elements of the General Plan and must be consistent with the entire General Plan. It interacts primarily with agriculture-related policies of the Land Use, Conservation/Open Space, and Housing Elements. To avoid duplication, policies in these elements that affect or relate to agriculture are not repeated in this element. However, such policies are cross-referenced whenever appropriate. The policies in this document have the same legal status as any state-mandated element of the general plan.

Review Period

The adoption of the Agricultural Element reflects the County's commitment for a strong agricultural economy. As a means of insuring the goals, objectives, policies, and implementation measures of this document remain relevant to the needs of local agriculture, periodic review of the this document is required. Adoption of this document includes a commitment to reviewing it every five years. Reviews shall be conducted by the Agricultural Advisory Board with assistance from both the County Agricultural Commissioner's Office and the Planning Department.

GOAL ONE

Strengthen the agricultural sector of our economy.

Growth in Stanislaus County is both an opportunity for local agriculture and a threat to its stability. There are opportunities to expand markets for local agricultural products and opportunities for the expansion of existing businesses and the formation of new enterprises. However, growth typically results in increased conflicts between farm and non-farm residents as well as contributing to the loss of productive farmland, the deterioration of air quality, increased competition for water supplies and other resource problems.

Goal One addresses these opportunities and threats by presenting strategies for agriculture-related economic development. These strategies include ways to improve marketing and promotion, provide education and technical assistance, minimize conflicts between farm and non-farm residents, provide adequate housing for farm workers, and ensure food safety.

Because many of these issues are not unique to Stanislaus County alone, but involve the entire Central Valley, the close cooperation of local governments through a voluntary multi-county association or confederation is essential for the continued success of agriculture and the health of our regional economy as a whole.

Objective Number 1.1: Enhance the marketing and promotion of agriculture in Stanislaus County

The ability to market and promote agriculture on both a county-wide and farm level is essential to the success of agriculture in Stanislaus County. Direct marketing is one method farmers can use to gain market control, but for many crops a local infrastructure for marketing and promotion is needed for success. This local infrastructure is comprised of land, services, and the workforce needed for support industries such as food-processors, manufactures, distributers, suppliers, and retailers. A key factor to attracting and retaining the necessary infrastructure includes a strong local focus on economic development.

Stanislaus County plays an active role in economic development through its participation with private industry in efforts to add value to existing local economic development programs. The ability to market the productivity of agriculture in Stanislaus County is essential to the development of the support industry needed to enhance the sales of agricultural products. Marketing boards for the various agricultural commodities grown and raised in Stanislaus County serve as a link between the farmer, processor, and consumer.

Efforts to highlight the rich agricultural heritage of Stanislaus County help to bridge the gap between consumers and farmers by promoting the value of agriculture to the community as a whole. With the increase in population, the majority of Stanislaus County citizens now reside in urban areas. Clearly community education of farming practices and the economic role of agriculture is important to the long-term health of agriculture as an industry in Stanislaus County. Direct marketing provides an opportunity for farmers to deliver their products directly to consumers, while allowing the farmer to maximize revenues.

The County supports direct marketing opportunities through the permitting of produce stands and produce markets meeting adopted standards and incidental retail sales and tasting rooms in

conjunction with authorized agricultural processing facilities in the agricultural zoning district. For many consumers farm-based direct marketing offers them their only physical connection to agriculture. However, to limit the potential for conflict, the county must take measures to insure direct marketing is conducted in a manner which promotes the health, safety, and welfare of both county residents and agricultural business in the county.

In addition to a strong local market, a strong export market for Stanislaus County agricultural products is a key element to sustaining our agricultural economy. Each year an increasing amount of agricultural products grown in and raised in Stanislaus County are shipped worldwide. Economic development efforts assist companies interested in exporting local agricultural products. In addition to local efforts, the County encourages state and federal efforts to expand agricultural export programs.

Policy 1.1

Efforts to promote the location of new agriculture-related business and industry in Stanislaus County shall be supported.

Implementation Measure

1. The County shall continue to participate in economic development efforts to bring new agriculture-related business and industry to Stanislaus County
   Responsible Departments: Board of Supervisors

Policy 1.2

The marketing and promotion of local agricultural products shall be encouraged.

Implementation Measures

1. The County shall continue to implement existing ordinance provisions relating to direct-marketing of locally grown produce.
   Responsible Departments: Agricultural Commissioner, Department of Environmental Resources, Planning Department, Planning Commission, Board of Supervisors

2. The County shall encourage efforts to establish direct marketing programs and a market identity for Stanislaus County.
   Responsible Departments: Planning Department, Chief Executive Office and Board of Supervisors

3. The County shall encourage the presence of agricultural marketing boards in Stanislaus County.
   Responsible Departments: Planning Department, Chief Executive Office and Board of Supervisors

Policy 1.3

Efforts to expand markets for the export of local agricultural products shall be encouraged.

Implementation Measure

1. The County shall support and encourage efforts to create and expand export programs which seek to expand markets for commodities produced in Stanislaus County.
   Responsible Departments: Agricultural Commissioners Office, Board of Supervisors.

Objective Number 1.2: Support the development of agriculture-related uses

Given its broad diversity, Stanislaus County agriculture involves a variety of commercial and industrial activities and requires a range of supplies and services. Roadside stands, processing services, maintenance and repair of farm machinery and equipment, custom farming services and similar agriculture-related uses are all important for the success of agriculture.

Some of these activities and support services may be most appropriately located on agricultural lands, where they are convenient and accessible to farmers and ranchers. On the other hand, some of these uses may interfere with agricultural operations. The determination of which commercial activities and support services belong on agricultural lands depends on their connection to agriculture, the potential for conflicts, the size, scale and adaptability of the use, and the amount of land lost to farming.

The A-2 (General Agriculture) zoning district of the County Zoning Ordinance encourages vertical integration of agriculture by organizing uses requiring use permits into three tiers based on the type of uses and their relationship to agriculture. Tier one includes uses closely related to agriculture such as nut hulling and drying, wholesale nurseries, and warehouses for storage of grain and other farm produce grown on-site or in proximity to the site. Tier two includes uses such as agricultural service establishments serving the immediately surrounding area and agricultural processing plants of limited scale. Tier three includes uses that are not directly related to agriculture but may be necessary to serve the A-2 district or difficult to locate in urban areas. Since tier three uses can be people-intensive and thus can adversely impact agriculture, they are generally directed to lands within LAFCO-adopted Spheres of Influence.

Agricultural service establishments designed to serve the immediate area and agricultural processing plants such as wineries and canneries are allowed when the Planning Commission finds that (1) they will not be substantially detrimental to or in conflict with the agricultural use of other property in the vicinity; (2) the establishment as proposed will not create a concentration of commercial and industrial uses in the vicinity; and (3) it is necessary and desirable for such establishment to be located within the agricultural area as opposed to areas zoned commercial or industrial. Limited visitor-serving commercial uses including retail sales, tasting rooms and/or facilities for on-site consumption of agricultural products are allowed in conjunction with agricultural processing facilities.

In general, agricultural service establishments can be difficult to evaluate due to their wide diversity of service types and service areas. This diversity often leads to requests for uses which provide both agricultural and non-agricultural services and/or have a wide-spread service area. Maintaining a focus on production agriculture is key to evaluating agricultural service establishments in the agricultural area. In order to control the scale and intensity of processing facilities, such as wineries and canneries, the County requires such facilities in the agricultural area to show a direct connection to production agriculture in Stanislaus County and applies limitations on the number of employees.

Visitor-serving commercial uses can be especially problematic. Direct marketing and promotion of local products is beneficial to the agricultural industry, yet the people who come to enjoy the rural setting may interfere with necessary farming practices. This "people versus practice" conflict makes it necessary to limit the location and intensity of visitor-serving commercial uses in agricultural areas.

Policy 1.4

Limited visitor-serving commercial uses shall be permissible in agricultural areas if they promote agriculture and are secondary and incidental to the area's agricultural production.

Policy 1.5

Agricultural service establishments shall be permissible in agricultural areas if they are designed to serve production agriculture in the immediately surrounding area as opposed to having a widespread service area, and if they will not be detrimental to agricultural use of other property in the vicinity.

Policy 1.6

Processing facilities and storage facilities for agricultural products either grown or processed on the site shall be permissible in agricultural areas.

Policy 1.7

Concentrations of commercial and industrial uses, even if related to surrounding agricultural activities, are detrimental to the primary use of the land for agriculture and shall not be allowed.

Policy 1.8

To encourage vertical integration of agriculture, the County shall allow research, production, processing, distribution, marketing, and wholesale and limited retail sales of agricultural products in agricultural areas, provided such uses do not interfere with surrounding agricultural operations.

Implementation Measure

1. The County will continue to implement its existing General Agriculture (A-2) zoning provisions for agriculture-related uses consistent with policies 1.6 - 1.10 of the Agricultural Element.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

Objective Number 1.3: Minimizing Agricultural Conflicts:

Urbanization and the proliferation of rural residences throughout the County has led to increased conflicts over agricultural operations. Homeowners complain about noise, odors, flies, chemical spraying and similar impacts of commercial agricultural practices; farmers complain about vandalism, theft and trespassing on farm properties. To minimize these conflicts, the County can implement a variety of tools designed to minimize the interaction between people and agriculture which results in the conflict. These tools include continuing to implement its right-to-farm ordinance, requiring buffers between non-agricultural development and adjacent agricultural operations, and establishing setbacks from agricultural zones.

Stanislaus County is one of many counties in California to have enacted a right-to-farm ordinance to protect farmers from nuisance suits as a result of normal farming practices. The ordinance requires disclosure to home buyers in farming areas that they are subject to noise, dust, odors, and other impacts of commercial agricultural operations. The ordinance also provides a notification system to make residents more aware of the right-to-farm policy and provides a voluntary agricultural grievance procedure as an alternative to court proceedings.

In practice, the right-to-farm ordinance primarily serves as a tool for making adjacent landowners aware of a right which cannot be fully protected by the ordinance. When faced with non-agricultural development in agricultural areas, farmers often lose their rights to implement normal farming practices, such as spraying, due to the increased risk of exposure to surrounding people. Without question, the right-to-farm ordinance is a critical tool in the effort to protect agricultural land, but beyond awareness it is limited in the true protection it can provide. The success of the right-to-farm ordinance is dependent on supporting policies limiting non-agricultural development in and around agricultural areas.

To lessen the impacts of development by minimizing conflicts between agricultural and non-agricultural uses, buffers should be required when incompatible development is approved in or adjacent to agricultural areas. A buffer is a physical separation such as a topographic feature, a substantial stand of trees, a water course, a landscaped berm or similar feature. Buffers serve as both a physical and visual barrier between agricultural uses and the people in non-agricultural areas. By separating incompatible uses, a buffer minimizes the impacts of non-agricultural development on surrounding agricultural operations and decreases the likelihood of conflict. Buffers are not intended to stop people from entering an area, but rather to limit people as a means of avoiding a situation where conflict is known. Buffers need to take into account 'no spray' policies enforced by the Agricultural Commissioner.

Setbacks from agricultural zones also help minimize conflicts over agricultural practices. For example, standards for residential zones may be amended to require all structures be setback a specified distance from an adjacent agricultural zone. Standards will need to take into account existing residential areas where lots may be too small to accommodate effective setbacks. However, the purpose for adopting setback standards is to insure existing circumstances which have resulted in conflict over agricultural practices are not repeated. As with buffers, setbacks need to take into account 'no spray' policies.

Impacts to agriculture also occur when lands are removed from agricultural production and remain fallow or crops are abandoned. While this type of impact generally occurs on the edge of urban development, it can also occur in the middle of an agricultural area. Fallow and abandoned farmland becomes habitat to invasive and noxious pests which may damage plants, lower production, and cause the need to increase the use of pesticides and rodenticides on adjacent farmland. State law grants authority to the County Agricultural Commissioner to address these type of nuisances, but it ultimately is the responsibility of individual property owners to avoid impacting adjacent farmland.

Policy 1.9

The County shall continue to protect agricultural resources by limiting the circumstances under which agricultural operations may be deemed to constitute a nuisance.

Implementation Measures

1. The County shall continue to implement the Right-to-Farm ordinance.
   Responsible Departments ***Tax Collector, Clerk Recorder, Planning Department (Planning and Building Permits Divisions), Planning Commission, Board of Supervisors***

2. The County shall utilize complaints related to agricultural activities as educational opportunities.
   Responsible Departments: ***Agricultural Commissioner, Planning Department, Board of Supervisors***

Policy 1.10

The County shall protect agricultural operations from conflicts with non-agricultural uses by requiring buffers between proposed non-agricultural uses and adjacent agricultural operations.

Implementation Measures

1. The County shall require buffers and setbacks for all discretionary projects introducing or expanding non-agricultural uses in or adjacent to an agricultural area consistent with the guidelines presented in Appendix "A".
   Responsible Departments: ***Planning Department, Agricultural Commissioner, Planning Commission, Board of Supervisors***

Policy 1.11

The County shall support state regulations requiring landowners to manage noxious weeds and pests on fallow or abandoned lands.

Implementation Measure

1. The Agricultural Commissioner shall enforce state regulations requiring landowners to manage noxious weeds and pests on fallow or abandoned lands.
   Responsible Departments: ***Agricultural Commissioner, Board of Supervisors***

Objective Number 1.4: Provide Housing for Farmworkers

Efficient farm management requires a stable work force to provide labor when needed. To ensure the availability of that labor, adequate numbers of employees must be housed on both a temporary and a permanent basis. Farmworker housing issues involve the location, amount and type of housing for seasonal and year-round farm workers.

State and federal housing programs for farm workers in Stanislaus County are administered by the Stanislaus County Housing Authority, which is an independent public agency entirely separate from County government. Farmworker housing projects currently administered by the Housing Authority are located throughout the County. Other efforts to provide farmworker housing come mainly from individual farmers. The Stanislaus County Department of Environmental Resources is the local agency responsible for enforcing state regulations of farmworker housing.

The County appoints the Housing Authority Board, which is the agency's policy-making body, and otherwise assists the Housing Authority as outlined in a cooperative agreement. The Housing Element of the General Plan includes a commitment that the County shall continue to assist the Housing Authority in its administration of state and federal housing programs for farm workers.

The General Agriculture (A-2) zoning district allows, with use permit, farm labor camps and permanent housing for persons employed on a full-time basis in connection with any agricultural work or place where agricultural work is being performed. The County Zoning Ordinance also recognizes the use of manufactured housing (mobile homes) under a temporary permit when specific criteria can be met to substantiate the need to provide housing for a full-time employee. Manufactured housing (mobile homes) are preferred over standard housing because they can be moved off the property if circumstances change and the employees are no longer needed.

Policy 1.12

To help provide a stable work force for agriculture, the County shall continue to facilitate efforts of individuals, private organizations and public agencies to provide safe and adequate housing for farm workers.

Implementation Measures

1. The County shall continue to implement the farm worker housing policies of the Housing Element of the General Plan. The County also shall facilitate the efforts of other public agencies, private organizations and individuals to provide safe and adequate housing for farm workers.
   Responsible Departments: Planning Department, Board of Supervisors

2. The Stanislaus County Department of Environmental Resources shall continue to enforce state regulations regarding farmworker housing.
   Responsible Departments: Department of Environmental Resources

3. The County shall consider adoption of expedited permitting procedure for construction of temporary farmworker housing.
   Responsible Departments: Department of Environmental Resources, Planning Department, Planning Commission, Board of Supervisors

Policy 1.13

Temporary housing for full-time farm employees in connection with any agricultural work or place where agricultural work is being performed shall be supported.

Policy 1.14

Permanent, new housing for seasonal farm workers preferably shall be located in areas supplied with public sewer and water services.

Policy 1.15

Housing for year-round, full-time farm employees shall be permissible in addition to the number of dwellings normally allowed by the density standard.

Implementation Measure

1. The County shall continue to implement existing General Agriculture (A-2) zone provisions for farmworker housing consistent with policies 1.16 - 1.18 of the Agricultural Element.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

Objective Number 1.5: Support Education and Technical Assistance

Farmers and ranchers often lack the means to undertake the wide range of activities necessary to pursue new agricultural market opportunities and develop new products. Public educational institutions, including the University of California, California State University Stanislaus, and Modesto Junior College all provide some form of technical assistance to agriculture. However, these public institutions can be better utilized to help agricultural groups and individuals conduct market analyses, identify direct marketing opportunities, promote exports, and coordinate other economic development activities in support of local agriculture.

Vocational agriculture programs provide education and hands-on experience for high school and MJC students in Stanislaus County. The 4-H and Future Farmers of America (FFA) programs also play an important role in agricultural education. 4-H programs are part of the U.C. Cooperative Extension, which receives County funding. FFA programs operate in conjunction with vocational agriculture programs in the public high schools and are not directly related to U.C. Cooperative Extension. However, U.C. Cooperative Extension works with vocational agriculture teachers and provides assistance to vocational agriculture programs, both at the high school and the junior college levels.

Several public agencies conduct agricultural research and provide educational services at the County level: the U.S.D.A. Natural Resource Conservation Center, the East and West Stanislaus Resource Conservation Districts, U.C. Cooperative Extension and the Stanislaus County Agricultural Commissioner's office. Three of these agencies are centrally located in the County Agricultural Center.

Policy 1.16

Public education institutions shall be encouraged to provide more technical assistance related to agricultural economic development in Stanislaus County.

Policy 1.17

The County shall continue to encourage vocational agriculture programs in local high schools and at Modesto Junior College.

Policy 1.18

Public agencies providing agricultural services shall be encouraged to continue agricultural research and education.

Policy 1.19

The County shall continue to encourage 4-H and FFA programs for local youth.

Implementation Measures

1. Local 4-H programs will be encouraged by continued support of U.C. Cooperative Extension.
   Responsible Departments: ***U.C. Cooperative Extension, Agricultural Advisory Board, Board of Supervisors***

2. The County will continue to support the County fair, which involves vocational agriculture, FFA and 4-H programs.
   Responsible Departments: ***U.C. Cooperative Extension, Agricultural Advisory Board, Board of Supervisors***

Policy 1.20

The County shall continue to support the Agricultural Center where offices of public agencies providing agricultural services are centrally located.

Implementation Measure

1. The County will continue to support the County Agricultural Center that houses the public agencies directly related to agriculture, including the U.C. Cooperative Extension, the Agricultural Commissioner, the U.S. Department of Agriculture, and the California Department of Food and Agriculture.
   Responsible Departments: ***U.C. Cooperative Extension, Agricultural Commissioner, Board of Supervisors***

Objective Number 1.6: Protect Food Safety

~~The lack of consumer confidence in food can be costly to the agricultural community.~~ **A safe food supply is a major concern to all consumers and, as such, is critical to the economic health of our agricultural community. Food borne pathogen outbreaks, t**~~T~~he use of chemicals in growing and storing crops, the use of antibiotics and hormones in raising poultry and livestock, and the use of radiation to prolong the shelf-life of our food are types of ~~agricultural practices~~ issues that worry consumers who are concerned about food safety and its long-term impacts on their health.

Food borne pathogen outbreaks related to agricultural production practices and operations, whether confirmed or alleged through media sources, can be extremely costly and greatly impact agriculture. The Food Safety Modernization Act (FSMA) authorizes the United States Department of Agriculture (USDA) to develop more extensive regulations and guidelines designed to prevent food borne illness through recordkeeping and trace back requirements of agricultural commodities. The Agricultural Commissioner who is responsible for promoting and protecting the agricultural industry will likely be the local arm of government responsible to assist in implementing provisions of the FSMA. Such a program will be designed to quickly address reports of food borne pathogen outbreaks and to diminish impacts to the agricultural industry and the community in general.

The public is also concerned about the impact of agricultural chemicals on the environment. Air, soil and water quality problems can result from the unsafe application and disposal of agricultural chemicals. A viable agricultural industry requires a sustainable regulatory framework promoting economic viability and environmental safety.

The primary responsibility for regulating and monitoring the sale and use of pesticides rests with the California Department of Pesticide Regulation, which classifies and registers pesticides, and the Stanislaus County Agricultural Commissioner, who issues permits to possess and use restricted

pesticides. In general, no restricted **pesticide** material can be possessed or used in any way until the applicator has obtained a permit from the Agricultural Commissioner. The Agricultural Commissioner also operates programs for the inspection of fruits, vegetables and eggs to ensure quality produce; the inspection of nurseries and seed crops to guard against diseases and inferior plants; pest exclusion to prevent crop-destroying pests from becoming established in California; and pest detection to find pests at the lowest population and in the smallest area possible in order to minimize the effects and costs of an eradication program.

The U.C. Cooperative Extension conducts educational and applied-research programs in integrated pest management and all other aspects of pest control.

Policy 1.21

The County shall continue to work with local, state and federal agencies to ensure the safety of food produced in Stanislaus County and to maintain a local regulatory framework promoting environmental safety while ensuring the economic viability of agriculture.

Implementation Measures

1. The Agricultural Commissioner will continue to work with government agencies and farmers to ensure the safe use of agricultural chemicals.
   Responsible Departments: Agricultural Commissioner, U.C. CooperativeExtension

2. As regulations are established, the Agricultural Commissioner will work with state and federal agencies and the farming community in the implementation of a food safety program to include a record keeping and trace back system to ensure minimal impacts related to food borne pathogens and associated outbreaks.
Responsible Departments: Agricultural Commissioner

3. The County shall support the rights of growers to utilize the widest range of newest available technologies.
Responsible Departments: Agricultural Commissioner, U.C. Cooperative Extension, Board of Supervisors

~~42.~~ The U.C. Cooperative Extension will continue to conduct educational and applied-research programs to promote food safety and agricultural practices that are environmentally sound.
Responsible Departments: Agricultural Commissioner, U.C. Cooperative Extension

Objective Number 1.7: Encourage Regional Coordination in the Central Valley

The Central Valley has long been one of the premier agricultural regions in the world. Yet the Central Valley's population is growing rapidly, resulting in far-reaching demographic, social and economic changes. Some of the most obvious changes include crowded highways, polluted air, and homes and shopping centers sprouting from what used to be farmland. These types of regional impacts will likely have cumulative effects on agriculture, exerting a powerful influence over its future viability in the Central Valley.

One way to address regional impacts of growth and help ensure the continued success of agriculture in the Central Valley is to encourage regional coordination among the various counties and cities in the Central Valley. Currently there are nine councils of government in the Central Valley, including Stanislaus Council of Governments (StanCOG). These groups provide a forum for communication between the County government and municipalities within the County. However, there is no agency that coordinates planning and development activities of counties and cities for

the entire Central Valley.

Policy 1.22

The County shall encourage regional coordination of planning and development activities for the entire Central Valley.

Implementation Measure

1. The County shall participate in regional efforts to address long-range planning, infrastructure, conservation and economic development issues facing the Central Valley.

   Responsible Departments: Board of Supervisors

GOAL TWO

Conserve our agricultural lands for agricultural uses.

Agricultural land is a finite, irreplaceable resource. Once agricultural land has been taken out of production and paved over to provide streets for residential subdivisions and parking lots for shopping centers, it is not likely to be farmed again. The urbanization of productive agricultural land means the permanent loss of an irreplaceable resource.

With population in the Central Valley projected to increase dramatically, Stanislaus County faces greater pressure to convert agricultural lands to non-farm residential, commercial and industrial uses. The policies presented in Goal Two of this document are intended to provide a practical, effective framework for land-use decisions regarding agricultural lands, with the overall goal of conserving agricultural lands for agricultural uses.

While not all agricultural land in Stanislaus County can be conserved, it is possible to protect agricultural areas through a combination of agricultural zoning and policies that clearly direct growth to cities and unincorporated communities with appropriate services to foster a sustainable community. By balancing the need to create housing and job opportunities for an expanding population with the need to protect our agricultural lands, we will help ensure the continued success of local agriculture.

Unlike urbanization, the parcelization of farmland has the potential to result in a gradual loss of farmland associated with the creation of parcels for 'residential purposes' and not 'agricultural purposes'. Parcels created in the agricultural area for 'residential purpose' are commonly referred to as 'ranchette' parcels. Ranchettes are characterized as rural homesites valued primarily for their residential development potential. What is classified as a ranchette size will vary based on soil type, terrain, irrigation water availability and other such factors. The land costs associated with ranchettes are driven by residential potential which cannot be supported by the agricultural income potential of the land. As the use of land transitions from production agriculture to ranchettes, landowner priorities in the areas shift from the protection of agricultural rights to the protection of residential rights.

In recognition of the legitimate agricultural reasons for parcelization of farmland there are options available to insure ranchettes are not inadvertently created. These options include maintaining minimum parcel size requirements suitable for production agriculture, restricting use of farmland to production agriculture, and establishing 'no build' provisions for the development of dwellings on newly created parcels which are not used for production agriculture or capable of production agriculture. These option may also be applied to lot line adjustments of farmland, which also have the potential to result in the creation of ranchette parcels.

Objective Number 2.1: Continued Participation in the Williamson Act

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, is a tax relief measure for owners of farmland. The Williamson Act permits a landowner, whose land is used for farming, to sign a contract with the County guaranteeing that the land will continue to remain in farming for a period of at least ten years. In return for this guarantee, the County assesses taxes based on the agricultural value of the land rather than the market value. Generally, this means taxes for a farmer are reduced, sometimes greatly. Participation in the Williamson Act,

has been a fundamental part of Stanislaus County's agricultural land conservation program.

Local jurisdictions implement the Williamson Act by adoption of agricultural preserves and rules governing the administration of the agricultural preserves. Adopted rules must be applied uniformly throughout the preserves and, as such, are commonly termed uniform rules. Stanislaus County has adopted the A-2 (General Agricultural) zoning district as its agricultural preserve. While the Williamson Act itself does not establish permitted uses within an agricultural preserve, permitted uses must be consistent with Principles of Compatibility outlined within the Williamson Act. The Williamson Act does establish presumed minimum parcel sizes for lands enrolled under contract. Minimum parcel sizes apply to both the creation of new parcels and parcels involved in a lot line adjustment.

The local governing jurisdiction has the ability to establish compatible uses, alternative minimum parcel sizes, and criteria for lot line adjustment based on the individualized needs of the community, provided the overall purpose and minimum standards of the Act are maintained.

Generally, the Williamson Act enjoys widespread support among landowners and government officials. The Williamson Act has helped to stabilize farm income and keep many operators in business by limiting the tax burden on contracted parcels. The Open Space Subvention Program, which is the companion to the Williamson Act, requires the State to partially reimburse local governments for forgone property tax revenues.

Stanislaus County has voluntarily participated in the Williamson Act program since 1970. Although the County's participation rate is one of the highest in the state, the percentage of land enrolled under contract has declined by four percent since the height of enrollment in 1981-82. The decline is primarily attributed to lands annexed by cities and contracts which have expired as result of notices of nonrenewal filed by property owners. Notices of nonrenewal are common in areas adjacent to city boundaries and unincorporated communities where development pressures are increasing. The passage of state legislation in 2003 establishing procedures and penalties for material breach of contracts have resulted in an increase of notices of nonrenewal throughout the entire A-2 zoning district.

Despite the trend of increasing notices of nonrenewal, cancellation requests in Stanislaus County have remained low. Generally, the Williamson Act continues to be an effective tool to help keep agricultural land in agricultural use. One reason for the increase in notices of nonrenewal may be attributed to the significant number of undersized parcels currently enrolled under contract. Since the County started participating in the Williamson Act, there have been periods when no minimum parcels size requirements existed for enrollment under contract. Currently, a minimum of 10-acres is required for enrollment under contract. While these undersized parcels may not benefit, they do face restrictions. The County has taken action to notify owners of undersized parcels of the process of nonrenewal, but few have taken advantage of the process. Increases in notices of nonrenewal in recent years have been the result of changes in State legislation.

Policy 2.1

The County shall continue to provide property tax relief to agricultural landowners by participating in the Williamson Act.

Implementation Measure

1. The County shall continue to participate in the Williamson Act, thereby providing property tax relief to farmers and ranchers who volunteer to keep their land in agricultural use.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors.

Policy 2.2

The County shall support reasonable measures to strengthen the Williamson Act, making it a more effective tool for the protection of agricultural land.

Implementation Measures

1. The County shall encourage the State Legislature to increase Williamson Act subvention payments to local governments based on cost-of-living increases and/or a restructuring of the Williamson Act subventions schedule.
   Responsible Departments: Chief Executives Office, Board of Supervisors.

2. The County will supplement the Williamson Act with other conservation tools in a comprehensive program for the protection of agricultural land.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

Policy 2.3

The County shall ensure all lands enrolled in the Williamson Act are devoted to agricultural and compatible uses supportive of the long-term conservation of agricultural land.

Implementation Measure

1. The County shall initiate the filing of notices of nonrenewal on any parcel being used, or of a size, inconsistent with adopted uniform rules and applicable state regulations.
   Responsible Departments: Planning Department, Assessors Office, Board of Supervisors

Objective Number 2.2: Discourage urbanization and the conversion of agricultural land in unincorporated areas of the County

In Stanislaus County, urbanization and farmland conversion are like two sides of the same coin. As urban areas expand to accommodate a growing population, surrounding farmland is converted to residential subdivisions, shopping centers and industrial parks.

Like many other farming areas, the towns in Stanislaus County began as agricultural service centers and located where the farms were, on the valley floor. As these towns have expanded beyond their original functions, they have expanded outward onto our richest, most productive soils. Today, population growth continues to push urban development onto farmland once in agricultural production. If the trend continues outward onto productive agricultural land to accommodate population growth, the resource base of our biggest industry will be seriously threatened.

Remote development, or development that takes place away from existing cities or urban centers, has traditionally been discouraged by planners and County officials in favor of the compact expansion of already existing urban centers. Existing County policy regarding remote development is stated in Policy Ten of the Land Use Element: "New areas for urban development (as opposed to

expansion of existing areas) shall be limited to less productive agricultural areas." In theory remote development offers a better alternative to the unlimited expansion of established cities and towns into our most productive agricultural areas. However, the benefits of remote development are diminished by the impact to surrounding agricultural uses and the introduction of urban infrastructure in an agricultural area. In defining the County's most productive agricultural areas, it is important to recognize that soil types alone should not be the determining factor. With modern management techniques, almost any soil type in Stanislaus County can be extremely productive. At the same time, many of our most valuable agricultural commodities are produced on lesser quality soils. For example, milk is the County's top-grossing commodity and yet most of the dairy farms in Stanislaus County are located in areas that might be considered less productive agricultural lands, based solely on soil capability. Although soil types should be considered, the designation of "most productive agricultural areas" also should be based on existing uses and their contributions to the agricultural sector of our economy.

Conversion of agricultural land also occurs when nonagricultural uses are introduced into agricultural areas and when agricultural land is parceled or adjusted into sizes too small to sustain an agriculturally viable independent farming operation. The County's Agricultural land use designation and corresponding A-2 (General Agriculture) zoning recognize ranchette areas with minimum lot size requirements of 3, 5,10, and 20 acres. Ranchette areas have been identified based on significant existing parcelization of property, poor soil, location, and other factors which limit the agricultural productivity of the area. The inclusion of ranchette minimum parcel sizes in the A-2 zoning district creates the potential for future expansion of ranchette areas without the need to amend the lands Agricultural land use designation.

Policy 2.4

To reduce development pressures on agricultural lands, higher density development and in-filling shall be encouraged.

Implementation Measure

1. The County shall encourage higher density development and in-filling of already-existing urban areas.
   Responsible Departments: Planning Department, Board of Supervisors

Policy 2.5

To the greatest extent possible, development shall be directed away from the County's most productive agricultural areas.

Implementation Measure

1. Until the term "Most Productive Agricultural Areas" is defined on a countywide basis, the term will be determined on a case-by-case basis when a proposal is made for the conversion of agricultural land. Factors to be considered include but are not limited to soil types and potential for agricultural production; the availability of irrigation water; ownership and parcelization patterns; uniqueness and flexibility of use; the existence of Williamson Act contracts; existing uses and their contributions to the agricultural sector of the local economy. As an example, some grazing lands, dairy regions and poultry-producing areas as well as farmlands can be considered "Most Productive Agricultural Areas." Failure to farm specific parcels will not eliminate them from being considered "Most Productive Agricultural Areas." Areas considered to be "Most Productive Agricultural Areas" will not include any land within LAFCO-approved Spheres of Influence of cities or community

services districts and sanitary districts serving unincorporated communities.
Responsible Departments: ***Planning Department, Agricultural Commissioner, Planning Commission, Board of Supervisors***

2. Uses on agricultural land located outside a LAFCO-adopted Sphere of Influence shall be primarily devoted to agricultural and compatible uses supportive of the long-term conservation of agricultural land. Agriculturally - related uses needed to support production agriculture and uses which by their unique nature are not compatible with urban uses, may be allowed on agricultural land provided they do not conflict with the agricultural use of the area.
Responsible Departments: ***Planning Department, Planning Commission, Board of Supervisors***

3. The County shall encourage the development of alternative energy sources on lands located outside "Most Productive Agricultural Areas".
Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

Policy 2.6

Agricultural lands restricted to agricultural use shall not be assessed to pay for infrastructure needed to accommodate urban development.

Implementation Measure

1. The County shall continue to exempt agricultural buildings designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products from payment of Public Facility Fees. Exempt structures shall not be a place of human habitation or a place of employment where agricultural products are processed, treated or packaged, nor shall it be a place used by the public.
Responsible Departments: ***Board of Supervisors***

Policy 2.7

Proposed amendments to the General Plan Diagram (map) that would allow the conversion of agricultural land to non-agricultural uses shall be approved only if they are consistent with the County's conversion criteria.

Implementation Measure

1. Procedures for processing General Plan amendments shall incorporate the following requirements for evaluating proposed amendments to the General Plan Diagram (map) that would allow the conversion of agricultural land to urban uses:

   Conversion Consequences. The direct and indirect effects, as well as the cumulative effects, of the proposed conversion of agricultural land shall be fully evaluated.

   Conversion Considerations. In evaluating the consequences of a proposed amendment, the following factors shall be considered: plan designation; soil type; adjacent uses; proposed method of sewage treatment; availability of water, transportation, public utilities, fire and police protection, and other public services; proximity to existing airports and airstrips; impacts on air and water quality, wildlife habitat, endangered species and sensitive lands; and any other factors that may aid the evaluation process.

   Conversion Criteria. Proposed amendments to the General Plan Diagram (map) that would allow the conversion of agricultural land to urban uses shall be approved only if the Board of Supervisors makes the following findings:

   A. Overall, the proposal is consistent with the goals and policies of the General Plan.
   B. There is evidence on the record to show a demonstrated need for the proposed project based on population projections, past growth rates and other pertinent data.
   C. No feasible alternative site exists in areas already designated for the proposed uses.
   D. Approval of the proposal will not constitute a part of, or encourage, piecemeal conversion of a larger agricultural area to non-agricultural uses, and will not be growth-inducing (as used in the California Environmental Quality Act).
   E. The proposed project is designed to minimize conflict and will not interfere with agricultural operations on surrounding agricultural lands or adversely affect agricultural water supplies.
   F. Adequate and necessary public services and facilities are available or will be made available as a result of the development.
   G. The design of the proposed project has incorporated all reasonable measures, as determined during the CEQA review process, to mitigate impacts to agricultural lands, fish and wildlife resources, air quality, water quality and quantity, or other natural resources.

   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

Policy 2.8

In order to further the conservation of agricultural land, the subdivision of agricultural lands shall not result in the creation of parcels for 'residential purposes'. Any residential development on agriculturally zoned land shall be incidental and accessory to the agricultural use of the land.

Implementation Measure

1. The subdivision of agricultural land consisting of unirrigated farmland, unirrigated grazing land, or land enrolled under a Williamson Act contract, into parcels of less than 160-acres in size shall be allowed provided a "no build" restriction on the construction of any residential development on newly created parcel(s) is observed until one or both of the following criteria is met:
   - 90% or more of the parcel shall be in production agriculture use with its own on-site irrigation infrastructure and water rights to independently irrigate. For land which is not irrigated by surface water, on-site irrigation infrastructure may include a self-contained drip or sprinkler irrigation system. Shared off-site infrastructure for drip or sprinkler irrigation systems, such as well pumps and filters, may be allowed provided recorded long-term maintenance agreements and irrevocable access easements to the infrastructure are in place .
   - Use of the parcel includes a confined animal facility (such as a commercial dairy, cattle feedlot, or poultry operation) or a commercial aquaculture operation.

   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors.

Policy 2.9

Lot-line adjustments involving agricultural land shall be primarily created and properly designed for agricultural purposes without materially decreasing the agricultural use of the project site.

Implementation Measure

1. In terms of minimum parcel size and residential building intensity, a greater number of nonconforming parcels shall not be created by lot-line adjustment. The following criteria shall apply when nonconforming parcels are involved in a lot-line adjustment:
   - Nonconforming parcels greater than 10-acres in size shall not be adjusted to a size smaller than 10-acres, unless the adjustment is needed to address a building site area or correct for a physical improvement which is found to encroach upon a property line. In no case shall a parcel enrolled in the Williamson Act be reduced to a size smaller than 10-acres.
   - Nonconforming parcels less than10-acres in size may be adjusted to a larger size, 10 acres or greater in size if enrolled in the Williamson Act, or reduced, if not enrolled in the Williamson Act, as needed to address a building site area or correct for a physical improvement which is found to encroach upon a property line.

   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors.

Policy 2.10

Minimum parcel sizes allowed for lands designated Agriculture shall not promote the expansion of existing, or creation of new, ranchette areas.

Implementation Measures

1. Minimum parcel sizes of 40- or 160- acres shall be appropriate for lands designated Agriculture.

   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. In recognition of 3-, 5-, 10, and 20- acre minimum parcel sizes being appropriate for ranchette areas, no additional land designated as Agriculture shall be rezoned to A-2-3, 5, 10, or 20.

   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

3. The County shall evaluate and modify as needed, the remote development policy of the Land Use element as part of a comprehensive General Plan update to insure such development does not impact surrounding agricultural uses or introduce urban infrastructure into an agricultural area.

   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

Objective Number 2.3: Expansion of Cities and Unincorporated Communities

The Stanislaus Local Agency Formation Commission (LAFCO) is the local agency responsible for coordinating logical and timely changes in local governmental boundaries, including Spheres of Influence (SOI). The spheres of influence delineate the probable ultimate boundaries and service areas of the cities, and are intended to promote the efficient provision of urban services, including sewer, water, police protection and fire protection. Similarly, community services districts and sanitary districts serving unincorporated communities also have adopted spheres of influence that indicate their probable ultimate boundaries. LAFCO's efforts are directed to seeing that services are provided efficiently and economically while agricultural and open-space lands are protected.

With the approval of LAFCO, spheres of influence can be expanded to accommodate growth. The question of whether or not proposed expansions should be allowed is decided solely by LAFCO. LAFCO is an independent agency created by state law. In Stanislaus County the LAFCO is composed of two county supervisors; two city council representatives; and one public member. As an independent agency, LAFCO is not required to adhere to county policies, but state law requires LAFCO to consider conformity with all applicable general plans in the review of all proposals. As such, this agricultural element, and the county general plan as a whole, can have an effect on the actions of LAFCO.

In recognition that unincorporated land within the established spheres of influence will be urbanized, these lands generally are designated Agriculture and zoned General Agriculture (A-2) until annexed by the city or special district.

Existing policy in the Land Use Element delineates the County's role in managing the development of agriculturally zoned lands within city spheres of influence. Reflecting agreements between the County and all nine cities, these policies provide that the County shall refer all development proposals to the appropriate city to determine whether or not the proposal should be approved. Development, other than agricultural uses and churches, cannot be approved by the County unless written communication is received from the city memorializing their approval.

The Land Use Element also includes policies regarding the development of unincorporated communities and the expansion of urban boundaries (Policies Six and Thirteen). The County is actively encouraging the upgrading of unincorporated communities through the redevelopment and community development block grant programs, which provide significant tools for improving infrastructure and enhancing the quality of life in these areas.

Policy 2.11

The County recognizes the desire of cities and unincorporated communities to grow and prosper and shall not oppose reasonable requests consistent with city and county agreements to expand, provided the resulting growth minimizes impacts to adjacent agricultural land.

Implementation Measures

1. The County shall continue to urge LAFCO to strengthen its policies, standards and procedures for evaluating proposed annexations of agricultural land and proposed expansions of service districts or spheres of influence onto agricultural land to insure resulting urban growth minimizes impacts to adjacent agricultural lands.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors, Agricultural Commissioner

2. The County shall actively review LAFCO referrals to insure proposed projects are consistent with County General Plan polices.
   Responsible Departments: Planning Department, Agricultural Commissioner, Board of Supervisors

Policy 2.12

In order to minimize impacts to adjacent agricultural land, the County shall encourage LAFCO to use physical features such as roads and irrigation laterals as the boundaries for sphere of influence expansions.

Implementation Measure

1. The County shall encourage LAFCO to consider buffer guidelines adopted by the County when cities or community services districts and sanitary districts serving unincorporated communities propose to expand their boundaries.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors, Agricultural Commissioner

Policy 2.13

In recognition that unincorporated land within spheres of influence of cities or community services districts and sanitary districts serving unincorporated communities ultimately will be urbanized, the County shall cooperate with cities and unincorporated communities in managing development in sphere of influence areas.

Implementation Measures

1. The County will continue to implement its policies and agreements with cities regarding the development of unincorporated lands within spheres of influence.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

2. The County will continue to implement policies in the Land Use Element regarding the development of unincorporated communities and expansion of their urban, or service district, boundaries.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

Objective Number 2.4: Assessing and mitigating Impacts of farmland conversion

The conversion of agricultural land to non-agricultural uses has far-reaching impacts on the land, water and air resources that support our biggest industry. For example, taking out an almond orchard to accommodate urban development may involve paving over groundwater recharge areas, which will have a long-term effect on groundwater resources. Similarly, new roads providing access to the development may increase traffic congestion, resulting in a cumulative impact on air quality.

The California Environmental Quality Act (CEQA) requires the County to consider the environmental consequences of development-related projects and to ensure that adverse environmental impacts are avoided or minimized as much as possible. If the County determines in its Initial Study that a project could have a significant adverse environmental effect, the County must require preparation of an Environmental Impact Report (EIR) to fully assess potential impacts, propose ways to minimize or mitigate those impacts, and consider alternatives to the proposed project. The County may approve a project only if mitigation measures are adopted whenever feasible to avoid or reduce all significant environmental impacts or findings of 'overriding considerations' are adopted.

Under CEQA Guidelines, the County has some discretion in determining whether the conversion of agricultural land will have a significant adverse effect on the environment. A project will normally have a significant effect on the environment if it will convert prime agricultural land to non-agricultural use or impair the productivity of prime agricultural land. "Prime agricultural land" is not defined under CEQA. Several attempts have been made in years past to allow or require local governments to establish a threshold of agricultural land loss for the purpose of determining a significant effect on the environment and thereby necessitating an EIR. However, instead of using an arbitrary threshold such as 100 acres to trigger an EIR, the County prefers to evaluate each project on a case-by-case basis. When the County determines that under the specific circumstances of the proposed project the conversion of agricultural land could have a significant effect, the County requires preparation of an EIR.

The analysis of the impacts of farmland conversion are often limited to a discussion of the prime soils that the project would make unavailable for farming, but rarely identifies the impacts on surrounding farming operations. Neither CEQA nor the State CEQA Guidelines contain detailed procedures or guidance concerning when and how agencies should address farmland conversion impacts. The County may amend its own CEQA Guidelines to include local guidelines for assessing the impacts of farmland conversion.

A common strategy for mitigating the loss of farmland is to require the permanent protection of farmland based on an identified ratio to the amount of farmland converted. A viable option for permanent protection is purchase of an agricultural conservation easement on farmland. Agricultural conservation easements generally restrict the non-agricultural use of property in perpetuity and are overseen by a trust established with a goal of promoting farmland conservation. The purchase of agricultural conservation easements is typically accomplished in one of two methods: 1) the developer works directly with a trust to purchase the required conservation easement prior to development or 2) the developer pays a fee to be used by a trust to purchase an agricultural conservation easement at a later date. While payment of a fee is typically easier for the developer, it is not always a guaranteed method to attaining the desired results. Fees paid at current cost may not keep pace with the escalating land costs and trusts must recover the cost of administering fees until a conservation easement is purchased. At the same time, a landowner wanting to sell an agricultural conservation easement may not be available at the time a development project is approved. A mitigation program focused on agricultural conservation easements must maintain a balance between the practical acquisition and actual cost of agricultural conservation easements.

To be effective, lands placed under easement must be strategically located to insure the viability of the surrounding farmland is protected. An isolated island of agricultural land surrounded by development or agriculturally non-viable parcels has little positive impact on efforts to protect farmland.

Policy 2.14

When the County determines that the proposed conversion of agricultural land to non-agricultural uses could have a significant effect on the environment, the County shall fully evaluate on a project-specific basis the direct and indirect effects, as well as the cumulative effects of the conversion.

Implementation Measures

1. The County will continue to evaluate each project on a case-by-case basis to determine whether the conversion of agricultural land will have a significant adverse effect on the environment.
   Responsible Departments: Agricultural Commissioner, UC Cooperative Extension, Planning Department, Planning Commission, Board of Supervisors.

2. When it determines that the conversion of agricultural land will have a significant adverse effect on the environment, the County will continue to require preparation of an EIR to fully assess the impacts of the conversion, propose mitigation measures, and consider alternatives to the proposed project.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors.

Policy 2.15

In order to mitigate the conversion of agricultural land resulting from a discretionary project requiring a General Plan or Community Plan amendment from 'Agriculture' to a residential land use designation, the County shall require the replacement of agricultural land at a 1:1 ratio with agricultural land of equal quality located in Stanislaus County.

Implementation Measure

1. Mitigation shall be applied consistent with the Farmland Mitigation Program Guidelines presented in Appendix "B".
   Responsible Departments: Agricultural Commissioner, UC Cooperative Extension, Planning Department, Planning Commission, Board of Supervisors.

Policy 2.16

The County shall participate in local efforts to identify strategic locations for the purchase of agricultural conservation easements by land trusts and shall promote the long-term viability of farmland in areas surrounding existing farmland held under conservation easements.

Implementation Measure

1. To facilitate the mitigation of the impacts of farmland conversion, the County may make information available on private, non-profit agricultural land trusts, may serve on committees that are formed for the purpose of establishing an agricultural land trust, and may coordinate County mitigation programs with the land trust once it is established.
   Responsible Departments: Agricultural Commissioner, UC Cooperative Extension, Planning Department, Planning Commission, Board of Supervisors.

Policy 2.17

The County shall work cooperatively with the nine cities within the County and to encourage them to adopt agricultural conservation policies or ordinances which are consistent with County policies or ordinances in order to undertake an integrated, comprehensive Countywide approach to farmland conservation. It is the ultimate goal of the County to have all nine cities participate in or adopt an agricultural mitigation ordinance that is the same as or substantially similar.

Implementation Measure

1. The County shall facilitate efforts to have all nine cities participate in or adopt an agricultural mitigation ordinance that is the same as or substantially similar to adopted County ordinances addressing agricultural mitigation.

Objective Number 2.5: Limit the Impact of Antiquated Subdivisions

One of the biggest threats to Stanislaus County's agricultural economy is the potential creation of hundreds of ranchettes in antiquated subdivisions.

Antiquated subdivisions are subdivisions created in the early part of the 1900's and exist on paper but have never been developed or sold in lots. Numerous antiquated subdivisions are located throughout Stanislaus County, involving more than 3,000 lots ranging in size from 3,250 square feet to 20 acres or more. If these lots were sold and developed, the loss of agricultural land coupled with the impact on surrounding agricultural operations could be devastating to the long-term viability of the agricultural economy.

Created prior to enactment of the State Subdivision Map Act and the California Environmental Quality Act, antiquated subdivisions were created without any kind of formal review to evaluate their economic and environmental consequences to the County. In addition to having adverse impacts on agriculture, antiquated subdivisions pose a variety of environmental threats including groundwater contamination from the concentration of on-site septic systems and the generation of dust and auto emissions from increased traffic on unimproved access roads. The County's ability to provide emergency services such as fire protection, sheriff and ambulance services also could be adversely affected. Similarly, potential impacts of antiquated subdivisions on schools, parks and recreation have never been fully evaluated.

In 2000 the Stanislaus County Board of Supervisors amended the County Zoning Ordinance to address antiquated subdivisions. The amendment addresses antiquated subdivisions in the General Agriculture (A-2) zoning district by limiting the ability to place a dwelling on parcels of less than 20-acres in size without approval of a discretionary permit. The ordinance is based on the need to find the dwelling will be consistent with the County's General Plan, will not likely create a concentration of residential uses in the vicinity or induce other similarly situated parcels to become developed with single-family dwellings, and will not be substantially detrimental to or in conflict with

agricultural uses of other property in the vicinity.

Policy 2.18

Construction of a dwelling on an antiquated subdivision parcel shall only be allowed when such development does not create a concentration of residential uses or conflict with agricultural uses of other property in the vicinity.

Implementation Measure

1. The County shall continue to implement existing zoning ordinance provisions addressing antiquated subdivisions.
   Responsible Departments: Planning Department, Planning Commission and Board of Supervisors

GOAL THREE

Protect the natural resources that sustain our agricultural industry.

Agriculture depends directly on the land, air, water and soil resources to sustain its productivity. The success of agriculture in Stanislaus County can be largely attributed to the availability of these resources for the production of a wide variety of products.

The continued availability of soil, high quality water and clean air cannot be taken for granted. In the process of urbanization to accommodate a booming population, Stanislaus County is losing farmlands to urban development by cities. At the same time, there is increasing competition between agriculture and urban uses for limited water resources. Ultimately these problems threaten the County's agricultural economy and our ability to help feed the nation.

Urbanization and the conversion of agricultural land are addressed under Goal Two, which focuses primarily on land-use issues regarding our agricultural lands. Other resource problems such as air quality, water quality and supply, and soil quality are addressed in the following section of this document. The policies presented under Goal Three are intended to ensure the long-term protection of the natural resources that sustain our agricultural industry.

Objective Number 3.1: Air Quality

Air quality in the San Joaquin Valley is monitored and standards are enforced by the California Air Resources Board and the San Joaquin Valley Air Pollution Control District, which is composed of the eight counties in the San Joaquin Valley air basin. The District was formed in recognition of the fact that air pollution is not limited by County lines--it is a regional problem affecting the entire valley. The lack of consistent standards and enforcement from one County to another makes it difficult to effectively address the cumulative impacts of pollution.

The Conservation/Open Space and Circulation Elements of the General Plan include policies and implementation measures to improve air quality by promoting communication, cooperation and coordination among agencies involved in air quality programs; working to accurately determine and mitigating air quality impacts of proposed projects; to ensure that circulation systems shall be designed and maintained to minimize traffic congestion and air pollution; and to support efforts to increase public awareness of air quality problems and solutions.

Policy 3.1

The County shall continue to coordinate with the San Joaquin Valley Air Pollution Control District.

Implementation Measure

1. The County shall continue to refer development proposals to the San Joaquin Valley Air Pollution Control District for their review and analysis of impacts on air quality.

Policy 3.2

The County shall assist the San Joaquin Valley Air Pollution Control District in implementation of adopted plans and regulations.

Implementation Measure

1. The County shall require development proposals to incorporate all applicable air quality regulations and, where required, to include reasonable mitigation measures.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

Policy 3.3

The County shall encourage the development and use of improved agricultural practices that improve air quality and are economically feasible.

Implementation Measure

1. The County shall encourage and support the development and use of improved agricultural practices aimed at reducing the production of fine particles and other sources of air pollution.
   Responsible Departments: Agricultural Commissioner, U.C. Cooperative Extension, Board of Supervisors

Objective Number 3.2: Water Resources

Water is the lifeblood of agriculture in Stanislaus County. To supplement an average rainfall of just 12 inches per year, local agriculture relies on a network of irrigation water delivery systems to sustain its broad diversity of valuable crops.

Compared to many other areas of the arid Central Valley, Stanislaus County has abundant water resources, at least in times of normal rainfall. The availability of high-quality, low-cost irrigation water traditionally has given local agriculture a competitive edge and has been largely responsible for its success. The main sources of irrigation water are the Stanislaus, Tuolumne and San Joaquin River watersheds, all of which originate in the Sierra Nevada Mountains. Groundwater is used to supplement irrigation supplies, and is the major source of domestic and industrial water.

The quality of groundwater is determined by the geological formations through which it filters and thereby cannot be controlled. Groundwater recharge occurs by water conducting through the gravels of major streams and rivers, seepage from reservoirs, irrigations and rainfall of well drained alluvial soils in the valley portions of the County. Decreasing groundwater quality in areas of the county is having adverse effects on domestic water suppliers, as well as the agricultural lands. As groundwater becomes unavailable for domestic use, other sources have to be found. As a result, urban and agricultural users are becoming more competitive for water supplies.

Conservation is the most cost-effective way to ensure adequate water supplies for all residents of Stanislaus County. Local farmers long have practiced conservation methods, and their ability to survive dry years is indicative of their success. Research is continually improving agricultural technology, and water-saving innovations are continually being adapted by local growers.

Domestic and industrial users also need to be informed about the need for conservation and methods of lowering their water requirements. All types of water sources in the County are

increasingly interdependent. The availability of irrigation water is affected by the use of water by city-dwellers and businesses; the availability of drinking water and industrial water is affected by agricultural practices.

Policy 3.4

The County shall encourage the conservation of water for both agricultural**, rural domestic,** and urban uses.

Implementation Measures

1. The County shall encourage water conservation by farmers by providing information on irrigation methods and best management practices and coordinating with conservation efforts of the Farm Bureau, Resource Conservation Districts, Natural Resource Conservation Service, and irrigation districts.
   Responsible Departments: Agricultural Commissioner, U.C. Cooperative Extension, Board of Supervisors

2. The County shall encourage urban water conservation and coordinate with conservation efforts of cities, local water districts and irrigation districts that deliver domestic water.
   Responsible Departments: Department of Environmental Resources, Board of Supervisors

3. The County shall continue to implement adopted landscape and irrigation standards designed to reduce water consumption in the landscape environment.
   Responsible Departments: Planning Department, Planning Commission, Board of Supervisors

4. The County shall work with local irrigation districts to preserve water rights and ensure that water saved through conservation may be stored and used locally, rather than "appropriated" and moved to metropolitan areas outside of Stanislaus County.
   Responsible Departments: Board of Supervisors

5. The County shall encourage the development and use of appropriately treated water (reclaimed wastewater and stormwater) for both agricultural and urban irrigation.
Responsible Departments: Board of Supervisors

Policy 3.5

The County will continue to protect the quality of water necessary for crop production and marketing.

Implementation Measures

1. The County shall continue to require analysis of groundwater impacts in Environmental Impact Reports for proposed developments.
   Responsible Departments: Department of Environmental Resources, Planning Department, Planning Commission, Board of Supervisors

2. The County shall investigate and adopt appropriate regulations to protect water quality.
Responsible Departments: ***Department of Environmental Resources, Planning Department, Planning Commission, Board of Supervisors***

Policy 3.6

The County will continue to protect local groundwater for agricultural, rural domestic, and urban use in Stanislaus County.

Implementation Measures

1. The County shall implement the existing groundwater ordinance to ensure the sustainable supply and quality of local groundwater.
Responsible Departments: Agricultural Commissioner, Department of Environmental Resources, Planning Department, Planning Commission, Board of Supervisors

Objective Number 3.3: Soil Resources

The continued success of agriculture in Stanislaus County depends on conserving our soil resource. In addition to supporting the production of crops and livestock forage, soil is a vital part of the ecosystem and a record of past biological and physical processes. Formed slowly through the interaction of climate, living and decomposing organisms, local geology and erosion, soil is considered a non-renewable resource that requires proper management to ensure its continued productivity.

There are two main soil management problems in Stanislaus County: salinity, or the build-up of salts, and erosion caused by wind, water and irrigation. Salinity and irrigation induced salinity is especially problematic west of the San Joaquin River. Low quality irrigation water and poor drainage have resulted in the build up of salt and mineral concentrations in the soil. Wind erosion is more widespread in the coarse textured soils east of the San Joaquin River, resulting in the loss of productive topsoil and contributing to air and water quality problems.

Resource Conservation Districts (RCDs) provide assistance to control soil erosion and runoff, water conservation, stabilize soils, and protect water quality through cooperative agreements and grants with the USDA Natural Resources Conservation Service (NRCS). Through these agreements, the RCDs can prioritize resource concerns so that funding for conservation practices can be directed through NRCS.

The county is served by two Resource Conservation Districts. The East Stanislaus Resource Conservation District sphere of influence is east of the San Joaquin River and extends to the county lines. The West Stanislaus Resource Conservation District is located west of the San Joaquin River and extends to the county lines.

Policy 3.7~~6~~

The County shall encourage the conservation of soil resources.

Implementation Measures

1. The County shall continue to provide soil management information and coordinate with soil conservation efforts of local, state, and federal agencies.
   Responsible Departments: Agricultural Commissioner, U.C. Cooperative Extension

2. The County shall support efforts of local Resource Conservation Districts in their activities to support local agriculture.
   Responsible Departments: Board of Supervisors

3. The County shall continue to refer proposed developments whenever appropriate to Resource Conservation Districts and irrigation districts for their review and analysis of impacts on soil resources.
   Responsible Departments: Planning Department

DEFINITIONS

Agricultural Land - Any land suited for agriculture.

Agricultural Uses - Land uses that are directly connected with or customarily incidental to agriculture.

Agriculture - The tilling of the soil, the raising of crops, horticulture, viticulture, small livestock farming, dairying, aquaculture, or animal husbandry, including all uses customarily incidental thereto but not including slaughterhouses, fertilizer yards, bone yards or plants for the reduction of animal matter or any other industrial use which is similarly objectionable because of noise, odor, smoke, dust or fumes.

Agricultural Service Establishment - A business engaging in activities designed to aid production agriculture. Service does not include the provision of tangible goods except those sold directly to farmers and used specifically to aid in production of farm animals or crops. Nor does service include any business which has the primary function of manufacturing products.

Buffer - A physical separation such as a topographic feature, a substantial stand of trees, a water course or similar feature that serves to protect or insulate one type of land use from another.

Clustering - A development technique that involves the grouping together of residences and other structures in a relatively small area, as opposed to dispersing those structures over a larger area.

Farmland - The type of agricultural land best suited for growing crops. In this document, "farmland" is used synonymously with "agricultural land" to mean any land suited for agriculture.

Grazing Land - Land on which existing vegetation is suited for the grazing of livestock.

Non-Agricultural Uses - Land uses that are not directly connected with or customarily incidental to agriculture.

Production Agriculture - Agriculture for the purpose of producing any and all plant and animal commodities for commercial purposes.

Ranchette - An individual parcel of land in an agricultural zone valued for its residential potential which cannot be supported by the agricultural income potential of the land.

Remote Development - Development that takes place away from existing cities or urban centers.

Right-to-Farm Ordinance - Stanislaus County Ordinance Code, Section 9.32.010, Chapter 9. A local ordinance that protects the rights of farmers to carry on their "normal" agricultural practices with a decreased risk of nuisance lawsuits.

Rural - Characteristic of the country, as distinguished from city or town.

Setback - The distance between the nearest point of the building or structure and the right-of-way or easement borderline or property line.

Urban - Characteristic of the city, as distinguished from the country.

Urban Development - In incorporated areas, development that is served by both public water and public sewer services; in unincorporated areas, development that is served by public water and/or public sewer services.

Urbanization - The process of changing from rural to urban in character.

Modesto City-County Airport

Oakdale Municipal Airport

Crows Landing Airport

STANISLAUS COUNTY AIRPORT LAND USE COMPATIBILITY PLAN

Stanislaus County
Striving to be the Best

Prepared by

Stanislaus County
Planning and Community
Development Department
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Prepared for

Stanislaus County
Airport Land Use Commission

Table of Contents

Chapter 2, continued

Chapter 4, continued

Appendices

Chapter 1

INTRODUCTION

1

Introduction

Plan Overview

The *Stanislaus County Airport Land Use Compatibility Plan* (ALUCP) contains the individual Compatibility Plan for three airports in Stanislaus County: the Modesto City-County Airport, the Oakdale Municipal Airport, and the former Crows Landing Air Facility. As adopted by the Stanislaus County Airport Land Use Commission, the basic function of the plan is to promote compatibility between these airports and the land uses surrounding them to the extent that these areas have not already been devoted to incompatible uses. The plan accomplishes this function through establishment of a set of compatibility criteria applicable to new development around the airport. Neither this ALUCP nor the ALUC have authority over existing land uses or over operation of the airport.

Geographically, the *Compatibility Plan* pertains to portions of unincorporated areas within Stanislaus County, together with portions of the cities of Modesto, Oakdale, Ceres, and Patterson. Special districts, school districts, and community college districts within those jurisdictions are also subject to the provisions of the plan. The authority of the ALUC does not extend to state, federal, or tribal lands.

Airport Land Use Compatibility Planning

The creation of airport land use commissions (ALUCs) and the preparation of airport land use compatibility plans are requirements of the California State Aeronautics Act (Aeronautics Act/Public Utilities Code Section 21670 *et seq.*). Provisions for creation of ALUCs were first established under state law in 1967 (see Appendix B for a copy of the statutes). With limited exceptions, an ALUC is required in every county in the state and a compatibility plan is required for each public-use and military airport.

Powers and Duties of ALUCs

Although the Aeronautics Act has been amended numerous times since its original enactment, the fundamental purpose of ALUCs to promote land use compatibility around airports has remained unchanged. As expressed in the present statutes, this purpose is:

> "...to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses."

The compatibility plans that ALUCs adopt are the basic tools that ALUCs use to achieve this purpose. The primary objective of an ALUCP is to ensure that the land use actions taken by local agencies also adhere to this purpose. ALUCs pursue this objective by reviewing the general plans, specific plans, zoning ordinances, building regulations, and certain individual development actions of local agencies for consistency with the policies and criteria in the applicable compatibility plan. ALUCs also review master plans and other development plans for civilian airports proposed by airport operators to determine if those plans are consistent with the compatibility plan or if modifications should be made to the compatibility plan to reflect current airport planning.

Two specific limitations on the powers of ALUCs are set in the statutes. The first explicit limitation, as indicated above, is that ALUCs have no authority over areas "already devoted to incompatible uses." The common interpretation of this clause is that ALUCs have no jurisdiction over existing land uses, even if those uses are incompatible with airport activities. For example, an ALUC cannot require that an existing incompatible land use be converted to something compatible. The second explicit limitation is that the ALUCs have no "jurisdiction over the operation of any airport." This limitation includes anything concerning the configuration of runways and other airport facilities, the type of aircraft operating at the airport, or where aircraft fly.

Relationship of the ALUCs to County and City Governments

The relationship between ALUCs and the governments of the counties and the cities within their jurisdiction is set forth in the State Aeronautics Act. For the most part, ALUCs act independently from the local land use jurisdictions. ALUCs must consult with the involved agencies regarding the establishment of airport influence area (AIA) boundaries (Public Utilities Code Section 21675(c)), but otherwise have the authority to adopt compatibility plans without approval from county or city governing bodies. However, ALUCs do not have the authority to implement their own compatibility policies.

The responsibility for the implementation of ALUC-adopted compatibility plans rests with the affected local agencies. Government Code Section 65302.3 establishes that each county and city affected by an airport land use compatibility plan must make its general plan and any applicable specific plans consistent with the ALUC's compatibility plan. Alternatively, local agencies can take the series of steps listed in the Aeronautics Act and described later in this chapter to overrule the ALUC policies.

The other responsibility of local agencies is to refer their plans and certain other proposed land use actions to the ALUC for review. The ALUC will then determine whether the proposed plans or land use actions are consistent with the ALUCP. Proposed adoption or amendment of general plans, specific plans, zoning ordinances, and building regulations always must be referred to the ALUC. However, other actions, such as those associated with individual development proposals are subject to review by the ALUC only until the general plan and specific plan(s) of a local agency have been made consistent with the ALUCP or the agency has overruled the ALUC.

ALUCP Preparation

State Laws and Guidelines

Many of the procedures that govern how ALUCs operate are defined by state law, particularly the State Aeronautics Act. As noted earlier, statutory provisions in the Public Utilities Code establish the requirements for ALUC adoption of compatibility plans, which airports must have these plans, and some of the

steps involved in plan adoption. The Aeronautics Act also dictates the requirements for airport land use compatibility reviews by an ALUC. For example, the types of actions that local jurisdictions must refer to an ALUC for review are specified in the Aeronautics Act.

With respect to airport land use compatibility criteria, the statutes say little. Instead, a section of the law enacted in 1994 refers to another document, the *Airport Land Use Planning Handbook* published by the California Department of Transportation (Caltrans) Division of Aeronautics. Specifically, the Aeronautics Act says that, when preparing compatibility plans for individual airports, ALUCs shall "be guided by" the information contained in the *Handbook*. The *Handbook* is not regulatory in nature, however, and it does not constitute formal state policy except to the extent that it explicitly refers to state laws. Rather, its guidance is intended to serve as the starting point for compatibility planning around individual airports. The policies and maps in the *Stanislaus County Airport Land Use Compatibility Plan* take into account the guidance provided by the current edition of the *Handbook*, dated October 2011. The October 2011 edition of the Handbook is available for downloading from the Division of Aeronautics web site (www.dot.ca.gov/hq/planning/aeronaut).

An additional function of the *Handbook* is established elsewhere in California state law. The Public Resources Code creates a tie between the *Handbook* and California Environmental Quality Act (CEQA) documents. Specifically, Section 21096 requires that lead agencies must use the *Handbook* as "a technical resource" when assessing airport-related noise and safety impacts of projects located in the vicinity of airports.

ALUCP Relationship to Airport Plans

ALUCPs are distinct from airport master plans and other types of airport development plans, but they are closely connected to them. The issues addressed by airport master plans and development plans focus primarily on the airport facility and its property, whereas the issues addressed by an ALUCP focus primarily on areas outside of the airport and its property. The purpose of an airport master plan is to assess the demand for airport facilities and to guide the development necessary to meet those demands. An airport master plan is prepared for and adopted by the agency that owns and/or operates the airport. In contrast, the primary purpose of a compatibility plan is to ensure that incompatible development does not occur on lands surrounding the airport. The responsibility for the preparation and adoption of compatibility plans lies with each county's airport land use commission (ALUC).

The principal connection between the two types of plans stems from the Aeronautics Act. Specifically, Public Utilities Code Section 21675(a) requires that ALUC plans be based upon a long-range airport master plan that is adopted by the airport owner/proprietor or, if such a plan does not exist for a particular airport, an airport layout plan may be used with the approval of the California Division of Aeronautics. Furthermore, the compatibility plan must reflect "the anticipated growth of the airport during at least the next 20 years."

The connection works in both directions. While a compatibility plan must be based upon an airport master plan, Public Utilities Code Section 21676(c) requires that any proposed modification to an airport master plan be referred to the ALUC to determine if the proposal is consistent with the compatibility plan. Provided that the off-airport compatibility implications of the proposed modifications are adequately addressed in the master plan, the outcome of this process usually is that the compatibility plan will need to be updated to mirror the new master plan.

AIRPORT LAND USE COMPATIBILITY PLANNING

Airports in Stanislaus County

The responsibility for preparation of a compatibility plan for the public-use airports in Stanislaus County and environs rests with the Stanislaus County Airport Land Use Commission (ALUC). The ALUC is composed of the Stanislaus County Planning Commission and two additional members with expertise in aviation. Although the ALUC is an independent body, it operates under the auspices of the County of Stanislaus.

Staff for the ALUC is provided by the County's Planning and Community Development Department. Although a small portion of the overflight impact area associated with the Modesto City-County Airport extends into Merced County, the policies of this Compatibility Plan are strictly advisory with respect to lands in that county.

In 1978, the ALUC adopted the County's first Airport Land Use Commission Plan, which was amended in 2004. That plan provided height restrictions and building standards for areas adjacent to the five public and privately owned airport that resided in the County at that time:

- Modesto City-County Airport
- Oakdale Municipal Airport
- Patterson Airport
- Turlock Airpark
- Crows Landing Airport, formerly the Crows Landing Naval Auxiliary Landing Field

In 2010, the ALUC initiated a comprehensive update of the 2004 ALUCP to reflect changes in statewide guidance in Airport Land Use Compatibility Plan development, as documented in the 2011 *California Airport Land Use Planning Handbook*.

The current ALUCP update provides policies for three airports: the Modesto City-County Airport, the Oakdale Municipal Airport, and the Crows Landing Airport (forthcoming) (see Map 1-1). The Patterson Airport has closed, and the Turlock Airpark is in the process of being sold for non-aeronautical use.[1] Safety inspectors from the Caltrans Division of Aeronautics report that the Airport Operating permit associated with Turlock Airpark is no longer valid.[2]

Modesto City-County Airport/Harry Sham Field

Modesto City-County Airport (MOD) is located in the City of Modesto. The airport opened in 1920 and was used during World War II as a training center for the Army Air Corps. The airport is owned by the City of Modesto and is the only commercial-service airport in the County, although it is used primarily for general aviation. The Airport Advisory Committee, which is a nine-member committee appointed by

[1] Airport owner responded to an inquiry of September 4, 2013, by County consultants regarding airport status. The airpark phone number had been disconnected, and the owner reported that the airport was being offered for sale for non-aeronautical purposes.

[2] Mr. Don Haug, Safety Inspector, Caltrans Division of Aeronautics, stated on August 8, 2013, stated that the airport operating permit for Turlock Airpark is no longer valid, and ongoing airport operations under new ownership would require the procurement of new airport operating permit from the Division of Aeronautics. The status of current operations is unknown.

the member agencies of the Modesto City Council, Stanislaus County Board of Supervisors, and the cities of Ceres and Turlock, acts in an advisory capacity on airport policy matters.

MOD includes two parallel runways: Runway 10L-28R is 5,911 feet long and 150 feet wide and designated as the air carrier runway. The smaller runway, 10R-28L, is 3,459 feet long and 100 feet wide. The ALUCP is based on the Airport Layout Plan and Narrative Report that were published by the airport in 2009. Based on the 2009 ALP, MOD will remain classified as an Airport Reference Code (ARC) C-III airport. (the ARC designation refers to the size and type of aircraft that an airport can accommodate). Runway 10L-28R is designated as ARC C-III to accommodate commercial aircraft (e.g., Boeing 737), and Runway 10R-28L is designated as ARC B-I to accommodate general aviation traffic (e.g., Cessna 421).

MOD is located approximately 2 miles southeast of the Modesto city center. Some unincorporated land is present between the City and the airport. The airport is located south of Yosemite Boulevard (Highway 132), with Mitchell Road serving as the primary access route to the airport. The airport is adjacent to the City of Ceres to the south and unincorporated areas to the east. Areas characterized by industrial use are northeast of the airport, and agricultural areas are located to the southeast. Densely developed urban areas are located to the north, south, and west, with the Tuolumne River and an associated open space corridor adjacent to the south side of the airport.

The City of Modesto undertook a master planning effort for the Modesto City-County Airport in 2002. However, due to changes in airport management and the expiration of the federal grant, the plan was never completed.

In 2008, the City prepared a noise compatibility study in accordance with FAR Part 150. This noise study was updated in February 2009. The Part 150 study included a baseline (2008) and two forecast levels of activity (2015 and "Long Range"). The "Long Range" forecast presented in the Part 150 study is the basis for the forecast operations and resulting noise contours used in this ALUCP.

In December 2009, an Airport Layout Plan (ALP) and Narrative Report were published for Modesto City-County Airport, which was approved by the Federal Aviation Administration (FAA) on February 8, 2011. The purpose of the ALP is to depict the currently planned airport improvements for the airport.

Oakdale Municipal Airport

The 117-acre Oakdale Municipal Airport (O27 or Oakdale Airport) is exclusively a general aviation facility that is owned and operated by the City of Oakdale. Although the airport property is located within the city limits, the airport is not contiguous to the City. The airport is located approximately 2.5 miles east of the City, with access available from Sierra Road and Laughlin Road.

The Oakdale Airport has a single paved runway (Runway 10-28), which is 3,013 feet long and 75 feet wide. The runway is aligned with the prevailing winds in an approximately west-south alignment. The airport is classified as an ARC A-I airport, which indicates that it can accommodate small aircraft weighing less than 12,500 lbs. (e.g., Cessna 172).

The Oakdale City Council adopted a Master Plan for Oakdale Municipal Airport in 1998 (Resolution 98-88). The 1998 Master Plan included a long-term development plan for the airport covering planning horizon of 20 years. The 1998 Airport Layout Plan (ALP) drawing showed a 1,300-foot extension of the airport's single runway (Runway 10-28) to the southeast for a total length of 4,400 feet. In addition to this extension, the 1998 ALP showed an upgrade of the Airport Reference Code (ARC) classification from the current classification of ARC A-I (small) to a classification of B-II.

In 2006, the City of Oakdale prepared an Airport Layout Plan to assist airport staff in implementing short-term improvements to the airfield. The 2006 ALP does not depict the long-term Master Plan development projects such as the runway extension and upgrade to ARC B-II.

Conversations with the City's Department of Public Works, which is the department responsible for airport operations and management, indicate that the 1998 Master Plan no longer reflects the City's long-term vision for the airport. The FAA informed the City that it will not a support runway extension, and the City prepared a revised Airport Layout Plan and Narrative Report in November 2013 that do not depict a runway extension or upgrade to ARC B-II. The City submitted the November 2013 ALP to the FAA, and staff have stated that the 2013 ALP provided the best available data to serve as the basis for the Compatibility Plan. In accordance with Section 21675(a) of the California Public Utilities Code, the 2013 ALP was submitted to Caltrans Division of Aeronautics for approval as the basis of the Oakdale Municipal Airport Land Use Compatibility Plan.

Crows Landing Airport

The former Crows Landing Naval Auxiliary Landing Field was commissioned in 1943 to serve as a training field during World War II. The airfield was used during the 1950s for fleet carrier and landing practice and used again throughout the 1970s and 1980s for practice operations by the United States Navy, Air Force, Army, and Coast Guard. The National Aeronautics and Space Administration (NASA) Ames Research Center took over facility operations in 1994 and ceased operations at the airfield in 1997, when it proposed to declare the base as excess. The United States Congress passed House Resolution (H.R.) 356 in 1999, which stated that as soon as practicable, the NASA Administrator would convey to Stanislaus County, all right, title, and interest of the United States in and to the former Crows Landing Air Facility.

Since the decommissioning of the facility by NASA in the late 1990s, the Stanislaus County Board of Supervisors has pursued and studied reuse opportunities for the former military property. In 2001, the Board adopted a reuse plan that would designate a portion of the property for use as a General Aviation (GA) airport. In 2004, the Stanislaus County Board of Supervisors accepted the conveyance of the land associated with the formers Crows Landing Air Facility pursuant to Public Law 106-82. The County envisions optimizing the site for economic development while maintaining an aviation use.

The County of Stanislaus has worked closely with the California Department of Transportation's (Caltrans) Division of Aeronautics since property conveyance, and it has developed an Airport Layout Plan (ALP) that includes the reuse of the prevailing wind runway. Following appropriate review of the proposed airport layout plan and accompanying ALUCP pursuant to the California Environmental Quality Act (CEQA), the County will submit an application to the Caltrans Division of Aeronautics to operate a public-use general aviation (GA) airport at the former Crows Landing Air Facility. The ALUCP will be amended to include the Crows Landing General Aviation Airport following the certification of the associated CEQA document and approval by the County Board of Supervisors. Until that time, the airport-specific ALUCP policies associated with the Crows Landing Air Facility set forth in the County's 2004 ALUCP shall remain in place.

PLAN ADOPTION

Although contained within this single volume, the *Stanislaus County Airport Land Use Compatibility Plan* consists of three separate ALUCPs, one for each airport addressed. Since the County's ALUCP and General Plan update were undertaken simultaneously, an Environmental Impact Report (EIR) will be

prepared in accordance with the California Environmental Quality Act (CEQA) that addresses both projects. The purpose of the EIR is to identify the potential environmental impacts associated with the implementation of the revised General Plan ALUCP following adoption; the issues addressed will include those identified in the 2007 California Supreme County decision in *Muzzy Ranch Company v. Solano County Airport Land Use Commission,* such as an assessment of the potential displacement of future residential and non-residential land use development.

PLAN IMPLEMENTATION

As noted above, each local agency having jurisdiction over land uses within an ALUC's planning area is required by state law to modify its general plan and any affected specific plans to be consistent with the compatibility plan. The law says that the local agency must take this action within 180 days (six months) of ALUC adoption or amends its compatibility plan.

General Plan Consistency

A general plan does not need to be identical with the ALUC compatibility plan in order to be consistent with it. To meet the consistency test, a general plan must do two things:

- It must specifically address compatibility planning issues, either directly or through reference to a zoning ordinance or other policy document; and
- It must avoid direct conflicts with compatibility planning criteria.

The land use jurisdictions affected by the *Stanislaus County Airport Land Use Compatibility Plan* may need to modify their general plans, specific plans, and other policy documents to be consistent with the *Compatibility Plan*. It must be emphasized, however, that local agencies need not change land use designations to make them consistent with the ALUC criteria if the current designations reflect existing development. In such cases, they would need to establish policies to ensure that the nonconforming uses would not be expanded in a manner inconsistent with this *Compatibility Plan* and that any redevelopment of the affected areas would be consistent with the *Compatibility Plan*.

Compatibility planning issues can be reflected in a general plan in several ways:

- **Incorporate Policies into Existing General Plan Elements**—One method of achieving planning consistency is to modify existing general plan elements. For example, airport land use noise policies could be inserted into the noise element, safety policies could be placed into a safety element, and the primary compatibility criteria and associated maps plus the procedural policies might fit into the land use element. With this approach, direct conflicts would be eliminated and the majority of the mechanisms and procedures necessary to ensure compliance with compatibility criteria could be fully incorporated into the local jurisdiction's general plan.

- **Adopt a General Plan Airport Element**—Another approach is to prepare a separate airport element of the general plan. Such a format may be advantageous when the community's general plan also needs to address on-airport development and operational issues. Modification of other plan elements to provide cross-referencing and eliminate conflicts would still be necessary.

- **Adopt Compatibility Plan as Stand-Alone Document**—Jurisdictions selecting this option would simply adopt as a local policy document the relevant portions of the *Stanislaus County Airport Land Use*

Compatibility Plan—specifically, the policies and maps in Chapters 2. Applicable background information from Chapter 3 could be included as well. Changes to the community's existing general plan would be minimal. Policy reference to the *Compatibility Plan* would need to be added and any direct land use or other conflicts with compatibility planning criteria would have to be removed. Limited discussion of compatibility planning issues could be included in the general plan, but the substance of most compatibility policies would appear only in the stand-alone document.

- **Adopt Airport Combining District or Overlay Zoning Ordinance**—This approach is similar to the stand-alone document except that the local jurisdiction would not explicitly adopt the *Compatibility Plan* as policy. Instead, the compatibility policies would be restructured as an airport combining or overlay zoning ordinance. A combining zone serves as an overlay of standard community-wide land use zones and modifies or limits the uses permitted by the underlying zone. Flood hazard combining zoning is a common example. An airport combining zone ordinance can serve as a convenient means of bringing various airport compatibility criteria into one place. The airport-related height-limit zoning that many jurisdictions have adopted as a means of protecting airport airspace is a form of combining district zoning. Noise and safety compatibility criteria, together with procedural policies, would need to be added to create a complete airport compatibility zoning ordinance. Other than where direct conflicts need to be eliminated from the local plans, implementation of the compatibility policies would be accomplished solely through the zoning ordinance. Policy reference to airport compatibility in the general plan could be as simple as mentioning support for the airport land use commission and stating that policy implementation is by means of the combining zone. (An outline of topics which could be addressed in an airport combining zone is included in Appendix F.)

Overrule Process

The only other action available to local agencies is to overrule the ALUC by a two-thirds vote of the local agency governing body after making findings that the agency's plans are consistent with the intent of state airport land use planning statutes in the Aeronautics Act. Additionally, the local agency must provide both the ALUC and the California Department of Transportation, Division of Aeronautics, with a copy of the local agency's proposed decision and findings at least 45 days in advance of its decision to overrule and must hold a public hearing on the proposed overruling (Public Utilities Code Section 21676(a) and (b)). The ALUC and the Division of Aeronautics may provide comments to the local agency within 30 days of receiving the proposed decision and findings. If comments are submitted, the local agency must include them in the public record of the final decision to overrule the ALUC (Sections 21676, 21676.5 and 21677). Note that similar requirements apply to local agency overruling of ALUC actions concerning individual development proposals for which ALUC review is mandatory (Section 21676.5(a)) and airport master plans (Section 21676(c)).

Project Referrals

In addition to the types of land use actions for which referral to the ALUC is mandatory in accordance with state law—adoption or amendment of general plans, specific plans, zoning ordinances, or building codes affecting land within an airport influence area—the ALUCP specifies other land use projects that either must or should be submitted for review. These major land use actions are defined in Chapter 2. Beginning with plan adoption by the ALUC and continuing until such time as local jurisdictions have made the necessary modifications to their general plans, all of these major land use actions are to be referred to the commission for review. After local agencies have made their general plans consistent with the ALUCP, the ALUC requests that these major actions continue to be submitted on a voluntary basis.

These procedures must be indicated in the local jurisdiction's general plan or other implementing policy document for the general plan to be considered fully consistent with the ALUCP.

PLAN CONTENTS

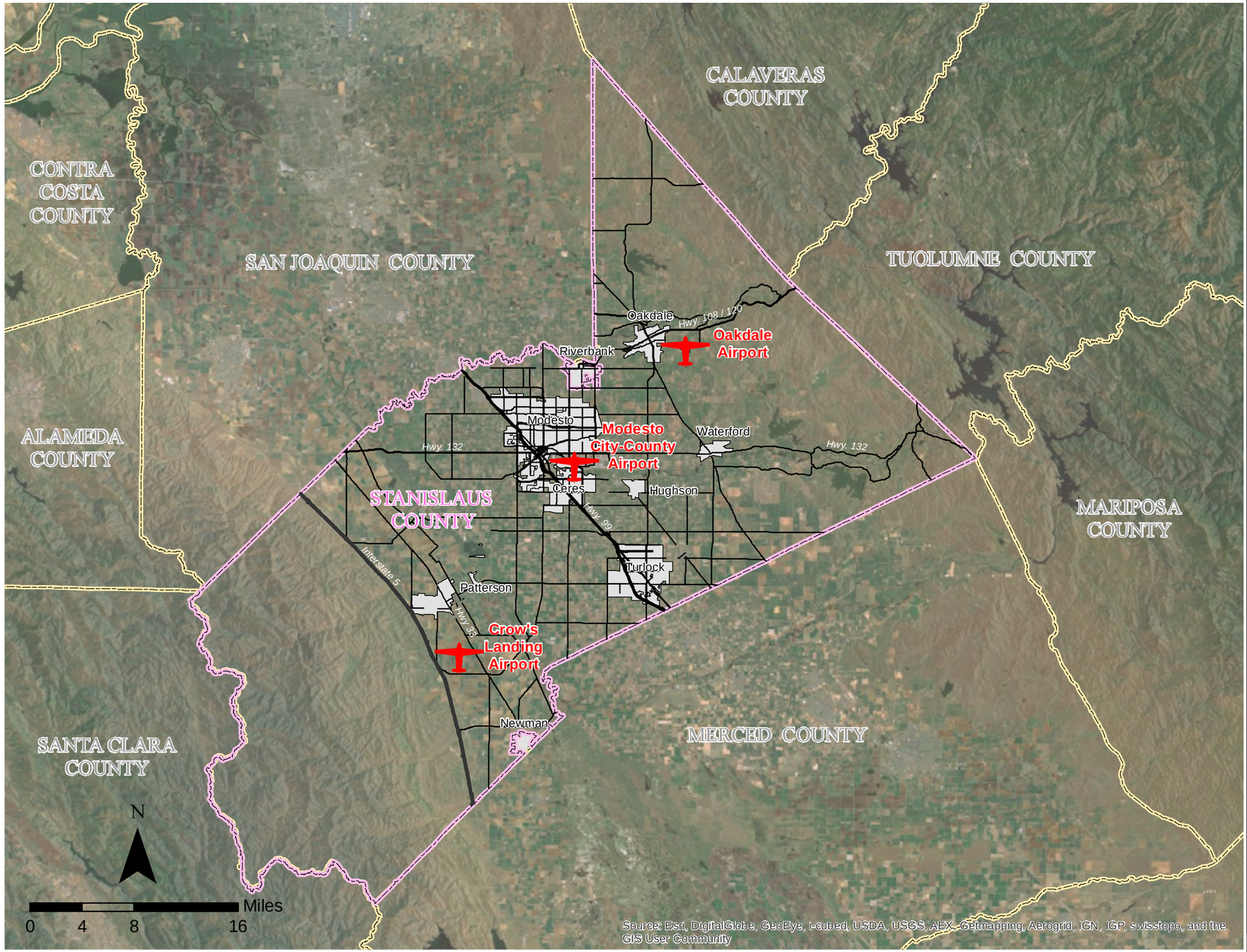
This *Stanislaus County Airport Land Use Compatibility Plan* is organized into six chapters and a set of appendices. The intent of this introductory chapter is to set the overall context of airport land use compatibility planning in general and for Stanislaus County in particular.

Chapters 2 presents airport compatibility and review policies that are applicable to each of the three airports addressed. Chapter 3 presents the compatibility policy maps associated with each airport as well as the individual policies for that airport. Chapters 4 through 6 present the airport land use background information regarding each of the airports in sequence: Modesto City-County Airport and Oakdale Municipal. The individual policies associated with the Crows Landing Airport, which will comprise Chapter 6, will not be presented at this time; specific policies for the Crows Landing Airport included following a separate CEQA process for the proposed Airport Layout Plan and its airport-specific ALUCP policies.

Also included in this document are a set of appendices containing a copy of state statutes concerning airport land use commissions and other general information pertaining to airport land use compatibility planning. This material is mostly taken from other sources and does not represent ALUC policy except where cited as such in Chapter 2—specifically the state ALUC statutes and certain other laws (Appendix B) and Federal Aviation Regulations Part 77 (Appendix C).

SOURCES OF INFORMATION AND GUIDANCE

As required by the Aeronautics Act, the *California Airport Land Use Planning Handbook* provides guidance for the compatibility policies set forth in this *Stanislaus County Airport Land Use Compatibility Plan*. The Handbook was used both to structure and define compatibility criteria and to establish the procedures to be followed by the ALUC and local agencies in implementation of the criteria.



Legend

- Road
- City
- Stanislaus County Boundary
- Other County Boundary
- Airport

Stanislaus County
Airport Land Use Compatibility Plans
(January 2014, Draft)

Map 1-1

Airport Locations
Stanislaus County

Mead&Hunt

Sources: City and County GIS Data (2009)

Chapter **2**

POLICIES

2

Policies

1. General Applicability

1.1. Purpose and Use

1.1.1. *Airport Land Use Commission:* Stanislaus County Airport Land Use Commission (ALUC) is formed and operates in accordance with the requirements of California State Law. The Stanislaus County Planning Commission plus two additional members with aviation expertise, comprise the ALUC which is designated to serve Stanislaus County.

1.1.2. *Airport Land Use Compatibility Plans for Individual Airports in Stanislaus County*. With limited exceptions, California law requires an Airport Land Use Compatibility Plan for each public use and military airport in the state. This document, the *Stanislaus County Airport Land Use Compatibility Plan (ALUCP)* contains the individual ALUCP for each of the three public-use airports in Stanislaus County: There are no military airports in the County.

(a) The three airports covered by this ALUCP are:

(1) Modesto City-County Airport, a publicly owned, commercial-service airport.

(2) Oakdale Municipal Airport, a publicly owned, general aviation airport.

(3) Crows Landing Airport, a publicly owned, public-use airport pending approval by the California Department of Transportation, Division of Aernautics. This ALUCP will be amended to include site-specific data pertaining to the Crows Landing Airport upon permit receipt.

(b) The policies in this document are divided into three chapters.

(1) Chapters 1 and 2, together with the respective airport-specific policies in Chapters 4 through 6, comprise the ALUCP for each of the three airports.

(2) Chapter 3 includes the Individual Airport Policies and Compatibility Maps for Modesto City-County and Oakdale Municipal airorts (Crows Landing Airport policies and maps will be added at a later date). The chapter includes a set of maps for each airport plus any compatibility criteria that are unique to that airport.

(3) Chapters 4 through 6 provide Specific data pertaining to each airport and summaries of the background data used to prepare the compatibility plans.

1.1.3. *Basic Purpose:* The basic purpose of this ALUCP is to establish procedures and criteria applicable to airport land use compatibility planning in the vicinity of the County's three: public-use airports: Modesto City/County Airport, Oakdale Municipal Airport, and Crows Landing Airport. The *Compatibility Plan* was prepared in accordance with the requirements

of the California State Aeronautics Act (Public Utilities Code Section 21670 *et seq*.) and guidance provided in the *California Airport Land Use Planning Handbook (Handbook)* published by the California Department of Transportation Division of Aeronautics in October 2011.

1.1.4. *Use by ALUC:* The *ALUC* shall:

(a) Formally adopt this *Compatibility Plan* in accordance with Public Utilities Code Section 21674(c).

(b) When a *Land Use Action* or *Airport-Related Action* is referred for review as provided by Section 1.5, make a determination as to whether such *Action* is consistent with the criteria set forth in this *Compatibility Plan*.

1.1.5. *Use by Affected Local Agencies:*

(a) This ALUCP and its policies shall apply to all of to the following affected *Local Agencies* (see Policy 1.2.23), each of which has or may in the future have jurisdiction over lands within parts of the *Airport Influence Areas* defined by this plan; specifically:

(1) County of Stanislaus

(2) City of Ceres

(3) City of Modesto

(4) City of Oakdale

(5) Any future city within Stanislaus County that may be incorporated within all or part of the airport influence area associated with the Modesto City-County Airport or Oakdale Municipal Airport.

(6) Special districts, school districts and community college districts within Stanislaus County to the extent that the district boundaries extend into an *Airport Influence Area*.

(b) *Local Agencies* preparing an environmental document for any *Project* within the *Airport Influence Area* for one of the airports addressed by this ALUCP shall address the compatibility criteria contained in this *Compatibility Plan* in addition to referencing guidance from the *Handbook*.[1]

(c) Stanislaus County and each of the affected municipalities shall:

(1) Modify its respective general plan, applicable specific plan(s), and zoning ordinance to be consistent with the policies in the *Compatibility Plan*.[2]

(2) Use the ALUCP, either directly or as reflected in the appropriately modified general plan and zoning ordinance, when making other planning decisions regarding proposed development of lands with the AIA for any of the three airports included in this document.

(3) Refer proposed *Land Use Actions* for review by the ALUC as specified by Policies 1.5.1 and 1.5.2 herein.

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[1] The California Environmental Quality Act (CEQA) requires environmental documents for *Projects* situated within an *Airport Influence Area* to evaluate whether the *Project* would expose people residing or working in the *Project* area to excessive levels of airport-related noise or to airport-related safety hazards (Public Resources Code Section 21096). In the preparation of such environmental documents, the law specifically requires that the *Airport Land Use Planning Handbook* published by the California Division of Aeronautic be utilized as a technical resource.

[2] Public Utilities Code Section 21676(a) specifically requires general plan consistency. Because specific plans and zoning ordinances are also subject to *ALUC* review, the consistency requirement also extends to them.

(d) Special districts, school districts, and community college districts shall:

(1) Apply the policies of this *Compatibility Plan* when creating plans and making other planning decisions regarding the proposed development of lands under their control within an *Airport Influence Area*.

(2) Refer proposed *Land Use Actions* for review by the ALUC as specified by Policies 1.5.1 and 1.5.2 herein.

(e) The entities owning each of the public-use airports addressed by this ALUCP shall refer proposed airport master plans and certain airport improvement plans to the ALUC for review (see Policy 1.5.5). In addition, any public or private entity proposing construction of a new airport or heliport for which a State Airport Permit is required must submit the proposed plans to the ALUC for land use compatibility review (see Policy 1.5.5).

1.1.6. *Use by Federal and State Entities:* Lands controlled by federal or state agencies or by Native American tribes are not subject to the provisions of the state ALUC statutes or this *Compatibility Plan*. However, the compatibility criteria included herein are intended as recommendations to these agencies.

1.1.7. *Effective Date:* The policies in this *Compatibility Plan* shall become effective as of the date that the *ALUC* adopts the ALUCP for each airport. is:

(a) The Effective Date of the ALUCP for each airport is:

(1) Modesto City-County Airport - [date to be inserted].

(2) Oakdale Municipal Airport - [date to be inserted].

(b) The previous ALUCP, referred to as the Airport Comprehensive Land Use Plan for the three airports was adopted by the ALUC in 1978 and revised in 2004. The earlier plan will remain in effect for each airport until the ALUC adopts these ALUCP policies and the ALUCP data associated with each airport covered in this document. If the present ALUCP for one or more of the individual airports should be come invalidated by court action, the site-specific data presented in the earlier plan for the affected airport or airports shall again become effective. The ALUCP for each unaffected airport, as contained within this document, shall remain in effect.

(c) Any project or phase of a project that has received local agency approvals sufficient to qualify as an existing land use (Policies 1.2.17 and 1.4.4) prior to the date of the ALUCs adoption of the respective ALUCP shall not be required to comply with the policies herein. Rather, the policies of the earlier ALUCP shall apply. *Examples:* Where an example is used in this ALUCP , such example or examples are provided for purposes of illustration only and any such example or set of examples are not intended nor shall such be construed as an exhaustive list of the subject to which it corresponds.

1.2. Definitions

The following definitions apply for the purposes of the policies set forth in this *Compatibility Plan*. Additional terms are defined in the *Glossary* (**Appendix H**).

1.2.1. *Aeronautics Act:* Except as indicated otherwise, the article of the California Public Utilities Code (Sections 21670 *et seq.*) pertaining to airport land use commissions and airport land use compatibility planning (also known as the California State Aeronautics Act).

1.2.2. *Airport:* Modesto City-County Airport, Oakdale Municipal Airport, or any new a public-use or military airport created within Stanislaus County.

1.2.3. *Airport Influence Area:* An area, as delineated herein, in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses. The *Airport Influence Area* constitutes the area within which certain *Land Use Actions* are subject to *ALUC* review to determine consistency with the policies herein.

1.2.4. *Airport Land Use Commission (ALUC):* The Stanislaus County Planning Commission augmented by two members with aviation expertise.

1.2.5. *Airport Land Use Commission Secretary:* A member of the Stanislaus County Planning Department assigned by the Stanislaus County Planning Director to assist the ALUC or another person designated by the Board of Supervisors with the concurrence of the Planning Director.

1.2.6. *Airport Proximity Disclosure:* A form of buyer awareness documentation required by California state law and applicable to many transactions involving residential real estate including previously occupied dwellings. The disclosure notifies a prospective purchaser that the property is located in proximity to an airport and may be subject to annoyances and inconveniences associated with the flight of aircraft to, from, and around the airport. See Policy 3.5.3 for applicability. Also see Policy 1.2.32 for a related buyer awareness tool, *Recorded Overflight Notification*.

1.2.7. *Airspace Protection Area:* The area beneath the *Airspace Protection Surfaces* for each airport as depicted on **Maps MOD-4** and **OAK-4**.

1.2.8. *Airspace Protection Surfaces:* Imaginary surfaces in the airspace surrounding each airport as defined in accordance with criteria set forth in Federal Aviation Regulations (FAR) Part 77. These surfaces establish the maximum height that objects on the ground can reach without potentially creating constraints or hazards to the use of the airspace by aircraft approaching, departing, or maneuvering in the vicinity of the *Airpor*t.

1.2.9. *Ancillary Use:* A use related to the primary use and occupying no more than 10% of total building floor area.

1.2.10. *Aviation-Related Use:* Any facility or activity directly associated with the air transportation of persons or cargo or the operation, storage, or maintenance of aircraft at an airport or heliport. Such uses specifically include, but are not limited to, runways, taxiways, and their associated protection areas defined by the Federal Aviation Administration (FAA), together with aircraft aprons, hangars, fixed base operations facilities, terminal buildings, etc. Hotels or other commercial/industrial facilities on airport property do not qualify as an aviation-related use.

1.2.11. *Avigation Easement:* An easement that conveys rights associated with aircraft overflight of a property, including but not limited to creation of noise and limits on the height of structures and trees, etc. (see **Appendix G**).

1.2.12. *Community Noise Equivalent Level (CNEL):* The noise metric adopted by the State of California for land use planning purposes, including describing airport noise impacts. The noise impacts are typically depicted by a set of contours, each of which represents points having the same CNEL value.

1.2.13. *Compatibility Plan:* This document, the *Stanislaus County Airport Land Use Compatibility Plan (ALUCP)*, which includes individual *ALUCPs* for the Modesto City-County Airport, Oakdale Municipal Airport, and Crows Landing Airport.

1.2.14. *Compatibility Zone:* Any of the noise, safety, airspace protection, or overflight zones established herein.

1.2.15. *Critical Airspace Protection Zone:* A *Compatibility Zone* consisting of each airport's Federal Aviation Regulations (FAR) Part 77 primary surface and the area beneath portions of the approach and transitional surfaces to where these surfaces intersect with the horizontal surface.

1.2.16. *Density:* The number of dwelling units per acre. *Density* is used in this *Compatibility Plan* as the measure by which proposed *Residential Development* is evaluated for compliance with safety compatibility criteria (compare *Intensity*).

1.2.17. *Existing Land Use:* A land use that either physically exists or for which *Local Agency* (see Policy 1.2.23) commitments to the proposal have been obtained (see Policy 1.4.3).

1.2.18. *Federal Aviation Regulations (FAR) Part 77:* The part of Federal Aviation Regulations that deals with objects affecting navigable airspace in the vicinity of airports. Objects that exceed the Part 77 height limits constitute airspace obstructions. FAR Part 77 establishes standards for identifying obstructions to navigable airspace, sets forth requirements for notice to the FAA of certain proposed construction or alteration, and provides for aeronautical studies of obstructions to determine their effect on the safe and efficient use of airspace. (See **Appendix C** of this *Compatibility Plan* for the text of FAR Part 77).

1.2.19. *Handbook:* The *California Airport Land Use Planning Handbook* published by California Department of Transportation, Division of Aeronautics in October 2011. The *Handbook* provides guidance to ALUCs for the preparation, adoption, and amendment of compatibility plans.

1.2.20. *Infill:* Development of vacant or underutilized land within areas that are already largely developed or used more intensively. See Policy 4.1.12 for criteria used to identify *Infill* areas for the purposes of this *Compatibility Plan*.

1.2.21. *Intensity:* The number of people per acre. Intensity is used in this *Compatibility Plan* as the measure by which most proposed *Nonresidential Development* is evaluated for compliance with safety compatibility criteria (compare *Density*).

1.2.22. *Land Use of Special Concern:* A land use that represents special safety concerns irrespective of the number of people associated with the use. Specifically: uses with vulnerable occupants; hazardous materials storage; or critical community infrastructure.

1.2.23. *Local Agency:* Any county, city, or other local governmental entity such as a special district, school district, or community college district—including any future city or district—having any jurisdictional territory lying within the an *Airport Influence Area* as defined herein. These entities are subject to the provisions of this *Compatibility Plan*.

1.2.24. *Major Land Use Action:* Actions related to proposed land uses for which compatibility with *Airport* activity is a particular concern, but for which *ALUC* review is not always mandatory under state law. These types of actions are listed in Policy 1.5.4.

1.2.25. *Noise Impact Area:* The area within which the noise impacts, measured in terms of CNEL, generated by aircraft operating at an airport may represent a land use compatibility concern.

The *Noise Impact Area* associated with each airport is depicted on **Maps MOD-2** and **OAK-2**, *Compatibility Policy Map: Noise*.

1.2.26. *Noise-Sensitive Land Uses:* Land uses for which the associated primary activities, whether indoor or outdoor, are susceptible to disruption by loud noise events. The most common types of noise sensitive land uses include, but are not limited to: residential, hospitals, nursing facilities, intermediate care facilities, educational facilities, libraries, museums, places of worship, child-care facilities, and certain types of passive recreational parks and open space.

1.2.27. *Nonconforming Use: An existing land use* that does not comply with the compatibility criteria set forth in this *Compatibility Plan*. See Policy 4.1.3 for criteria applicable to *Land Use Actions* involving *Nonconforming Uses*.

1.2.28. *Object Free Area (OFA):* An area on the ground surrounding an airport runway within which the Federal Aviation Administration (FAA) prohibits all objects except certain ones necessary for aircraft navigation or maneuvering. The OFA dimensions to be applied for the purposes of this *Compatibility Plan* are as established by the FAA.

1.2.29. *Overrule:* An action that a *Local Agency* can take in accordance with provisions of state law if the *Local Agency* wishes to proceed with adoption or amendment of a general plan or specific plan, adoption or approval of a zoning ordinance or building regulation, or modification of an airport master plan[3] or, under conditions specified in Section 1.5.24, a *Major Land Use Action*[4] affecting the *Airport Influence Area* in spite of an *ALUC* finding that the *Land Use Action* is inconsistent with this *Compatibility Plan*. See Section 1.6 for process required to overrule the *ALUC*.

1.2.30. *Project; Land Use Action; Development Proposal:* Terms similar in meaning and all referring to the types of land use development activities, either publicly or privately sponsored, that are subject to the provisions of this *Compatibility Plan*.

1.2.31. *Reconstruction*: The rebuilding of an existing nonconforming structure that has been fully or partially destroyed as a result of a calamity (not planned *Reconstruction* or *Redevelopment*). See Policy 4.1.3(c)(3).

1.2.32. *Recorded Overflight Notification:* A form of buyer awareness documentation recorded in the chain-of-title for a property stating that the property may be subject to annoyances and inconveniences associated with the flight of aircraft to, from, and around a nearby airport. Unlike an *Avigation Easement* (see Policy 1.2.11), a *Recorded Overflight Notification* does not convey property rights from the property owner to the airport and does not restrict the height of objects. See Policy 3.5.2 for applicability. Also see Policy 1.2.6 for a related buyer awareness tool, *airport proximity disclosure*.

1.2.33. *Redevelopment:* Development of a new use (not necessarily a new type of use) to replace an existing use at a *Density* or *Intensity* that may vary from the existing use. *Redevelopment Projects* are subject to the provisions of this *Compatibility Plan* to the same extent as other forms of proposed development.

1.2.34. *Residential Development:* Any subdivision of land for residential purposes or any construction of residential units other than on an existing designated single-family residential parcel.

[3] Public Utilities Code Sections 21676(a), (b), and (c).
[4] Public Utilities Code Section 21676.5(a).

1.2.35. *Routine Overflight Zone:* The area commonly overflown by aircraft at an altitude of approximately 1,500 feet or less as they approach, depart, or engage in flight training at an airport.

1.3. Geographic Scope

1.3.1. *Airport Influence Area*: As defined in accordance with state law, an influence area encompasses all lands on which the uses could be negatively affected by present or future aircraft operations at the *Airport* as well as lands on which the uses could negatively affect *Airport* use.

(a) The *Airport Influence Area* constitutes the area within which certain *Land Use Actions* are subject to *ALUC* review to determine consistency with the *Compatibility Plan*.

(b) In delineating the *Airport Influence Area* for each airport, the geographic extents of four types of compatibility concerns are considered:

(1) Noise: Locations exposed to potentially disruptive levels of aircraft noise.

(2) Safety: Areas where the risk of an aircraft accident poses heightened safety concerns for people and property on the ground.

(3) Airspace Protection: Places where height and various other land use characteristics need to be restricted in order to prevent creation of physical, visual, or electronic hazards to flight within the airspace required for operation of aircraft to and from the *Airport*.

(4) Overflight: Locations where aircraft overflying can be intrusive and annoying to many people.

(c) Each of these four concerns is separately addressed in this *Compatibility Plan* within its own "layer" representing that particular compatibility factor. See Section 3 for the policies and maps associated with each layer.

(d) Other impacts sometimes created by airports (e.g., air pollution, automobile traffic, etc.) are not addressed herein and are not factors that the *ALUC* shall consider in reviewing land use *Projects*.

1.3.2. *Referral Areas:* Each *Airport Influence Area* is divided into two areas, *Referral Area 1* and *Referral Area 2*. Requirements for referral of *Land Use Actions* to the *ALUC* for review differ between these two areas (see Section 1.4). The airport influence area maps presented as **MOD-1** and **OAK-1** illustrate these areas.

(a) *Referral Area 1* encompasses locations where noise and/or safety represent compatibility concerns and airspace protection and overflight may also be concerns.

(b) *Referral Area 2* includes locations where airspace protection and/or overflight are compatibility concerns, but not noise or safety.

1.4. Limitations of this Compatibility Plan

1.4.1. *Agencies Not Affected by the ALUCP:* Lands controlled by federal or state agencies or by Native American tribes are not subject to the provisions of this ALUCP.

1.4.2. *Airport Operations:* In general, neither the *ALUC* nor this *Compatibility Plan* have authority over the planning and design of on-airport facilities or over *Airport* operations including

where and when aircraft fly, the types of aircraft flown, and other aspects of aviation.[5] Exceptions to this limitation are as follows:

(a) State law requires *ALUC* review of airport master plans and certain development plans to the extent that aviation-related facilities or activities could have off-airport land use compatibility implications (see Policy 1.5.5).[6]

(b) *Non-aviation Development* of *Airport* property is subject to *ALUC* review in the same manner that *ALUC* review is required for non-aviation development actions off *Airport* property. The review may take place as part of an airport master plan or on an individual development *Project* basis (see Policy 1.5.4(c)).

1.4.3. *Existing Land Uses:* The policies of this *Compatibility Plan* do not apply to *Existing Land Uses*.[7] A land use is considered to be "existing" when one or more of the below conditions has been met prior to the adoption date of the *Compatibility Plan* by the *ALUC*.

(a) Qualifying Criteria: An *Existing Land Use* is one that either physically exists or for which *Local Agency* commitments to the proposal have been obtained in one or more of the following manners:

(1) A tentative parcel or subdivision map has been approved and not expired;

(2) A vesting tentative parcel or subdivision map has been approved;

(3) A development agreement has been approved and remains in effect;

(4) A final subdivision map has been recorded;

(5) A use permit or other discretionary entitlement has been approved and not yet expired; or

(6) A valid building permit has been issued and not yet expired.

(b) Revisions to Approved Development: Filing of a new version of any of the approval documents listed in Paragraph (a) of this policy means that the use no longer qualifies as existing and, therefore, is subject to *ALUC* review in accordance with the policies of ALUCP Chapter 2, Section 2.

(c) Expiration of Local Agency Commitment: If a *Local Agency*'s commitment to a *Development Proposal*, as set forth in Paragraph (a) of this policy, expires, the proposal will no longer qualify as an *Existing Land Use*. As such, the proposal shall be subject to the criteria of this *Compatibility Plan*.

(d) Existing Nonconforming Uses: The *ALUC* has no ability to reduce or remove *Nonconforming* or otherwise incompatible *Existing Land Uses* from the airport environs. However, proposed changes to existing uses (i.e., *Reconstruction*, *Redevelopment*) *are* subject to *ALUC* review if the changes would result in increased nonconformity with the compatibility criteria (see Policy 4.1.3).

1.4.4. *Development by Right*:

(a) Nothing in this *Compatibility Plan* prohibits:

[5] This is an explicit limitation of state law under Public Utilities Code Section 21674(e).
[6] See Public Utilities Code Sections 21676(c) and 21664.5.
[7] This is an explicit limitation of Public Utilities Code Sections 21670(a) and 21674(a).

(1) Construction of a single-family home on a legal lot of record as of the date of adoption of this *Compatibility Plan* provided that the home is not within Safety Zone 1 or the CNEL 65 dB contour and the use is permitted by local land use regulations.

(2) Construction of a secondary unit as defined by state law.

(3) Lot line adjustments provided that new developable parcels would not be created and the resulting *Density* or *Intensity* of the affected property would not exceed the applicable safety criteria indicated in **Table 2**, *Safety Compatibility Criteria*.

(4) Construction or establishment of a family day care home serving 14 or fewer children either in an existing dwelling or in a new dwelling permitted by the policies of this *Compatibility Plan*.

(b) The sound attenuation and *Avigation Easement* dedication requirements set by Policies 3.2.4 and 4.1.1 shall apply to development permitted under this policy.

1.5. Types of Actions Subject to ALUC Review

1.5.1. *Land Use Actions for which Referral is Always Mandatory:* Prior to approving any of the following types of *Land Use Actions*, the *Local Agency* (see Policy 1.2.23) always must refer the *Land Use Action* to the *ALUC* for determination of consistency with the *Stanislaus County Airport Land Use Compatibility Plan*:[8]

(a) *Local Agency* adoption or approval of any new general or specific plan or any amendment thereto that affects lands within the *Airport Influence Area*.

(b) *Local Agency* adoption or approval of a zoning ordinance or building regulation, including any proposed change or variance to any such ordinance or regulation, that (1) affects land within the *Airport Influence Area* and (2) involves the types of airport impact concerns listed in Policy 1.3.1(b).

1.5.2. *Interim Mandatory Referral of Major Land Use Actions:* In addition to the actions listed in Policies 1.5.1 and 1.5.5 for which referral to the *ALUC* is always required, referral of certain other actions is mandatory as follows.

(a) *Local Agencies* must refer all *Major Land Use Actions* (see list in Policy 1.5.4) to the *ALUC* for review until such time as:

(1) The *ALUC* finds that a *Local Agency*'s general plan or specific plan is consistent with the *Compatibility Plan*; or

(2) The *Local Agency* has overruled the *ALUC* determination of inconsistency (see Section 1.6).

(b) Referral of lesser actions of types not included on the *Major Land Use Actions* list is optional.[9]

[8] Public Utilities Code Section 21676(b).

[9] Under the conditions indicated in Policy 1.5.2(a), state law (Public Utilities Code Section 21676.5(a)) allows ALUCs to require *Local Agencies* to refer all actions, regulations, and permits involving land within an *Airport Influence Area* to the *ALUC* for review. The *ALUC* has opted to reduce this all inclusive list to just *Major Land Use Actions*.

1.5.3. *Voluntary Referral of Major Land Use Actions:* After a *Local Agency* has revised its general plan or specific plan to be consistent with this *Compatibility Plan* (see Section 4.3) or has overruled the *ALUC*, referral of *Major Land Use Actions* for *ALUC* review is voluntary.[10]

(a) The *ALUC* requests *Local Agencies* to continue to refer *Major Land Use Actions* as listed in Policy 1.5.4 for informal review and comment. *ALUC* review of these types of *Projects* can serve to enhance their compatibility with *Airport* activity.

(b) The *ALUC Secretary* is authorized on behalf of the *ALUC* to provide comments on *Major Land Use Actions* referred to the *ALUC* on a voluntary basis.

(c) Because the *ALUC* reviews of *Land Use Actions* under these circumstances do not represent formal consistency determinations as is the case with actions referred under Policies 1.5.1 or 1.5.5, *Local Agencies* are not required to adhere to the overruling process if they elect to approve a *Project* without incorporating design changes or conditions recommended by the *ALUC* or *ALUC Secretary*.

1.5.4. *Major Land Use Actions:* The scope or character of certain *Major Land Use Actions,* as listed below in Paragraphs (a) through (e), is such that their compatibility with *Airport* activity is a potential concern. Even though these actions may be basically consistent with the local general plan or specific plan, sufficient detail may not be known to enable a full airport compatibility evaluation at the time that the general plan or specific plan is reviewed. To enable better assessment of compliance with the compatibility criteria set forth herein, *ALUC* review of these actions may be warranted. The circumstances under which *ALUC* review of these actions is to be conducted are indicated in Policies 1.5.2 and 1.5.3 above.

(a) Actions Affecting Land Uses within *Referral Area 1*:

(1) Any proposed expansion of the sphere of influence of a city or special district.

(2) Proposed pre-zoning associated with future annexation of land to a city.

(3) Proposed development agreements or amendments to such agreements.

(4) Proposed *Residential Development*, including land divisions, consisting of 5 or more dwelling units or parcels.

(5) Any discretionary *Development Proposal* for *Projects* having a building floor area of 20,000 square feet or greater unless only ministerial approval (e.g., a building permit) is required.

(6) Any discretionary *Development Proposal* for *Projects* expected to attract more than 100 people (including employees, customers/visitors) to outdoor activities to the *Project* site during a typical busy period.

(7) Major infrastructure or other capital improvements (e.g., water, sewer, or roads) that would promote urban uses in undeveloped or agricultural areas to the extent that such uses are not reflected in a previously reviewed general plan or specific plan.

(8) Any proposal for non-aviation use of land within Safety Zone 1.

(9) Proposed land acquisition by a government entity for any facility (for example, a school or hospital) designed to accommodate more than 100 people during a typical busy period.

[10] Once the conditions indicated in Policy 1.5.2(a) have been met, the *ALUC* no longer has authority under state law to require that all actions, regulations, and permits be referred for review. However, the *ALUC* and the *Local Agency* can agree that the *ALUC* should continue to receive, review, and comment upon individual *Projects*.

(10) Any proposed object (including buildings, poles, antennas, and other structures) having a height that requires review by the Federal Aviation Administration in accordance with Part 77 of the Federal Aviation Regulations.

(11) Any project or plan (e.g., Habitat Conservation Plan) proposing open water areas or landscaping features having the potential to cause an increase in the attraction of birds or other wildlife that can be hazardous to aircraft operations in the vicinity of the airport.

(12) Any *Project* having the potential to create electrical or visual hazards to aircraft in flight, including:

- Electrical interference with radio communications or navigational signals;
- Lighting which could be mistaken for Airport lighting;
- Glare in the eyes of pilots of aircraft using the Airport; and
- Impaired visibility near the Airport.

(13) Any project having the potential to create a thermal plume extending to an altitude where aircraft fly.

(b) Actions Affecting Land Uses within *Referral Area 2*: Only the actions listed in Paragraphs (a)(10) through (a)(13) of this policy require referral to the *ALUC* for review.

(c) Proposed non-aviation development of *Airport* property if such development has not previously been included in an airport master plan or community general plan reviewed by the *ALUC*. (See Policy 1.2.10 for definition of *aviation-related use*.)

(d) Proposed Redevelopment (see Policy 1.2.33) if the *Project* is of a type listed in Paragraph (a) of this policy.

(e) Any other proposed *Land Use Action*, as determined by the *Local Agency*, involving a question of compatibility with *Airport* activities.

1.5.5. *Mandatory Referral of Airport Planning and Development Actions:* Prior to approving either of the following types of airport planning and development actions, the airport operator, including the County of Stanislaus for the proposed Crows Landing Airport, must refer the action to the *ALUC* for determination of consistency with the *Stanislaus County Airport Land Use Compatibility Plan*.

(a) Adoption or modification of a master plan for a public-use airport.[11]

(b) Any proposal for "expansion" of an airport that would require an amended Airport Permit from the State of California. As used in the statutes, "expansion" primarily includes construction of a new runway, extension or realignment of an existing runway, or related acquisition of land.[12]

(c) Any proposal for a new airport or heliport whether for public use or private use must be submitted for ALUCP review if the facility requires a State Airport Permit.

1.5.6. *Submittal of Environmental Documents:* The *ALUC* does not have a formal responsibility to review the environmental document associated with *Land Use Actions* or *Airport* actions referred to it for review.

[11] Public Utilities Code Section 21676(c).
[12] Public Utilities Code Section 21664.5.

(a) The *ALUC* authorizes the *ALUC Secretary* to provide comments on environmental documents submitted to the *ALUC* for comment.

(b) If an environmental document has been prepared at the time that the *Land Use Action* or *Airport* action is referred for review and the document contains information pertinent to the review, then a copy must be included with the referral.

1.6. Overruling the ALUC

1.6.1. *ALUC Determination of "Inconsistent":* If the *ALUC* determines that a proposed *Land Use Action*, regulation, or permit or a proposed *Airport* project is inconsistent with this *Compatibility Plan*, the *ALUC* must notify the *Local Agency* and shall indicate the reasons for the inconsistency determination.

1.6.2. *Overruling of ALUC by Local Agency:*

(a) If a *Local Agency* wishes to proceed with a proposed *Land Use Action*, regulation, permit, or *Project* or *Airport* project that the *ALUC* has determined to be inconsistent with the *Compatibility Plan*, or if the *Local Agency* wishes to ignore a condition for consistency, the *Local Agency* must overrule the *ALUC* determination in accordance with the provisions of state law.[13]

(b) The overruling process applies only to determinations made by the *ALUC*, not ones made by the *ALUC Secretary* in accordance with Policy 2.3.2. Disagreements over determinations made by the *ALUC Secretary* are first to be appealed to the *ALUC*. See Policy 2.3.4.

1.6.3. *ALUC Comments on Proposed Overruling:* The *ALUC* may provide comments on the proposed overruling decision. The *ALUC* delegates to the *ALUC Secretary* the authority to provide comments.

2. ALUC Review Process

2.1. General Requirements

2.1.1. *Timing of Project Submittal by Local Agency:* The precise timing of the *ALUC*'s or *ALUC Secretary*'s review of a proposed *Land Use Action* may vary depending upon the nature of the specific *Project*.

(a) Referrals to the *ALUC* should be made at the earliest reasonable point in time so that the *ALUC*'s review can be duly considered by the *Local Agency* prior to when the agency

[13] For a *Local Agency* to overrule the *ALUC*, that agency must: (1) prepare specific findings that the proposed action is consistent with the purposes of the ALUC statutes as defined in Public Utilities Code Section 21670(a); (2) provide the *ALUC* and the California Division of Aeronautics a copy of the proposed decision and findings at least 45 days prior to the decision to overrule; (3) hold a public hearing on the matter; (4) take action by a two-thirds vote of the agency's governing body; and (5) include the comments, if any, received from the *ALUC* and the Division of Aeronautics in the public record of the final decision to overrule the *ALUC*. See Public Utilities Code Sections 21676 and 21676.5 for specific procedures for overruling the *ALUC*. Further guidance is provided in the *California Airport Land Use Handbook* published by the California Division of Aeronautics (see beginning on page 5-15 of the 2011 edition). Also see Chapter 1 of this Compatibility *Plan* for a summary of the statutory requirements.

formalizes its actions. Depending upon the type of plan or *Project* and the normal scheduling of meetings, *ALUC* review can be completed before, after, or concurrently with review by the local planning commission and other advisory bodies, but *must* be accomplished before final action by the *Local Agency*.

(b) Completion of a formal application with the *Local Agency* is not required prior to a *Local Agency*'s referral of a proposed *Land Use Action* to the *ALUC*. Rather, a *Project* applicant may request, and the *Local Agency* may refer, a proposed *Land Use Action* to the *ALUC* for early review, so long as the *Local Agency* is able to provide the *ALUC* with the *Project* submittal information for the proposal, as specified and required in Section 2.3.1 of this *Compatibility Plan*.

2.1.2. *Responsibilities for Project Consistency Analysis:* The *ALUC* and *Local Agencies* are each responsible for analyzing a *Project* proposal for compliance with the compatibility criteria set forth in this *Compatibility Plan*.

(a) *Local Agency* staff may choose to initially evaluate proposed *Projects* and work with the *Project* applicant to bring the proposal into compliance with *Compatibility Plan* criteria. The *ALUC Secretary* will provide informal input at this stage if requested.

(b) When a proposed *Project* is formally referred to the *ALUC*, the *ALUC Secretary* shall review the proposal to determine if it is consistent with the *Compatibility Plan* policies. *Projects* of a type that require a formal consistency determination by the *ALUC* (those listed in Policy 1.5.1) will be placed on the agenda for action.

(c) Subsequent to when a *Local Agency*'s general plan and applicable specific plans have been determined by the *ALUC* to be consistent with the *Compatibility Plan*, the *Local Agency* and its staff are responsible for the consistency analysis of *Major Land Use Actions*. The *ALUC Secretary* will provide informal input if requested or the *Local Agency* can voluntarily refer the *Land Use Action* to the *ALUC* for a consistency determination. *Land Use Actions* for which referral to the *ALUC* is mandatory regardless of the general plan and specific plan consistency status (actions listed in Policy 1.5.1) must continue to be referred for a consistency determination by the *ALUC*.

(d) The *Local Agency* and its staff are responsible for ensuring that a development continues to comply with *Compatibility Plan* criteria on an on-going basis following completion of the *Project* (*Intensity* and height limitations in particular).

2.1.3. *Public Input:* Where applicable, the *ALUC* shall provide public notice and obtain public input before acting on any plan, regulation, or other land use proposal under consideration.[14]

2.1.4. *Fees:* Any applicable review fees as established by the *ALUC* shall accompany the submittal of actions for *ALUC* or *ALUC Secretary* review.[15]

2.2. Review Process for General Plans, Specific Plans, Zoning Ordinances, and Building Regulations

2.2.1. *Required Submittal Information:* Copies of the complete text and maps of the plan, ordinance, or regulation proposed for adoption or amendment must be submitted to the *ALUC*. Any

[14] In accordance with Public Utilities Code Section 21675.2(d).
[15] Public Utilities Code Section 22671.5(f) allows for ALUCs to charge fees for *Project* reviews.

supporting material, such as environmental documents, assessing the proposal's consistency with the *Compatibility Plan* should be included. If the amendment is required as part of a proposed *Major Land Use Action*, then the information listed in Policy 2.3.1 shall also be included to the extent applicable.

2.2.2. *Initial ALUC Review of General Plan Consistency:* In conjunction with adoption or amendment of this *Stanislaus County Airport Land Use Compatibility Plan*, the *ALUC* shall review the general plans and specific plans of affected *Local Agencies* to determine their consistency with the *ALUC*'s policies.

(a) State law[16] requires that, within 180 days of the *ALUC*'s adoption or amendment of this *Compatibility Plan*, each *Local Agency* affected by the plan must amend its general plan and any applicable specific plan(s) to be consistent with the *ALUC*'s *Compatibility Plan* or, alternatively, provide required notice, adopt findings, and overrule the *ALUC* in accordance with statutory requirements.[17]

(b) Prior to taking action on a proposed amendment of a general plan or specific plan as necessitated by Paragraph (a) of this policy, the *Local Agency* must submit a draft of the proposal to the *ALUC* for review and approval.

(c) In conjunction with its referral of a general plan or specific plan amendment to the *ALUC* in response to the requirements of Paragraphs (a) and (b) above, a *Local Agency* must identify areas that it requests the *ALUC* to consider as *Infill* in accordance with Policy 4.1.2 if it wishes to take advantage of the *Infill* policy provisions. The *ALUC* will include a determination on the *Infill* as part of its action on the consistency of the general plan and/or applicable specific plan(s).

2.2.3. *Subsequent Reviews of Related Land Use Development Proposals:* Once a *Local Agency*'s general plan and applicable specific plans have been made consistent with this *Compatibility Plan*, or the *Local Agency* has overruled an *ALUC* finding of inconsistency regarding those plans, subsequent land use development actions that are consistent both with those local plans and with any related ordinances and regulations also previously reviewed by the *ALUC* are subject to *ALUC* review only under the conditions indicated in Policies 1.5.2 and 2.3.7.

2.2.4. *ALUC Action Choices:* When reviewing a general plan, specific plan, zoning ordinance, or building regulation for consistency with the *Compatibility Plan*, the *ALUC* has three choices of action:

(a) Find the plan, ordinance, or regulation consistent with the *Compatibility Plan*. To make such a finding with regard to a general plan, the conditions identified in Section 4.3 must be met.

(b) Find the plan, ordinance, or regulation consistent with the *Compatibility Plan*, subject to conditions and/or modifications that the *ALUC* may require. Any such conditions should be limited in scope and described in a manner that allows compliance to be clearly assessed.

(c) Find the plan, ordinance, or regulation inconsistent with the *Compatibility Plan*. In making a finding of inconsistency, the *ALUC* shall note the specific conflicts or shortcomings upon which its determination is based.

[16] Government Code Section 65302.3.
[17] Public Utilities Code Section 21676(b).

2.2.5. *Response Time:* The *ALUC* must respond to a *Local Agency*'s request for a consistency determination on a general plan, specific plan, zoning ordinance, or building regulation within 60 days from the date of referral.[18]

(a) The date of referral is deemed to be the date on which all applicable *Project* information as specified in Policy 2.2.1 is received by the *ALUC Secretary* and the *ALUC Secretary* determines that the application for a consistency determination is complete.

(b) If the *ALUC* fails to make a determination within the 60-day period, the proposed *Land Use Action* shall be deemed consistent with the *Compatibility Plan*.

(c) The 60-day review period may be extended if the referring *Local Agency* or *Project* applicant agrees in writing or so states at an *ALUC* public hearing on the *Land Use Action*.

(d) Regardless of *ALUC* action or failure to act, the proposed *Land Use Action* must comply with other applicable local, state, and federal regulations and laws.

(e) The referring *Local Agency* shall be notified of the *ALUC*'s action in writing.

2.3. Review Process for Major Land Use Actions

2.3.1. *Required Submittal Information:* A proposed *Major Land Use Action* referred for *ALUC* (or *ALUC Secretary*) review shall include the following information to the extent applicable:

(a) Property location data (assessor's parcel number, street address, subdivision lot number).

(b) An accurately scaled map depicting the *Project* site location in relationship to the airport boundary and runways.

(c) A description of the proposed use(s), current general plan and zoning designations, and the type of *Land Use Action* being sought from the *Local Agency* (e.g., zoning variance, special use permit, building permit).

(d) A detailed site plan and supporting data showing: site boundaries and size; existing uses that will remain; location of existing and proposed structures, open spaces, and water bodies; ground elevations (above mean sea level) and elevations of tops of structures and trees. Additionally:

(1) For residential uses, an indication of the potential or proposed number of dwelling units per acre (excluding any secondary units as defined by state and local law).

(2) For nonresidential uses, the total floor area for each type of proposed use, the number of auto parking spaces, and, if known, the maximum number of people potentially occupying the total site or portions thereof at any one time.

(e) Identification of any features, during or following construction, that would increase the attraction of birds or cause other wildlife hazards to aircraft operations at the *Airport* or in its environs (see Policy 3.4.3). Such features include, but are not limited to the following:

(1) Open water areas.

(2) Sediment ponds, retention basins.

(3) Detention basins that hold water for more than 48 hours.

[18] Public Utilities Code Section 21676(d).

(4) Artificial wetlands.

(f) Identification of any characteristics that could create electrical interference, confusing or bright lights, glare, smoke, or other electrical or visual hazards to aircraft flight.

(g) Any environmental document (initial study, draft environmental impact report, etc.) that may have been prepared for the *Project*.

(h) Staff reports regarding the *Project*.

(i) Other relevant information that the *ALUC* or *ALUC Secretary* determine to be necessary to enable a comprehensive review of the proposed *Land Use Action*.

2.3.2. *Review by ALUC Secretary:* The *ALUC* delegates to the *ALUC Secretary* the review and consistency determination of *Major Land Use Actions* referred on a mandatory basis under Policy 1.5.2 or on a voluntary basis under Policy 1.5.3. In reviewing these actions, the *ALUC Secretary* shall:

(a) Consult with the airport manager on *Land Use Actions* within the *Airport Influence Area*.

(b) Provide to the *ALUC*, at its next regular meeting, a list of all *Projects* reviewed and the determination made.

2.3.3. *ALUC Secretary's Choices:* The *ALUC Secretary* is authorized, on behalf of the *ALUC*, to make consistency determinations on *Major Land Use Actions* reviewed in accordance with Policy 1.5.2. Such determinations shall be made in writing and shall describe the consistency analysis and the basis for the determination. The *ALUC Secretary* may opt to forward complex or controversial actions to the *ALUC* for a consistency determination. For actions not forwarded to the *ALUC*, the *ALUC Secretary* has three choices of action:

(a) Find the *Project* consistent with the *Compatibility Plan*.

(b) Find the *Project* consistent with the *Compatibility Plan*, subject to compliance with such conditions as the *ALUC Secretary* may specify. Any such conditions should be limited in scope and described in a manner that allows compliance to be clearly assessed (e.g., the height of a structure).

(c) Find the *Project* inconsistent with the *Compatibility Plan*. In making a finding of inconsistency, the *ALUC Secretary* shall note the specific conflicts upon which the determination is based.

2.3.4. *Appeal of ALUC Secretary's Action:* The affected *Local Agency*, *Project* applicant, the *Airport* owner, or other directly interested party may appeal to the *ALUC* a consistency determination made by the *ALUC Secretary* on a *Major Land Use Action* reviewed in accordance with Policy 1.5.2. The *ALUC* shall then review the proposed *Land Use Action*, the *ALUC Secretary*'s determination, and information supporting the appeal and make a final determination regarding the proposed *Land Use Action*'s consistency with the *Compatibility Plan*. Any appeal of the *ALUC Secretary*'s determination must be submitted within 30 days of the date when the determination was issued.

2.3.5. *ALUC Action Choices:* When reviewing appealed *Major Land Use Actions*, the *ALUC* has the same three action choices provided for the *ALUC Secretary* in Policy 2.3.3.

2.3.6. *Response Time:* In responding to *Major Land Use Actions* referred for review, the policy of the *ALUC* is that:

(a) When a *Major Land Use Action* is referred for review on a mandatory basis as required by Policy 1.5.2:

(1) The date of referral is deemed to be the date on which all applicable *Project* information as specified in Policy 2.3.1 is received by *ALUC Secretary* and the *ALUC Secretary* determines that the application for a consistency determination is complete.

(2) Reviews by the *ALUC Secretary* shall be completed within 30 days of the date of referral.

(3) Reviews of *Projects* appealed to the *ALUC* for a consistency determination shall be completed within 60 days of the date of the appeal.[19]

(4) If the *ALUC Secretary* or the *ALUC* fail to make a determination within the above time periods, the proposed *Land Use Action* shall be deemed consistent with the *Compatibility Plan*.

(b) When a *Major Land Use Action* is referred on a voluntary basis in accordance with Policy 1.5.3, review by the *ALUC Secretary* and/or the *ALUC* should be completed in a timely manner enabling the comments to be considered by decision-making bodies of the referring *Local Agency*.

(c) Regardless of action or failure to act on the part of the *ALUC Secretary* or the *ALUC*, the proposed *Land Use Action* must comply with other applicable local, state, and federal laws and regulations.

(d) The referring *Local Agency* shall be notified of the *ALUC Secretary*'s and/or the *ALUC*'s action in writing.

2.3.7. *Subsequent Reviews of Related Land Use Development Proposals:* Once a *Project* has been found consistent with the *Compatibility Plan*, it generally need not be referred for review at subsequent stages of the planning process (e.g., for a use permit after a zoning change has been reviewed). However, additional *ALUC* review is required if any of the following are true:

(a) At the time of the original *ALUC* review, the *Project* information available was only sufficient to determine consistency with compatibility criteria at a planning level of detail, not at the *Project* design level. For example, the proposed land use designation indicated in a general plan, specific plan, or zoning amendment may have been found consistent, but information on site layout, maximum *Intensity* limits, building heights, and other such factors that may also affect the consistency determination for a *Project* may not have yet been known.

(b) The design of the *Project* subsequently changes in a manner that affects previously considered compatibility issues and could raise questions as to the validity of the earlier finding of consistency. Proposed changes warranting a new review include, but are not limited to, the following:

(1) For residential uses, any increase in the number of dwelling units;

(2) For nonresidential uses, a change in the types of proposed uses, any increase in the total floor area, and/or a change in the allocation of floor area among different

[19] For *Major Land Use Actions*, this 60-day limit is not a statutory requirement, but is set by the *ALUC* to be consistent with Policy 2.2.5 and Public Utilities Code Section 21676(d) regarding general plans, specific plans, zoning ordinances, and building regulations.

types of uses in a manner that could result in an increase in the *Intensity* of use (more people on the site) to a level exceeding the criteria set forth in this *Compatibility Plan*;

(3) Any increase in the height of structures or other design features such that the height limits established herein would be exceeded or exceeded by a greater amount;

(4) Major site design changes (such as incorporation of clustering or modifications to the configuration of open land areas proposed for the site) if site design was a factor in the initial *Project* review;

(5) Any significant change to a proposed *Project* for which a special exception was granted in accordance with Policy 4.1.5;

(6) Any new design features that would create visual hazards (e.g., certain types of lights, sources of glare, and sources of dust, steam, or smoke);

(7) Any new equipment or features that would create electronic hazards or cause interference with aircraft communications or navigation; and/or

(8) Addition of features that could attract wildlife that is potentially hazardous to aircraft operations.

(c) At the time of original *ALUC* review, conditions were placed on the *Project* that require subsequent *ALUC* review.

(d) The local jurisdiction concludes that further review is warranted.

2.4. Review Process for Airport Master Plans and Development Plans

2.4.1. *Required Submittal Information:* A master plan, airport layout plan, or development plan referred to the *ALUC* for review shall contain sufficient information to enable the *ALUC* to adequately assess the noise, safety, airspace protection, and overflight impacts of *Airport* activity upon surrounding land uses.

(a) When a new or amended master plan is the subject of the *ALUC* review, the noise, safety, airspace protection, and overflight impacts should be addressed in the plan report and/or in an accompanying environmental document. Proposed changes in *Airport* facilities and usage that could have land use compatibility implications should be noted.

(b) For *Airport* development plans, the relationship to a previously adopted master plan or other approved plan for the *Airport* should be indicated—specifically, whether the proposed development implements an adopted/approved plan or represents an addition or change to any such previous plan. Any environmental document prepared for the *Project* should be included in the submittal.

(c) For either airport master plans or development plans, the following specific information should be included to the extent applicable:

(1) A layout plan drawing of the proposed facility or improvements showing the location of:

- Property boundaries;
- Runways or helicopter takeoff and landing areas;
- Runway or helipad protection zones; and
- Aircraft or helicopter approach/departure flight routes.

(2) A revised map of the *Airspace Protection Surfaces* as defined by Federal Aviation Regulations Part 77 if the proposal would result in changes to these surfaces. Maps

reflecting the current and future configurations of the *Airspace Protection Surfaces* associated with each airport are included in Chapters 3, 4, and 5.

(3) Updated activity forecasts, including the number of operations by each type of aircraft proposed to use the facility, the percentage of day versus night operations, and the distribution of takeoffs and landings for each runway direction. The effects of the proposed development on the forecast *Airport* usage indicated in Chapter 3 of this *Compatibility Plan* should be described.

(4) Proposed flight track locations and projected noise contours. Differences from the flight track data and noise contours presented in Chapter 3. 4, and 5 of this *Compatibility Plan* should be described.

(5) A map showing existing and planned land uses in the areas affected by aircraft activity associated with implementation of the proposed master plan or development plan.

(6) Identification and proposed mitigation of impacts on surrounding land uses to the extent that those impacts would be greater than indicated by the Policy Maps included in this chapter.

2.4.2. *ALUC Action Choices for Airport Plans:* When reviewing a proposed new or revised airport master plan or new development plans for an airport included in the *ALUCP*, the *ALUC* has three action choices (see Section 4.4 for policies pertaining to the substance of the *ALUC* review of *Airport* plans):

(a) Find the *Airport* plan consistent with the *Compatibility Plan*.

(b) Find the *Airport* plan consistent with the *Compatibility Plan* with the condition that the *Compatibility Plan* be modified to reflect the assumptions and proposals of the *Airport* plan.

(c) Find the *Airport* plan inconsistent with the *Compatibility Plan.*

2.4.3. *Response Time:* The *ALUC* must respond to the referral of an airport master plan or development plan within 60 days from the date of referral.[20]

(a) The date of referral is deemed to be the date on which all applicable *Project* information as specified in Policy 2.4.1 is received by *ALUC Secretary* and the *ALUC Secretary* determines that the application for a consistency determination is complete.

(b) If the *ALUC* fails to make a determination within the specified period, the proposed *Land Use Action* shall be deemed consistent with the *Compatibility Plan*.

(c) Regardless of *ALUC* action or failure to act, the proposed *Land Use Action* must comply with other applicable local, state, and federal regulations and laws.

(d) The *Airport* owner shall be notified of the *ALUC*'s action in writing.

[20] Public Utilities Code Section 21676(d).

3. COMPATIBILITY CRITERIA

3.1. Evaluating Land Use Consistency

3.1.1. *Evaluating Compatibility of New Development:* The compatibility of proposed land uses within an *Airport Influence Area* shall be evaluated in accordance with:

(a) The specific noise, safety, airspace protection, overflight, and other compatibility policies set forth in Sections 3.2 through 3.5 and in Section 4;

(b) The criteria listed in **Table 1**, Noise Compatibility Criteria, and **Table 2**, Safety Compatibility Criteria, and

(c) The Compatibility Zones depicted on the Compatibility Policy Maps in this chapter.

3.1.2. *Compatibility Criteria Tables:* **Table 1**, *Noise Compatibility Criteria*, and **Table 2**, *Safety Compatibility Criteria*, list general land use categories and indicate each use as being either "normally compatible," "conditionally compatible," or "incompatible" depending upon the noise and safety *Compatibility Zones* in which it is located. These three compatibility determinations are defined in Policies 3.2.1 and 3.3.1 as well as in the respective criteria tables.

(a) When evaluating a proposed development, each component land use category (e.g., agriculture, industrial, office) of a *Project* shall be evaluated as a separate development and shall individually satisfy the criteria for the respective land use category in the noise and safety criteria tables.

(b) Land uses not specifically listed in the noise and safety criteria tables shall be evaluated using the criteria for similar listed uses.

3.2. Noise Compatibility

Background

The following Noise Policy Background Information has been considered in formulating the Noise Compatibility policies and criteria in this section, and it is provided for informational purposes only. For additional discussion of noise compatibility concepts, see **Appendix D**.

Policy Objective

The purpose of noise compatibility policies is to avoid establishment of *Noise-Sensitive Land Uses* in the portions of the *Airport* environs that are exposed to significant levels of aircraft noise.

Measures of Noise Exposure

As is standard practice in California, this *Compatibility Plan* uses the *Community Noise Equivalent Level* (CNEL) metric as the primary basis for evaluating the degree to which lands around the *Airport* are exposed to airport-related noise. CNEL is a cumulative noise metric in that it takes into account not just the loudness of individual noise events, but also the number of events over time. Cumulative exposure to aircraft noise is depicted by a set of contours, each of which represents points having the same CNEL value. The noise contours depict the greatest annualized noise impact, measured in terms of CNEL, which is anticipated to be generated by the aircraft operating at the *Airport* over the planning time frame.

The noise contours included in the noise conmpatibility maps (MOD-2 and OAK-2) were developed for each airport based upon the existing and project aircraft fleet mix and number of opertations forecasted for a 20-year period.

Factors Considered in Setting Noise Compatibility Criteria

Factors considered in setting the criteria in this section include the following:

- Established state regulations and guidelines, including noise compatibility recommendations in the *California Airport Land Use Planning Handbook* (2011).
- Ambient noise levels in the community, as well as noise from other transportation noise sources. Ambient noise levels influence the potential intrusiveness of aircraft noise upon a particular land use and vary greatly between rural, suburban, and urban communities.
- The extent to which noise would intrude upon and interrupt the activity associated with a particular use. Susceptibility to speech interference or sleep disturbance as a result of single-event noise levels is a factor in this regard. Noise levels above approximately 65 dBA are sufficient to cause speech interference. Highly Noise-Sensitive Land Uses include residences, schools, libraries, and outdoor theaters.
- The extent to which the land use activity itself generates noise.
- The extent of outdoor activity, particularly noise-sensitive activities, associated with a particular land use.
- The extent to which indoor uses associated with a particular land use may be made compatible with application of sound attenuation. (Typical new building construction provides sufficient insulation to attenuate outdoor-to-indoor noise by at least 20 dB.)

3.2.1. *Evaluating Noise Compatibility for New Development:* The noise compatibility of proposed land uses within the an *Airport Influence Area* shall be evaluated in accordance with the policies set forth in this section, including the criteria listed in **Table 1**, *Noise Compatibility Criteria* and the noise exposure contours depicted on the respective *Compatibility Policy Map: Noise* for the affected airport (see **Maps MOD-2** and **OAK-2**).

(a) The criteria in **Table 1** indicate the maximum acceptable *Community Noise Equivalent Level* (CNEL) exposure for new residential land uses and a range of nonresidential land uses. Within the various noise exposure ranges, each land use type is shown as being either "normally compatible," "conditional," or "incompatible."

(b) "Normally Compatible" means that the proposed land use shall be presumed to be acceptable within locations having the indicated noise exposure.

(1) Indoor uses are "normally compatible" if either: they involve activities that are inherently noisy; or, standard construction methods will sufficiently attenuate exterior noise to an acceptable indoor CNEL. For land use types that are compatible because of noise levels inherent with the activity, sound attenuation must be provided for associated office, retail, and other noise-sensitive indoor spaces sufficient to reduce exterior noise to an interior maximum of CNEL 50 dB.

(2) Outdoor uses are "normally compatible" if the activities associated with the land use may be carried out with minimal interference from aircraft noise at the indicated CNEL.

(c) "Conditional" means that the conditions indicated in **Table 1** must be satisfied in order for the proposed land use to be acceptable.

(1) Indoor uses must have building structures that are capable of attenuating exterior noise from all noise sources to the indoor CNEL indicated by the number in the cell.

(2) The acceptability of outdoor uses is dependent upon characteristics of the specific use. Caution should be exercised with regard to *Noise-Sensitive Outdoor Land Uses* because these uses are likely to be disrupted by aircraft noise events. This caution is directed at the *Project* proponent and is not intended to preclude approval of the *Project*.

(d) "Incompatible" means that the proposed land use shall not be allowed under any circumstances except as noted in Paragraph (3) below.

(1) Indoor uses would have unacceptable noise levels if windows are open. At exposures above CNEL 65 dB, extensive mitigation techniques would be required to make the indoor environment acceptable for performance of activities associated with the land use even with windows closed.

(2) Outdoor uses would be exposed to severe noise interference that would prevent performance of activities associated with the land use.

(3) Exceptions to an "incompatible" designation may only be made if site-specific special conditions exist. See Policy 4.1.5.

3.2.2. *Maximum Acceptable Exterior Noise Levels:* To minimize noise-sensitive development in noisy areas around an *Airport*, new land use development shall be restricted in accordance with the following:

(a) Residential Development and Children's Schools:

(1) All new *Residential Development* and children's schools are deemed incompatible within the projected CNEL 60 dB contour of each airport.

(2) The noise compatibility policy maps presented for each airport (Maps MOD-2, and OAK-2) depict the area within which this restriction applies.

(3) Exceptions are also provided for existing residential lots. See Policy 1.4.4.

(b) Nonresidential Development: New *Nonresidential Development* is deemed incompatible in locations where the airport-related noise exposure would be highly disruptive to the specific land use. Applicable criteria are indicated in **Table 1**.

3.2.3. *Maximum Acceptable Interior Noise Levels:* To the extent that the criteria in **Table 1** and other policies herein permit the development, land uses for which interior activities may be easily disrupted by noise shall be required to comply with the following interior noise level criteria.

(a) The maximum, aircraft-related, interior noise level that shall be considered acceptable for land uses near airports is:

(1) CNEL 45 dB in:

- Any habitable room of single- or multi-family residences
- Children's schools (K-12)
- Libraries
- Long-term lodging (e.g., dormitories), congregate care facilities, and nursing homes
- Hotels, motels, and other short-term lodging;
- Hospitals;
- Adult educational and institutional facilities;
- Places of worship, meeting halls, theaters, and mortuaries; and
- Miscellaneous other uses as listed in **Table 1**, *Noise Compatibility Criteria*.

(2) CNEL 50 dB in:

- Offices and office areas of industrial facilities and research and development facilities;
- Retail centers and stores; and
- Personal and miscellaneous services.

(b) The noise contours depicted in **Maps MOD-2** and **OAK-2** shall be used in calculating compliance with these criteria. The calculations should assume that windows are closed.

(c) When a proposed building lies within multiple CNEL range zones (e.g., partly in 60-65 dB and partly in 65-70 dB), the higher range zone shall apply for the purposes of determining sound attenuation requirements unless less than 25% of the building floor area is within that zone. In such case, the lower range zone may be used.

(d) Where **Table 1** indicates that buildings associated with a particular land use must be capable of attenuating exterior noise to the specified maximum interior noise level, acoustical data documenting that the structure will be designed to comply with the criterion shall be provided to the *Local Agency* as part of the building permit process. The *Local Agency* shall be responsible for assuring compliance.

(e) Exceptions to the interior noise level criteria in Paragraph (a) of this policy may be allowed where evidence is provided that the indoor noise generated by the use itself exceeds the listed criteria.

3.2.4. *Avigation Easement Dedication Requirements:* Dedication of an *Avigation Easement* is required as a condition for approval of certain proposed development situated within the CNEL 60 dB contour in accordance with Policy 4.1.1 (see **Maps MOD-2** and **OAK-2** and **MOD-5** and **OAK-5**).

3.3. Safety Compatibility

Safety Policy Background Information

The following Safety Policy Background Information (in different typeface) has been considered in formulating the Safety Compatibility policies and criteria in this section, but is provided for informational purposes only does not itself constitute *ALUC* policy. For additional discussion of safety compatibility concepts, see **Appendix D**.

Policy Objective

The intent of land use safety compatibility criteria is to minimize the risks associated with an off-airport aircraft accident or emergency landing. The policies focus on reducing the potential consequences of such events should they occur. Risks both to people and property in the vicinity of an airport and to people on board the aircraft are considered (land use features that can be the *cause* of an aircraft accident are addressed under Airspace Protection, Section 3.4).

Measures of Risk Exposure

This *Compatibility Plan* evaluates the risk that potential aircraft accidents pose to lands and people around the *Airport* is in terms of two parameters: the likelihood of an accident occurring in a given location near the *Airport*; and the potential consequences if an accident occurs in that location.

- The accident likelihood is measured in terms of the geographic distribution of where accidents have historically occurred around other airports having similar types of activity. Because aircraft accidents are infrequent occurrences, the pattern of accidents at any one airport cannot be used to predict where future accidents are most likely to happen around that airport. Reliance must be placed on

data about aircraft accident locations at comparable airports nationally, refined with respect to information about the types and patterns of aircraft use at the individual airport. This methodology, as further described in **Appendix D**, is used to delineate the safety zones depicted in **Maps MOD-3** and **OAK-3,** *Compatibility Policy Map: Safety*.

- The consequences component of the risk considers the number of people in harm's way and their ability to escape harm. For most *Nonresidential Development*, potential consequences are measured in terms of the usage *Intensity*—the number of people per acre on the site. For *Residential Development*, *Density*—the number of dwelling units per acre—is substituted for *Intensity*. Additional criteria are applicable to specific types of uses.

Factors Considered in Setting Safety Compatibility Criteria

Factors considered in setting the criteria in this section include the following:

- The locations, delineated with respect to the Airport runway, where aircraft accidents typically occur near airports and the relative concentration of accidents within these locations. The most stringent land use controls are applied to the areas with the greatest potential accident exposure. The risk information utilized is the transport (air carrier) and general aviation accident data and analyses contained in the California Airport Land Use Planning Handbook.
- Handbook guidance is also used to delineate the safety zone boundaries for the Airport as depicted on Map 3, Compatibility Policy Map: Safety. The zone shapes and sizes reflect the existing and future runway length, approach categories, aircraft fleet mix, and normal flight patterns for the Airport. Specific factors considered in adjusting the generic Handbook zones to reflect the conditions at the Airport are indicated on the Safety Compatibility Factors map in Chapter 3.
- Handbook guidance regarding the maximum usage intensities (people per acre) considered acceptable is used for new development near airport runways.
- Residential Density limitations cannot be equated to the usage Intensity limitations for nonresidential uses. Consistent with pervasive societal views and as suggested by the Handbook guidelines, a greater degree of protection is warranted for residential uses.
- The presence of certain land use characteristics that represent safety concerns regardless of the number of people present; specifically: vulnerable occupants (children, elderly, disabled), hazardous materials, and critical community infrastructure.
- The extent to which development covers the ground and thus limits the options of where an aircraft in distress can attempt an emergency landing.

3.3.1. *Evaluating Safety Compatibility for New Development:* The safety compatibility of proposed land uses within the an *Airport Influence Area* shall be evaluated in accordance with the policies set forth in this section, including the criteria listed in **Table 2**, *Safety Compatibility Criteria*, and the safety zones depicted on **Maps MOD-3** and **OAK-3,** *Compatibility Policy Map: Safety*.

(a) The criteria in **Table 2** indicate whether a particular type of land use is "normally compatible," "conditional," or "incompatible" with the exposure to aircraft accident risks.

(b) "Normally Compatible" means that the proposed *Land Use Action* is presumed to comply with the indicated *Intensity* limits and other criteria for the zone. However, atypical examples of a use may require review to ensure compliance with the criteria.

(c) "Conditional" means that the proposed *Land Use Action* must comply with the conditions listed in the table.

(d) "Incompatible" means that proposed *Land Use Action* shall not be permitted under any normal circumstances within the indicated safety zone. Limited exceptions are possible for site-specific special conditions. See Policy 4.1.5.

3.3.2. *Residential Development Criteria:* Proposed *Residential Development* shall be evaluated in accordance with the following criteria:

(a) The *Density* of *Residential Development* shall be measured in terms of dwelling units per acre. The maximum allowable *Densities* in each safety zone are as follows. Exceptions are provided for existing single-family homes and residential lots (see Policy 1.4.4).

(1) Within Safety Zones 1, new *Residential Development* shall be prohibited.

(2) Within Safety Zone 2, portions of new residential lots are allowed as long as the dwelling unit site is not situated within zone boundaries.

(3) Within Safety Zones 3 and 4, new *Residential Development* shall be limited to a maximum *Density* of 1 dwelling unit per 5.0 acres (0.2 dwelling unit per acre).

(4) Within Safety Zone 5, new Residential Development shall be prohibited.

(5) Within Safety Zone 6, new *Residential Development* shall not be restricted for safety compatibility purposes.

(b) For *Projects* that are solely residential, the acreage evaluated equals the *Project* site size which may include multiple parcels. See Policy 3.3.8 with regard to mixed-use development.

(c) Density bonuses and other bonuses or allowances that *Local Agencies* may provide for affordable housing developed in accordance with the provisions of state and/or local law or regulation shall be included when calculating residential *Densities*. The overall *Density* of a development *Project*, including any bonuses or allowances, must comply with the allowable *Density* criteria in **Table 2**, *Safety Compatibility Criteria*.

(d) Secondary units, as defined by state and local law, shall be excluded from *Density* calculations.

(e) See Policy 1.4.4 regarding *Residential Development* by right on existing legal lots of record.

(f) In accordance with state law, a family day care home serving 14 or fewer children may be established in any existing dwelling or in any new dwelling permitted by the policies of this *Compatibility Plan*.

(g) See Policy 3.3.9(a) for limitations on clustering of development within a single acre and Policy 4.1.2 for *Infill* criteria.

3.3.3. *Nonresidential Development Criteria:* Proposed *Nonresidential Development* shall be evaluated in accordance with the following criteria:

(a) The usage *Intensity* (people per acre) limit indicated in **Table 2** for each safety zone is the fundamental criterion against which the safety compatibility of most nonresidential land uses shall be measured. The *Intensity* limits equals the total number of occupants allowed on the *Project* site during normal busy use. Other criteria may be applicable to uses of special concern (see Policy 3.3.7).

(b) All nonresidential uses, including uses listed in **Table 2**, *Safety Compatibility Criteria*, as "Normally Compatible," must comply with both the "sitewide average" and "single-acre" usage *Intensity* limits indicated below and listed in **Table 2** for each safety zone.

Safety Zone	*1*	*2*	*3*	*4*	*5*	*6*
	People per Acre					
Maximum Sitewide Average Intensity	10	60	100	150	100	300
Maximum Single-Acre Intensity	20	120	300	450	300	1,000

(1) The "sitewide average" *Intensity* equals the total number of people expected to be on the entire site divided by the site size in acres.

(2) The "single-acre" *Intensity* equals the number of people expected to occupy the most intensively used 1.0-acre area(s) of the site.

(c) The need to calculate the usage *Intensity* of a particular *Project* proposal for compliance with the *Intensity* criteria in the Paragraph (b) table is to be governed by the following:

(1) Land use categories indicated in **Table 2** as "Normally Compatible" for a particular safety zone are presumed to meet the *Intensity* criteria indicated in the Paragraph (b) table. Unless the particular *Project* proposal represents an atypical example of the usage type, calculation of the usage *Intensity* is not required.

(2) Calculation of the usage *Intensity* must be done for all proposed *Projects* where the land use category for the particular safety zone is indicated in **Table 2** as "Conditional" and the criteria column says "Ensure *Intensity* criteria are met."

(3) Where **Table 2** indicates that land use category is "Conditional" for the particular safety zone, but the criteria are other than "Ensure *Intensity* criteria are met," calculation of the usage *Intensity* is not necessary for typical examples of the use. However, the *Project* proposal must comply with the other criteria listed for the applicable land use category and safety zone.

(d) No new structures intended to be occupied regularly are allowed in Safety Zone 1.

(e) Usage *Intensity* calculations shall include all people (e.g., employees, customers/visitors) who may be on the *Project* site at any single point in time, whether indoors or outdoors.

(1) For the purposes of these calculations, the total number of occupants during normal busiest periods shall be used.[21]

(2) The *Project* site may be composed of multiple parcels.

(f) Each component use within a *Nonresidential Development* that has multiple types of uses shall comply with the safety criteria in **Table 2**, *Safety Compatibility Criteria*, unless the use is ancillary to the primary use.

(1) To be considered an *Ancillary Use*, the use must be associated with the primary use (e.g. a cafeteria in an office building) and occupy no more than 10% of total building floor area.

(2) *Ancillary Uses* must be considered in the sitewide average *Intensity* limits, but may be excluded from the single-acre *Intensity* calculations.

(3) An *Ancillary Use* may be more intensively occupied (more people in a given area) than the primary use, provided that the *Ancillary Use* is neither:

- An assembly room having more than 750 square feet of floor area (this criterion is intended to parallel building code standards) and a capacity of 50 people; nor

[21] This number will typically be lower than the absolute maximum number of occupants the facility can accommodate (such as would be used in determining compliance with building and fire codes).

- A K-12 school, day care center, or other risk-sensitive use that is "incompatible" within the safety zone where the primary use is to be located.

(g) Other criteria may be applicable to uses of special concern (see Policy 3.3.7 and conditions in **Table 2**, *Safety Compatibility Criteria*).

(h) *Local Agencies* may make exceptions for "Conditional" or "Incompatible" land uses associated with rare special events (e.g., an air show at the *Airport*) for which a facility is not designed and normally not used and for which extra safety precautions can be taken as appropriate.

3.3.4. *Methods for Determining Compliance with Sitewide Average Intensity Criteria:* Determination of compliance with the sitewide average *Intensity* criteria indicated in Policy 3.3.3(b) requires calculating the total occupancy of the site at any given time under normal busy use (see Policy 3.3.3(e)), then dividing by the total acreage of the *Project* site (see **Exhibit 1**). Alternatively, the Floor Area Ratio (FAR) criteria indicated in **Table 2** for most nonresidential uses may be used. Additional guidance is found in **Appendix E**. Regardless of the method or methods used, the proposed *Project*'s compliance with the *Intensity* criteria in Policy 3.3.3(b) must be demonstrated by the applicant or referring *Local Agency*.

(a) Floor Area Ratio (FAR) Criteria: Where a floor area ratio limit is cited in **Table 2** as the condition to be met, the indicated numbers should be treated as a tool by which compliance with the usage *Intensity* criteria can be evaluated.

(1) The limit listed for each use is based upon a typical Occupancy Load Factor (floor area square footage per person) for that use. The allowable FAR in a particular safety zone thus varies from one land use category to another. The assumed Occupancy Load Factors are shown in the table.

(2) If a higher or lower Occupancy Load Factor can be documented for a particular *Project* (see Paragraph (b) of this policy), then the allowable FAR would be correspondingly lower or higher, but in all cases the basic usage *Intensity* criterion must be met.

(b) Alternative Methodologies for Calculation of Sitewide Average Usage Intensities: Application of the FAR methodology for determining compliance with usage *Intensity* criteria is not required. Usage intensities may also be determined by first calculating the total occupancy of the site. The following methods may be used to determine the total occupancy for any category of use. For *Projects* involving multiple nonresidential land

Exhibit 1: Intensity Calculation Example

In this example, both the sitewide and single-acre *Intensity* of a proposed warehouse facility is calculated using the common Occupancy Load Factors [number of square feet per person] information in Table 2, Safety Criteria together with *Project* specifications. The results are then compared with the maximum sitewide and single-acre *Intensity* limits in Table 2 to determine consistency of the *Project* with the safety criteria.

Table 2 Safety Criteria Data

Safety Zone 3 Intensity Limits

Max. Sitewide Average: 100 people per acre
Max. Single-Acre: 300 people per acre

Common Occupancy Load Factors

Office: approx. 215 s.f. per person
Light Industrial, Low Intensity: approx. 350 s.f. per person
Warehouse: approx. 1,000 s.f. per person

Project Data

Site Acreage: 3 acres
Office: 19,560 s.f.
Light Industrial: 24,000 s.f.
Warehouse: 65,000 s.f.

Occupancy

Office: $\frac{19{,}560 \text{ s.f}}{215 \text{ s.f. per person}} = 91$ people

L-industrial: $\frac{24{,}000 \text{ s.f.}}{350 \text{ s.f. per person}} = 69$ people

Warehouse: $\frac{65{,}000 \text{ s.f.}}{1{,}000 \text{ s.f. per person}} = 65$ people

Total: = 225 people

Intensity Results

The results of the *Intensity* calculations indicate that the proposed development satisfies the sitewide and single-acre *Intensity* criteria.

Sitewide Average *Intensity*

$\frac{\text{Total people}}{\text{Site Acreage}} = \frac{225 \text{ people}}{3 \text{ acres}} = 75$ people per acre

Single-Acre Intensity

$\frac{\text{Total people}}{\text{Single-Acre}} = \frac{91 + 69 \text{ people}}{1 \text{ acre}} = 160$ people per acre

use categories, the occupancy for each use must be calculated separately, then added to produce the total occupancy. See Policy 3.3.8 for criteria pertaining to mixed-use *Projects* having both residential and nonresidential components.

(1) Fixed Seating: For uses with fixed seats, such as restaurants and theaters, the occupancy should be based upon the number of customer seats plus the number of employees.

(2) Occupancy Load Factors: The square footage of the building divided by the typical square footage occupied by each person yields the total occupancy. **Table 2**, *Safety*

Compatibility Criteria, lists typical occupancy load factors for various land use categories.

(3) Vehicle Parking Requirements: For many commercial and industrial uses, the occupancy can be estimated by considering the number of parking spaces required by the *Local Agency* and multiplying by the average occupancy per vehicle. This method is not suitable for land uses where many users arrive on foot or by transit, bicycle, or other means of transportation (see **Appendix E**).

(4) Building and Fire Codes: This method is essentially the same as the Occupancy Load Factor method in that the codes provide a square footage per person for various types of building uses. Building and Fire Codes, though, are based on a maximum, never to be exceeded, number of occupants rather than the average busy period that is the basis for airport land use compatibility planning. As such, the total occupancy calculated using these codes must be reduced by some factor—approximately one half for most uses—to provide a number consistent with the *Intensity* limits listed in Policy 3.3.3(b).

(c) Projects Containing Mixed Nonresidential Uses: Where a proposed development will contain a mixture of the nonresidential uses listed separately in **Table 2**, the FAR values cannot be directly used as an evaluation tool unless each component use is to be situated on its own distinct site. Instead, it is necessary to apply the occupancy load factors or use other information to calculate the total number of occupants expected within the overall development. This number is then used to determine compliance with the usage *Intensity* criteria.

- See Policy 3.3.8 for mixed residential/nonresidential uses.
- See Policy 3.3.11 with regard to criteria for *Project* sites that occupy two or more safety zones.

(d) Selection of Calculation Method: When evaluating *Major Land Use Actions* referred for *ALUC* review on a mandatory basis in accordance with Policy 1.5.2, the *ALUC* shall normally use the Floor Area Ratio methodology (Paragraph (a) of this policy). Occupancy within a single acre shall normally be calculated as described in Paragraph 3.3.5 of this policy. However, the *ALUC* shall consider usage *Intensity* data that the *Local Agency* or *Project* applicant has provided for the *Project* using an alternative calculation method.

(1) If the *Local Agency* or *Project* applicant provides definitive information that a particular *Development Proposal* is atypical—that is, there would be more floor area per person and thus a lower usage *Intensity*—the *ALUC* may consider that information in determining the safety compatibility of the proposal. In considering any such exceptions, the *ALUC* shall also take into account the potential for the use of a building to change over time (see Paragraph 3.3.6 of this policy).

(2) In conjunction with modifying its general plan for consistency with this *Compatibility Plan* or as part of a separate ordinance or other adopted policy, a *Local Agency* may propose a particular method for measuring compliance with the usage *Intensity* limits.[22] The *ALUC* shall evaluate the proposed method to determine whether it would provide an equivalent *Intensity* outcome to that of the floor area ratio method. Once

[22] For example, a method based upon the agency's parking space requirements may be used together with an assumed number of people per vehicle as a means of determining the number of occupants for uses that are vehicle oriented.

the *ALUC* has determined that the general plan is consistent with this *Compatibility Plan*, referral of *Major Land Use Actions* to the *ALUC* becomes voluntary. Therefore, subject to *ALUC* acceptance of the alternative calculation method, the *Local Agency* may then use that method when internally reviewing individual development *Projects* for compliance with the usage *Intensity* criteria.

3.3.5. *Methodology for Calculation of Single-Acre Intensity:* The single-acre *Intensity* of a proposed development shall be calculated by determining the total number of people expected to be within any 1.0-acre portion of the site, typically the most intensively used building or part of a building. Calculation of the single-acre *Intensity* depends upon the building footprint and site sizes and the distribution of activities on the site.

(a) For sites less than 1.0 acre, the single-acre *Intensity* equals the total number of people on the site divided by the site size.

(b) For sites more than 1.0 acre and a building footprint less than 1.0 acre, the single-acre *Intensity* equals the total number of building occupants unless the *Project* includes substantial outdoor occupancy in which case such usage should be taken into account.

(c) For sites having both site size and building footprint of more than 1.0 acre, the single-acre *Intensity* shall normally be calculated as the total number of building occupants divided by the building footprint in acres. This calculation assumes that the occupancy of the building is evenly distributed. However, if the occupancy of the building is concentrated in one area—the office area of a large warehouse, for example—then the occupants of that area shall be included in the single-acre calculation.

(d) The 1.0-acre areas to be evaluated shall normally match the building footprints provided that the buildings are generally rectangular (reasonably close to square) and not elongated in shape and, for buildings larger than 1.0 acre, may represent a portion of the building.

(e) If a building has multiple floors, then the total number of occupants on all floors falling within the 1.0-acre footprint shall be counted.

3.3.6. *Long-Term Changes in Occupancy:* In evaluating compliance of a proposed *Nonresidential Development* with the usage *Intensity* criteria, the *ALUC* shall take into account the potential for the use of a building to change over time. A building could have planned low-*Intensity* use initially, but later be converted to a higher-*Intensity* use. *Local Agencies* must provide permit language or other mechanisms to ensure continued compliance with the usage *Intensity* criteria. (Note that this provision applies only to new development and *Redevelopment—Projects* for which discretionary *Local Agency* action is required—not to tenant improvements or other changes to existing buildings for which local approval is ministerial.)

3.3.7. *Land Uses of Special Concern:* Certain types of land uses represent special safety concerns irrespective of the number of people associated with those uses.

(a) Land uses of particular concern and the nature of the concern are:

(1) Uses Having Vulnerable Occupants: These uses are ones in which the majority of occupants are children, elderly, and/or disabled—people who have reduced effective mobility or may be unable to respond to emergency situations. The primary uses in this category are:

- Children's schools (grades K–12).

- Day care centers (facilities with 15 or more children, as defined in the California Health and Safety Code).
- Hospitals, mental hospitals, nursing homes, and similar facilities where patients remain overnight.
- Congregate care facilities including retirement homes, assisted living, and intermediate care facilitie.
- Penal institutions.

(2) Hazardous Materials Storage: Materials that are flammable, explosive, corrosive, or toxic constitute special safety compatibility concerns to the extent that an aircraft accident could cause release of the materials and thereby pose dangers to people and property in the vicinity. Facilities in this category include:

- Facilities such as oil refineries and chemical plants that manufacture, process, and/or store bulk quantities of hazardous materials generally for shipment elsewhere.
- Facilities associated with otherwise compatible land uses where hazardous materials are stored in smaller quantities primarily for on-site use.

(3) Critical Community Infrastructure: This category pertains to facilities the damage or destruction of which would cause significant adverse effects to public health and welfare well beyond the immediate vicinity of the facility. Among these facilities are:

- Public safety facilities such as police and fire stations.
- Communications facilities inclueing emergency communications, broadcast, and cell phone towers.
- Primary, peaker, and renewable energy power plants, electrical substations, and other utilities.

(b) The safety criteria for the land uses in Paragraph (a) of this policy are included in **Table 2**, *Safety Compatibility Criteria*. These criteria shall be applied when evaluating these uses.

(1) In some cases, these uses are not allowed in portions of the *Airport* environs regardless of the number of occupants associated with the use.

(2) In other instances these uses should be avoided (that is, allowed only if a site outside the zone would not serve the intended function).

(3) When allowed, special measures for the particular use, such as those listed in **Table 2**, *Safety Compatibility Criteria*, must be taken as appropriate to minimize hazards to the facility and occupants if the facility were to be struck by an aircraft.

3.3.8. *Mixed-Use Development:* For *Projects* involving a mixture of residential and nonresidential uses, the following policies apply:

(a) Where the *Residential Development* and *Nonresidential Development* are proposed to be situated on separate parts of the *Project* site, the *Project* shall be evaluated as separate developments. The residential *Density* shall be calculated with respect to the area(s) to be devoted to *Residential Development* and the nonresidential *Intensity* calculated with respect to the area(s) proposed for nonresidential uses. This provision means that the residential *Density* cannot be averaged over the entire *Project* site when nonresidential uses will occupy some of the area. The same limitation applies in reverse—that is, the nonresidential *Intensity* cannot be averaged over an area that includes residential uses.

(b) Development in which *Residential Development* is proposed to be located in conjunction with *Nonresidential Development* in the same or nearby buildings on the same site must meet both residential *Density* and nonresidential *Intensity* criteria. The number of dwelling units shall not exceed the *Density* limits indicated in **Table 2**, *Safety Compatibility Criteria*. Additionally, the normal occupancy of the residential portion shall be added to that of the nonresidential portion and the total occupancy shall be evaluated with respect to the nonresidential usage *Intensity* criteria cited in **Table 2**.

(c) Mixed-use development shall not be allowed where the residential component would be exposed to noise levels above the limits set in **Table 1**, *Noise Compatibility Criteria*.

3.3.9. *Limits on Clustering:* As used in this *Compatibility Plan*, "clustering" refers to the concentration of development (measured in terms of dwellings or people per acre) into a portion of the site, leaving other portions of the site relatively less developed or as open land. To a degree, clustering of development can be desirable from an airport land use safety compatibility perspective if more places where an aircraft can attempt an emergency landing potentially remain. However, clustering can pose greater risks that an aircraft could strike the location where the development is clustered. To guard against this risk, limitations on the maximum concentrations of dwellings or people in a small area of a large *Project* site are appropriate.

(a) Clustering of new *Residential Development* in airport environs is limited as follows:

(1) Clustering is not applicable in Safety Zones 1 and 5 as new *Residential Development* is not permitted in these zones.

(2) In Safety Zones 3 and 4, up to 2 dwellings may be built in a single acre area, provided that the average *Density* of the development does not exceed 1 dwelling unit per 5.0 acres. Where new *Residential Development* is allowed as *Infill* in these zones, the single-acre *Density* shall not exceed that typical of the surrounding development.

(3) There is no limit on site-wide or single-acre residential *Densities* in Safety Zone 6.

(b) For nonresidential land uses, the usage *Intensity* on a single 1.0-acre portion of a *Project* site shall not exceed the limits specified in **Table 2**.

(c) For the purposes of the above policies, the 1.0-acre areas to be evaluated shall be rectangular (reasonably close to square, not elongated or irregular) in shape.

3.3.10. *Lot Coverage Limits:* In addition to the single-acre *Density* and *Intensity* limits set by Policy 3.3.9, new residential and *Nonresidential Development* shall also be limited with respect to lot coverage—the percentage of the *Project* site covered by buildings. The specific limits for each safety zone are as shown in **Table 2**.

3.3.11. *Parcels Lying within Two or More Safety Zones:* For the purposes of evaluating consistency with the compatibility criteria set forth in **Table 2**, any parcel that is split by safety zone boundaries shall be considered as if it were multiple parcels divided at the safety zone boundary line (see **Exhibit 2)**.

(a) The preceding notwithstanding, where no part of the building(s) or areas of outdoor congregation of people proposed on the *Project* site falls within the more restrictive safety zone, the criteria for the safety zone where the proposed building(s) or outdoor uses are located shall apply.

(b) Modification of the *Project* site plan so as to transfer the allowed *Density* of *Nonresidential Development* or *Intensity* of *Nonresidential Development* from the more restricted portion to

Exhibit 2: Site Split by Safety Zones

In this example, the restaurant and office uses are split between Safety Zones 4 and 6. When determining compliance with the Zone 4 *Intensity* limits, only the portions of the uses in Zone 4, together with the retail use that is fully in Zone 4 are considered and the site size is the 3.5 acres in Zone 4.

Safety Zone 4

Retail: 50,000 s.f. / 170 s.f. per person = 294 people

Restaurant: 50% of 18,000 s.f. / 60 s.f. per person = 150 people

Office: 50% of 24,000 s.f. / 215 s.f. per person = 56 people

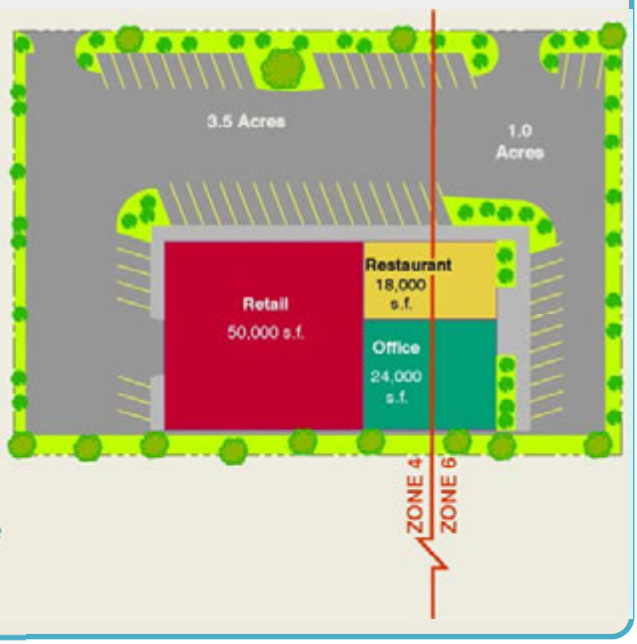
Total Occupancy = 500 people

Intensity: 500 people / 3.5 acres = 143 people/acre*

* Meets Zone 4 sitewide average limit of 150 people/acre

Safety Zone 6

All proposed uses are normally compatible.



the less restricted portion is encouraged. The purpose of this policy is to move people outside of the higher-risk zones.

(1) This full or partial reallocation of *Intensity* is permitted even if the resulting *Intensity* in the less restricted area would then exceed the sitewide average *Intensity* limits that apply within that safety zone (see **Exhibits MOD-3 and OAK-3)**.

(2) The single-acre criterion for the zone to which the use is transferred must still be satisfied.

3.3.12. *Avigation Easement Dedication Requirements:* Dedication of an *Avigation Easement* is required as a condition for approval of certain proposed development situated within Safety Zones 1 through 5 in accordance with Policy 4.1.1 (see **Maps MOD-3 and OAK-3 and MOD-5 and OAK-5**).

Exhibit 3: Transferring Usage Intensity

An example of transferring usage *Intensity* to the less restrictive safety zone is provided below.

Project Site

Zone 3: 1.0 acres
Zone 4: 2.0 acres

Allowable Total Occupancy

Zone 3: 100 *people*/acre = 100 people
Zone 4: 150 *people*/acre = 300 people
Total Allowed on Site: 400 people

Transfer People from Zone 3 to Zone 4

Zone 3: 0 *people*
Zone 4: 300 + *100* = 400 people
* 400 people in 2.0 acres exceeds 160 people/acre limit for Zone 4, but is allowable under usage *Intensity* transfer policy

3.4. Airspace Protection

Airspace Protection Policy Background Information

The following Airspace Protection Policy Background Information (in different typeface) has been considered in formulating the Airspace Protection Compatibility policies and criteria in this section, but is provided for informational purposes only and does not itself constitute *ALUC* policy. For additional discussion of airspace protection concepts, see **Appendix D**.

Policy Objective

Airspace protection compatibility policies seek to prevent creation of land use features that can pose hazards to the airspace required by aircraft in flight and have the potential for causing an aircraft accident.

Measures of Hazards to Airspace

Three categories of hazards to airspace are a concern: physical, visual, and electronic.

- *Physical* hazards include tall structures that have the potential to intrude upon protected airspace as well as land use features that have the potential to attract birds and certain other potentially hazardous wildlife to the *Airport* area.
- *Visual hazards* include certain types of lights, sources of glare, and sources of dust, steam, or smoke.
- *Electronic hazards* are ones that may cause interference with aircraft communications or navigation.

Factors Considered in Setting Airspace Protection / Object Height Compatibility Criteria

The *Compatibility Plan* airspace protection policies rely upon the regulations and standards enacted by the Federal Aviation Administration (FAA) and the State of California. The FAA has well defined standards by which potential hazards to flight, especially airspace obstructions, can be assessed. The following FAA regulations and documents, and any later versions of these documents, are specifically relevant.

- Federal Aviation Regulations (FAR) Part 77, *Safe, Efficient Use and Preservation of the Navigable Airspace* (provides standards regarding FAA notification of proposed objects and height limits of objects near airports).
- FAA Advisory Circular 150/5300-13, *Airport Design* (provides standards regarding safety-related areas in the immediate vicinity of runways).
- Advisory Circular 70/7460-1K, *Obstruction Marking and Lighting* (sets standards for how essential marking and lighting should be designed).

These regulations and standards do not give the FAA authority to prevent the creation of hazards to flight. That authority rests with state and local government. The State of California has enacted regulations enabling state and *Local Agencies* to enforce the FAA standards. The *ALUC* policies are intended to help implement the federal and state regulations.

Factors Considered in Setting Airspace Protection / Wildlife Hazard Compatibility Criteria

Natural features and agricultural practices near airports include open water and food sources that are attractive to wildlife, especially waterfowl and other bird species. FAA data indicates that aircraft using the *Airport* have experienced a high incidence of bird strikes compared to other airports nationwide. The *Compatibility Plan* relies upon the wildlife hazard guidelines established by the FAA in the following Advisory Circulars:

- FAA Advisory Circular 150/5200-33B, *Hazardous Wildlife Attractants On or Near Airports* (provides guidance on types of attractants to be avoided).
- FAA Advisory Circular 150/5200-34A, *Construction or Establishment of Landfills near Public Airports* (sets guidelines on proximity of these facilities to airports).

3.4.1. *Evaluating Airspace Protection / Object Height Compatibility for New Development:* The object height compatibility of proposed land uses within an *Airport Influence Area* shall be evaluated in accordance with the policies in this section, including the *Airspace Protection Surfaces* depicted on **Maps MOD-4** and **OAK-4,** *Compatibility Policy Maps: Airspace Protection / Object Heights*.

(a) The airspace protection surfaces are drawn in accordance with FAR Part 77, Subpart C, and reflect the runway lengths, runway end locations, and approach types for each of the three runway configuration scenarios: existing, north-only extension of east runway, and split extension of east runway. **Maps MOD-4** and **OAK-4** depict the approach protection / height limit surfaces for these respective scenarios.

(b) The *Critical Airspace Protection Zone* consists of the FAR Part 77 primary surface and the area beneath portions of the approach and transitional surfaces to where these surfaces intersect with the horizontal surface.

(c) The *High Terrain Area* encompasses locations where the ground elevation exceeds or is within 35 feet beneath an airspace protection surface as defined by FAR Part 77 for an airport.

3.4.2. *Airpspace Obstruction /Object Height Criteria:* The criteria for determining the acceptability of a *Project* with respect to height shall be based upon the standards set forth in Federal Aviation Regulations (FAR) Part 77, Subpart C, *Safe, Efficient Use and Preservation of the Navigable Airspace* and applicable airport design standards published by the FAA. Additionally, where an FAA aeronautical study of a proposed object is required as described in Policy 3.4.4, the results of that study shall be taken into account by the *ALUC* and the *Local Agency*.

(a) Except as provided in Paragraphs (b) and (c) of this policy, no object, including a mobile object such as a vehicle or temporary object such as construction crane, shall have a height that would result in penetration of an *Airspace Protection Surface* are depicted on **Maps MOD-4** and **OAK-4**. Any object that penetrates one of these surfaces is, by FAA definition, deemed an *obstruction*.[23]

(b) Objects not situated within a *Critical Airspace Protection Zone* (see Policy 3.4.1(b)) may be allowed to have heights that penetrate the *Airspace Protection Surfaces* defined by FAR Part 77 criteria.

(1) The maximum allowable height for these objects is 35 feet above ground level.

(2) The height of all objects is subject to *Local Agency* zoning limits.

(c) Unless exempted under Paragraph (b) of this policy, a proposed object having a height that exceeds the *Airport*'s *Airspace Protection Surface* shall be allowed only if *all* of the following apply:

(1) As the result of an aeronautical study, the FAA determines that the object would not be a *hazard* to air navigation.

(2) FAA or other expert analysis conducted under the auspices of the *ALUC* or *Airport* owner concludes that, despite being an airspace obstruction (not necessarily a hazard), the object would not cause any of the following:

[23] An *obstruction* may or may not be a *hazard*. The purpose of FAA aeronautical studies is to determine whether an obstruction is a hazard and, if so, what remedy is recommended. The FAA's remedies are limited to making changes to the airspace and an airport's approach procedures, but it also can indicate an objection to proposed structures that it deems to be a hazard.

- An increase in the ceiling or visibility minimums of the *Airport* for an existing or planned instrument procedure (a planned procedure is one that is formally on file with the FAA);
- A reduction of the established operational efficiency and capacity of the *Airport*, such as by causing the usable length of the runway to be reduced; or
- A conflict with the visual flight rules (VFR) airspace used for the *Airport* traffic pattern or en route navigation to and from the *Airport*.

(3) Marking and lighting of the object will be installed as directed by the FAA aeronautical study or the California Division of Aeronautics and in a manner consistent with FAA standards in effect at the time the construction is proposed.[24]

(4) An *Avigation Easement* is dedicated, in accordance with Policy 4.1.1, to the *Local Agency* that owns the *Airport*—County of Stanislaus, City of Modesto or City of Oakdale.

(5) The proposed *Project*/plan complies with all policies of this *Compatibility Plan* related to noise and safety compatibility.

3.4.3. *Other Flight Hazards:* Land uses that may cause visual or electronic hazards, to aircraft in flight or taking off or landing at the *Airport* shall be allowed within the *Airport Influence Area* only if the uses are consistent with FAA rules and regulations.

(a) Specific characteristics to be avoided include:

(1) Sources of glare (such as from mirrored or other highly reflective buildings or building features) or bright lights (including search lights and laser light displays);

(2) Distracting lights that could be mistaken for airport lights;

(3) Sources of dust, steam, or smoke that may impair pilots' vision;

(4) Sources of steam or other emissions that cause thermal plumes or other forms of unstable air; and

(5) Sources of electrical interference with aircraft communications or navigation.

(6) Any proposed use that creates an increased attracton for wildlife and that is inconsistent with FAA rules and regulations. Of particular concern are landfills, conservation areas, open water, and certain recreational or agriculatural uses that attract large flocks of birds which pose hazards to aircraft operations.[25]

(b) To resolve any uncertainties with regard to the significance of the above types of flight hazards, *Local Agencies* should consult with FAA and airport officials.

3.4.4. *Requirements for FAA Notification of Proposed Construction or Alteration: Project* proponents are responsible for notifying the FAA about proposed construction that may affect navigable airspace.[26] The following is *ALUC* policy on this topic.

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[24] Advisory Circular 70/7460-1J, *Obstruction Marking and Lighting*, or any later FAA guidance.

[25] See FAA Advisory Circular 150/5200-33b, "Hazardous Wildlife Attractants On and Near Airports" and 150/5200-34A, "Construction or Establishment of Landfills Near Public Airports."

[26] FAR Part 77 requires that a *Project* proponent submit notification of a proposal to the FAA where required by the provisions of FAR Part 77, Subpart B. California Public Utilities Code Sections 21658 and 21659 likewise includes this requirement. FAA notification requirements apply to all objects including structures, antennas, trees, mobile objects, and temporary objects such as construction cranes. The FAA will conduct an "aeronautical study" of the object(s) and determine whether the object(s) would be of a height that would constitute a hazard to air navigation. (See **Appendix C** of this *Compatibility Plan* for a copy of FAR Part 77 and online procedures for filing Form 7460-1.) FAA notification is required under the following circumstances:

(a) The boundary of the FAA notification area for each airport is depicted on **Maps MOD-4** and **OAK-4**. Reference to FAA notification requirements is included here for informational purposes only, not as an *ALUC* policy.

(b) *Local Agencies* should inform *Project* proponents of the requirements for notification to the FAA.

(c) Any proposed development *Project* that includes construction of a structure or other object and that is required to be submitted to the *ALUC* for a consistency review in accordance with Policy 1.5.2 shall include a copy of the completed FAR Part 77 notification form (Form 7460-1) submitted to the FAA, if applicable, and of the resulting FAA findings from its aeronautical study (i.e., notice of determination letter). A proposed *Project* may be referred to the *ALUC* in advance of the completion of the FAA aeronautical study. However, the completed aeronautical study must be forwarded to the *ALUC* when available and the *ALUC* may reconsider its previous consistency determination if the FAA study provides new information and airspace protection was a factor in the *ALUC*'s determination.

3.4.5. *ALUC Review:* The requirement for notification to the FAA shall not by itself trigger an airport compatibility review of an individual *Project* by the *ALUC*. If the general plan of the *Local Agency* in which the *Project* is to be located has been determined by the *ALUC* to be consistent with this *Compatibility Plan*, then no *ALUC* review is required. If the general plan has not been made consistent, then the proposed *Project* must be referred to the *ALUC* for review if it qualifies as a *Major Land Use Action* (see Policy 1.5.2).

3.5. Overflight Compatibility

Overflight Policy Background Information

The following Overflight Compatibility Policy Background Information (in different typeface) has been considered in formulating the Overflight Compatibility policies and criteria in this section, but is provided for informational purposes only and does not itself constitute *ALUC* policy. For additional discussion of overflight compatibility concepts, see **Appendix D**.

Policy Objective

Noise from individual aircraft operations, especially by comparatively loud aircraft, can be intrusive and annoying in locations beyond the limits of the noise exposure areas addressed by the policies in Section 3.2. Sensitivity to aircraft overflight varies from one person to another.

The policies in this section serve primarily to establish the form and requirements for notification about airport proximity and aircraft overflight to be given in conjunction with *Local Agency* approval of new *Residential Development* and with certain real estate transactions involving existing *Residential Development*. Overflight policies do not apply to *Nonresidential Development*.

(a) The *Project* contains proposed structures or other objects that exceed the height standards defined in FAR Part 77, Subpart B. Objects shielded by nearby taller objects are exempted in accordance with FAR Part 77, Paragraph 77.15. Note that notification to the FAA under FAR Part 77, Subpart B, is required even for certain proposed construction that does not exceed the height limits allowed by Subpart C of the regulations. Also, the FAA notification area extends beyond the *Airport Influence Area* depicted on **Map 1**, *Airport Influence Area*.
(b) Any proposal for construction or alteration of a structure, including antennas, taller than 200 feet above the ground level at the site regardless of proximity to any airport.

Measures of Overflight Exposure

The loudness and frequency of occurrence of individual aircraft noise events are key determinants of where airport proximity and aircraft overflight notification is warranted. Single-event noise levels are especially important in areas that are overflown regularly by aircraft, but that do not produce significant CNEL contours.

Factors Considered in Setting Overflight Compatibility Criteria

Factors considered in establishing overflight criteria include the following:

- The boundary of the overflight area for the *Airport*, as depicted on **Maps MOD-5** and **OAK-5** *Compatibility Policy Map: Overflight*, is drawn to encompass locations where aircraft approaching and departing from a commercial service airport typically fly at an altitude of less than approximately 1,500 feet above the *Airport* elevation. For a general aviation airport, the overflight envelope encompasses the area where approximately 80% or more of the aircraft overflight occurs, but not where every aircraft or helicopter flies when using the airport.
- Note that the flight altitude above ground level will be more or less than this amount depending upon the terrain below. Areas of high terrain beneath the traffic patterns are exposed to comparatively greater noise levels, a factor that is considered in the overflight policies.
- To be most effective, overflight policies should establish notification requirements for transactions involving *Existing Land Uses*, not just future development. However, the *ALUC* only has authority to set requirements for new development and to define the boundaries within which airport proximity disclosure in conjunction with real estate transactions should be provided as specified under state law.
- State airport proximity disclosure law applies to existing development, but not to all transactions. [California state statutes (*Business and Professional Code Section 11010* and *Civil Code Sections 1102.6*, *1103.4*, and *1353*) require that, as part of many residential real estate transactions, information be disclosed regarding whether the property is situated within an *Airport Influence Area*. These state requirements apply to the sale or lease of newly subdivided lands and condominium conversions and to the sale of certain existing residential property. In general, *Airport Proximity Disclosure* is required with existing residential property transfer only when certain natural conditions (earthquake, fire, or flood hazards) warrant disclosure.]

3.5.1. *Evaluating Overflight Compatibility:* Unlike the function of the noise, safety, and airspace protection compatibility policies in this *Compatibility Plan*, the overflight compatibility policies set forth in this section do not restrict the manner in which land can be developed or used. The policies in this section serve primarily to establish the form and requirements for notification about airport proximity and aircraft overflights to be given in conjunction with *Local Agency* approval of new development and with certain real estate transactions involving existing development. An additional function of the overflight compatibility policies is to provide non-mandatory guidance to *Local Agencies* regarding the suitability of *Residential Development* within overflight impacted areas of the *Airport* environs. The boundaries of the overflight zones are shown on **Maps MOD-5** and **OAK-5,** *Compatibility Policy Map: Overflight*.

3.5.2. *Recorded Overflight Notification:* As a condition for *Local Agency* discretionary approval of residential land use development within the secondary approach area indicated on **Maps MOD-5** and **OAK-5,** an overflight notification shall be recorded.

(a) The notification shall be of a format similar to that indicated in **Appendix H** and shall contain the following language dictated by state law with regard to *Airport Proximity Disclosure i*n conjunction with real estate transfer:

NOTICE OF AIRPORT IN VICINITY: This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you.

(b) The notification shall be evident to prospective purchasers of the property and shall appear on the property deed.

(c) A separate *Recorded Overflight Notification* is not required where an *Avigation Easement* is provided.

(d) Recording of an *Overflight Notification* is not required for Nonresidential Development.

3.5.3. *Airport Proximity Disclosure:* State law requires that notice disclosing information about the presence of a nearby airport be given to prospective buyers of certain residential real estate within an *Airport Influence Area*. The statutes define an *Airport Influence Area* as "the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses as determined by an airport land use commission."[27] *ALUC* policy with regard to *Airport Proximity Disclosure* is as follows:

(a) For existing residences:

(1) State law indicates that the *ALUC* is responsible for delineating the area within which *Airport Proximity Disclosure* is appropriate. The recommended *Airport Proximity Disclosure* area for each airport is identified on **Maps MOD-5** and **OAK-5,** and includes the entire *Airport Influence Area*.

(2) To the extent that real estate transactions involve existing residences, *Airport Proximity Disclosure* is a matter between private parties. The *ALUC* has no authority to mandate that *Airport Proximity Disclosure* be provided and neither the *ALUC* nor *Local Agencies* have any enforcement responsibilities.

(3) *Airport Proximity Disclosure* should be provided as part of *all* real estate transactions (sale, lease, or rental) involving residential property anywhere within the *Airport Influence Area*.

(b) For proposed Residential Development:

(1) The disclosure provisions of state law are deemed mandatory for *new Residential Development* anywhere within the *Airport Influence Area* and shall continue in effect as *ALUC* policy even if the state law is made less stringent or rescinded. The disclosure shall be of a format similar to that indicated in **Appendix H** and shall contain the language dictated by state law (see Policy 3.5.2(a)).

(2) Signs providing the above notice and a map of the *Airport Influence Area* shall be prominently posted in the real estate sales office and/or other key locations at any new *Residential Development* within the *Airport Influence Area*.

[27] See *California Business and Professions Code Section 11010(b)* and *Civil Code Section 1353(a)*.

4. OTHER COMPATIBILITY POLICIES

4.1. Policies for Special Circumstances

4.1.1. *Avigation Easement Dedication:* As a condition for approval of *Projects* that are subject to the review provisions of this *Compatibility Plan* and that meet the conditions in Paragraphs (a) and (b) of this policy, the property owner shall be required to dedicate an *Avigation Easement* to the County of Stanislaus, City of Modesto, or City of Oakdale.

(a) Avigation easement dedication is required for all off-airport *Projects* situated within the following portions of the *Airport Influence Area* as depicted on **Maps MOD-5** and **OAK-5**:

(1) All locations within the Primary Approach Area. This area is comprised of:

- All locations within the CNEL 60 dB contour depicted on **Maps MOD-2** and **OAK-2**.
- All locations within Safety Zones 1 through 5 as depicted on **Maps MOD-3** and **OAK-3**.
- All locations within the *Critical Airspace Protection Zone* as depicted on **Maps MOD-4** and **OAK-4**.

(b) *Avigation Easement* dedication shall be required for any proposed development, including *Infill* development, for which discretionary local approval is required. *Avigation Easement* dedication is not required for ministerial approvals such as building permits. Further, unless previously required prior to the Effective Date of this *Compatibility Plan*, the requirement to dedicate an *Avigation Easement* shall not be applicable to *Existing Land Uses* located within the area where dedication is required for new land use *Projects*.

(c) The *Avigation Easement* shall:

(1) Provide the right of flight in the airspace above the property;

(2) Allow the generation of noise and other impacts associated with aircraft overflight;

(3) Restrict the height of structures, trees and other objects in accordance with the policies in Section 3.4;

(4) Permit access to the property for the removal or aeronautical marking of objects exceeding the established height limit (if not accomplished by the property owner, these actions can be taken by the *Airport* at the property owner's expense); and

(5) Prohibit electrical interference, glare, and other potential hazards to flight from being created on the property.

(d) An example of an *Avigation Easement* is provided in **Appendix H**.

4.1.2. *Infill:* Where land uses not in conformance with the criteria set forth in this *Compatibility Plan* exist at the time of the plan's adoption, *Infill* development of similar land uses may be allowed to occur in that area even if the proposed new land use is otherwise incompatible with respect to the compatibility criteria for that location.

(a) *Infill* development is not permitted in the following locations.

(1) Within Safety Zones 1 and 5 (the runway protection zones and within the runway primary surface), no infill development shall be permitted. .

(2) Within Safety Zone 2, residential *Infill* development shall not be permitted except as allowed by Policy 1.4.4 regarding existing residential parcels.

(3) Within the CNEL 65 dB noise contour as depicted on **Map 2**, *Compatibility Policy Map: Noise*, residential *Infill* development shall not be allowed.[28]

(b) In other locations within *Referral Area 1*, a *Project* site can be considered for *Infill* development if it either:

(1) Is part of a cohesive area, defined by the local land use jurisdiction and accepted by the *ALUC*, within which at least 65% of the uses were developed prior to the *Compatibility Plan* adoption with uses not in conformance with the plan; or

(2) Meets *all* of the following conditions:

- At least 65% of the site's perimeter is bounded (disregarding roads) by existing (as of the Effective Date of this *Compatibility Plan*) uses similar to, or more intensive than, those proposed;
- An individual *Project* site within an identified *Infill* area must be no larger than 20 acres;
- The proposed *Project* would not extend the perimeter of the area defined by the surrounding, already developed, incompatible uses; and
- Land uses proposed for the *Infill* area are consistent with the *Local Agency*'s zoning regulations governing the existing, already developed, surrounding area.

(c) The *Density* of *Infill Residential Development* in Safety Zones 3 and 4, the average development density (dwelling units per acre) of the site shall not exceed the median density represented by all existing residential lots that lie fully or partially within a distance of 300 feet from the boundary of the defined infill area.

(d) For *Infill Nonresidential Development*, the average usage *Intensity* (the number of people per acre) of the site's proposed use shall not exceed the lesser of:

(1) The median *Intensity* of all existing nonresidential uses that lie fully or partially within a distance of 300 feet from the boundary of the defined *Infill* area; or

(2) Double the *Intensity* permitted in accordance with the criteria for that location as indicated in **Table 2**.

(For example, if the zone allows 100 people per acre and the median of nearby *Existing Land Uses* is 150 people per acre, the *Infill* development would be limited to 150 people per acre rather than 200.)

(e) The single-acre *Density* and *Intensity* limits described in Policies 3.3.9 and listed in **Table 2** are applicable to *Infill* development. Also, the sound attenuation and *Avigation Easement* dedication requirements set by Policies 3.2.3 and 4.1.1 shall apply to *Infill* development.

(f) The *ALUC* prefers that all parcels eligible for *Infill* be identified at one time by the *Local Agency*.

(1) The *Local Agency* is responsible for identifying, in its general plan or other adopted planning document approved by the *ALUC*, the qualifying locations that lie within that *Local Agency*'s boundaries. This action may take place in conjunction with the process of amending a general plan for consistency with the *ALUC* plan or may be submitted by the *Local Agency* for consideration by the *ALUC* at the time of initial adoption of this *Compatibility Plan*.

[28] The effect of this policy is that *Infill Residential Development* is allowed at a 5 dB higher noise level than is the acceptable limit for other new *Residential Development* as set by Policy 3.2.2(a).

(2) If a map identifying locations suitable for *Infill* has not been submitted by the *Local Agency* and approved by the *ALUC* or the site of an individual *Project* proposal does not fall within the identified *Infill* area, the *ALUC* may evaluate the *Project* to determine whether it would meet the qualifying conditions listed in Paragraphs (a) and (b) of this policy.

(3) In either case, the burden for demonstrating that an area or an individual site qualifies as *Infill* rests with the affected *Local Agency* and/or *Project* proponent and is not the responsibility of the *ALUC*.

4.1.3. *Existing Nonconforming Uses:* Proposed changes to *Existing Land Uses* that are not in conformance with the compatibility criteria in this *Compatibility Plan* are subject to *ALUC* review if the changes would result in increased nonconformity with the compatibility criteria. Proposed changes, whether to a parcel or building, are limited as follows:

(a) Residential uses:

(1) A *Nonconforming* residential land use may be continued, sold, leased, or rented without *ALUC* restriction or review.

(2) A *Nonconforming* single-family dwelling may be maintained, remodeled, reconstructed (see Policy 4.1.4(a)), or expanded in size. The lot line of an existing single-family residential parcel may be adjusted. Also, a new single-family residence may be constructed on an existing lot in accordance with Policy 1.4.4. However:

- Any remodeling, *Reconstruction*, or expansion must not increase the number of dwelling units. For example, a bedroom could be added to an existing residence, but an additional dwelling unit could not be built on the parcel unless that unit is a secondary dwelling unit as defined by state and local laws.
- A single-family residential parcel may not be divided for the purpose of allowing additional dwellings to be constructed.

(3) Nonconforming multi-family residential dwellings may be maintained, remodeled, or reconstructed (see Policy 4.1.4(a)). The size of individual dwelling units may be increased, but additional dwelling units may not be added.

(4) Sound attenuation and *Avigation Easement* dedication shall be provided where required by Policies 3.2.3 and 4.1.1.

(b) Nonresidential uses (other than children's schools):

(1) A nonconforming nonresidential use may be continued, sold, leased, or rented without *ALUC* restriction or review.

(2) Nonconforming nonresidential facilities may be maintained, altered, or, if required by state law, reconstructed (see Policy 4.1.4). However, any such work:

- Must not result in expansion of either the portion of the site devoted to the *Nonconforming Use* or the floor area of the buildings; and
- Must not result in an increase in the usage *Intensity* (the number of people per acre) above the levels existing at the time of adoption of this *Compatibility Plan*.

(3) Sound attenuation and *Avigation Easement* dedication shall be provided where required by Policies 3.2.3 and 4.1.1.

(c) Children's schools (including grades K-12, day care centers with more than 14 children, and school libraries):

(1) Land acquisition for new schools or expansion of existing school sites is not permitted where projected noise impacts exceed CNEL 60 dB (see **Map 2**) or in Safety Zones 1 through 5.

(2) Replacement or expansion of buildings at existing schools is also not allowed in these noise or safety zones, except that one-time expansion accommodating no more than 50 students is permitted where projected noise impacts are between CNEL 60 and 65 dB. This limitation does not preclude work required for normal maintenance or repair.

(3) Sound attenuation and *Avigation Easement* dedication shall be provided where required by Policies 3.2.3 and 4.1.1.

4.1.4. *Reconstruction:* An existing nonconforming development that has been fully or partially destroyed as the result of a calamity or natural and unavoidable catastrophe, and would otherwise not be reconstructed but for the calamity or catastrophe, may be rebuilt only under the following conditions:

(a) Single-family or multi-family residential *Nonconforming Uses* may be rebuilt provided that the *Reconstruction* does not result in more dwelling units than existed on the parcel at the time of the damage. Addition of a secondary dwelling unit to a single-family residence is permitted if in accordance with state law and local regulations.

(b) A nonresidential *Nonconforming Use* may be rebuilt provided that the *Reconstruction* does not increase the floor area of the previous structure or result in an increased *Intensity* of use (i.e., more people per acre).

(c) Reconstruction under Paragraphs (a) or (b) above:

(1) Must have a permit deemed complete by the *Local Agency* within twelve (12) months of the date the damage occurred.

(2) Shall incorporate sound attenuation features to the extent required by Policy 3.2.3.

(3) Shall comply with Federal Aviation Regulations Part 77 requirements (see Policy 3.4.2).

(d) *Reconstruction* in accordance with Paragraphs (a), (b), and (c) of this policy shall not be allowed where it would be in conflict (not in conformance) with the general plan or zoning ordinance of the *Local Agency*.

(e) Nothing in the above policies is intended to preclude work required for normal maintenance and repair.

4.1.5. *Special Conditions Exception:* The compatibility criteria set forth in this *Compatibility Plan* are intended to be applicable to all locations within the *Airport Influence Area* for each airport that is hat are under the jurisdiction of the Airport Land Use Commission for Stanislaus County. However, there may be specific situations where a normally incompatible use can be considered compatible because of terrain, specific location, or other extraordinary factors or circumstances related to the site.

(a) After due consideration of all the factors involved in such situations, the *ALUC* may find a normally incompatible use to be acceptable.

(b) In reaching such a decision, the *ALUC* shall make specific findings as to the nature of the extraordinary circumstances that warrant the policy exception and why the exception is being made. Findings also shall be made that the land use will neither create a safety

hazard to people on the ground or aircraft in flight nor result in excessive noise exposure for the proposed use.

(c) Approval of a special conditions exception for a proposed *Project* shall require a two-thirds approval of the *ALUC* members voting on the matter and shall not be delegated to the *ALUC Secretary* for approval.

(d) The burden for demonstrating that special conditions apply to a particular *Development Proposal* rests with the *Project* proponent and/or the referring *Local Agency*, not with the *ALUC*.

(e) The granting of a special conditions exception shall be considered site specific and shall not be generalized to include other sites.

4.2. Site-Specific Exceptions

4.2.1. *General:* In adoption of this *Compatibility Plan*, the *ALUC* has determined that certain known *Projects* warrant special conditions treatment as envisioned by Policy 4.1.5. These site-specific exceptions and the criteria to be applied to them are as described in the following policies of this section. *[This is a placeholder policy to be included if a need for exceptions is identified during CEQA analysis and/or public review of the draft Compatibility Plan]*

4.3. General Plan Consistency with Compatibility Plan

4.3.1. *Statutory Requirement:* State law requires that each *Local Agency* having territory within an *Airport Influence Area* modify its general plan and any applicable specific plan to be consistent with the compatibility plan for the particular airport unless it takes the steps required to overrule the *ALUC*. In order for a general plan to be considered consistent with this *Compatibility Plan*, the following must be accomplished:[29]

4.3.2. *Elimination of Conflicts:* No direct conflicts can exist between the two plans.

(a) Direct conflicts primarily involve general plan land use designations that do not meet the *Density* or *Intensity* criteria specified in Section 3.3 of this *Compatibility Plan*. In addition, conflicts with regard to other policies—height limitations in particular—may exist.

(b) A general plan cannot be found inconsistent with the *Compatibility Plan* because of land use designations that reflect *Existing Land Uses* even if those designations conflict with the compatibility criteria of this *Compatibility Plan*. General plan land use designations that merely echo the *Existing Land Uses* are exempt from requirements for general plan consistency with the *Compatibility Plan*.[30]

(c) Proposed *Redevelopment* or other changes to *Existing Land Uses* are not exempt from compliance with this *Compatibility Plan* and are subject to *ALUC* review in accordance with Policies 1.5.1 and 1.5.2. To ensure that *Nonconforming Uses* do not become more nonconforming, general plans or implementing documents must include policies setting limitations on expansion and *Reconstruction* of *Nonconforming Uses* located within an the *Airport Influence Area* consistent with Policies 4.1.3 and 4.1.4.

[29] See Chapter 1 and **Appendix G** for additional guidance.
[30] This exemption derives from state law which proscribes *ALUC* authority over *Existing Land Uses*.

(d) To be consistent with the *Compatibility Plan*, a general plan and/or implementing ordinance also must include provisions ensuring long-term compliance with the compatibility criteria. For example, future reuse of a building must not result in a usage *Intensity* that exceeds the applicable standard or other limit approved by the *ALUC*.

4.3.3. *Establishment of Review Process: Local Agencies* must define the process they will follow when reviewing proposed land use development within an *Airport Influence Area* to ensure that the development will be consistent with the policies set forth in this *Compatibility Plan*.

(a) The process established must ensure that the proposed development is consistent with the land use or zoning designation indicated in the *Local Agency*'s general plan, specific plan, zoning ordinance, and/or other development regulations that the *ALUC* has previously found consistent with this *Compatibility Plan* and that the development's subsequent use or reuse will remain consistent with the policies herein over time. Additionally, consistency with other applicable compatibility criteria—e.g., usage *Intensity*, height limitations, *Avigation Easement* dedication—must be assessed.

(b) The review process may be described either within the general plan or specific plan(s) themselves or in implementing ordinances. Local jurisdictions have the following choices for satisfying this review process requirement:

(1) Sufficient detail can be included in the general plan or specific plan(s) and/or referenced implementing ordinances and regulations to enable the local jurisdiction to assess whether a proposed development fully meets the compatibility criteria specified in the applicable compatibility plan (this means both that the compatibility criteria be identified and that *Project* review procedures be described);

(2) The *Compatibility Plan* can be adopted by reference (in this case, the *Project* review procedure must be described in a separate policy document or memorandum of understanding presented to and approved by the *ALUC*); and/or

(3) The general plan can indicate that all *Land Use Actions*, or a list of *Land Use Action* types agreed to by the *ALUC*, shall be submitted to the *ALUC* for review in accordance with the policies of Section 2.3.

4.4. Criteria for Review of Airport Plans

4.4.1. *Substance of Review:* In accordance with state law, any new or amended airport master plan or development plan is subject to *ALUC* review for consistency with this *Compatibility Plan* (see Policy 1.5.5). In conducting any such review, the *ALUC* shall evaluate whether the airport plan would result in greater noise, safety, airspace protection, or overflight impacts than indicated in this *Compatibility Plan*. Attention should specifically focus on:

(a) Proposals for facilities or procedures not assumed herein, specifically:

(1) Construction of a new runway or helicopter takeoff and landing area.

(2) Change in the length, width, or landing threshold location of an existing runway.

(3) Establishment of an instrument approach procedure that changes the approach capabilities at a particular runway end.

(4) Modification of the flight tracks associated with existing visual or instrument operations procedures.

(b) New activity forecasts that are: (1) significantly higher than those used in developing **Map 2**, *Compatibility Policy Map: Noise*; or (2) assume a higher proportion of larger or noisier aircraft.

4.4.2. *Noise Impacts of Airport Expansion:* Any proposed expansion of airport facilities that would result in a significant increase in cumulative noise exposure (measured in terms of CNEL) shall include measures to reduce the exposure to a less-than-significant level. For the purposes of this plan, a noise increase shall be considered significant if:

(a) In locations having an existing ambient noise level of CNEL 60 dB or less, the *Project* would increase the noise level by 3.0 dB or more.

(b) In locations having an existing ambient noise level of more than CNEL 60 dB, the *Project* would increase the noise level by 1.5 dB or more.

4.4.3. *Consistency Determination:* The *ALUC* shall determine whether the proposed airport plan or development plan is consistent with this *Compatibility Plan*. The *ALUC* shall base its determination of consistency on:

(a) Findings that the development and forecasts identified in the airport plan would not result in greater noise, safety, airspace protection, or overflight impacts on surrounding land uses than are assumed in this *Compatibility Plan*.

(b) Consideration of:

(1) Mitigation measures incorporated into the plan or *Project* to reduce any increases in the noise, safety, airspace protection, and overflight impacts to a less-than-significant level in accordance with provisions of CEQA; or

(2) In instances where the impacts cannot be reduced to a less-than-significant level, a statement of overriding considerations approved by airport owner in accordance with provisions of CEQA.

(c) A determination that any nonaviation development proposed for locations within the *Airport* boundary (excluding federal- or state-owned property) will be consistent with the compatibility criteria and policies indicated in this *Compatibility Plan* with respect to the *Airport* (see Policy 1.2.10 for definition of aviation-related use).

Land Use Category › Multiple land use categories and compatibility criteria may apply to a project › Land uses not specifically listed shall be evaluated using the criteria for similar uses	**Exterior Noise Exposure** [1] **(CNEL dB)**					**Criteria for Conditional Uses** › Interior noise level limits shown in yellow cells also apply *(see Policy 3.2.3)* › An acoustical study may be prudent for noise-sensitive uses proposed in areas exposed to CNEL 60 dB or greater *(see Policy 3.2.3(d))*
	≤ 55	**55-60**	**60-65**	**65-70**	**≥ 70**	
Legend *(see last page of table for interpretation)*	***Normally Compatible***			***Conditional***		***Incompatible***
Outdoor Uses (limited or no activities in buildings)						
Natural Land Areas: woods, brush lands, desert						Compatible at levels indicated, but noise disruption of natural quiet will occur
Water: flood plains, wetlands, lakes, reservoirs						
Agriculture (except residences and livestock): crops, orchards, vineyards, pasture, range land						
Livestock Uses: feed lots, stockyards, breeding, fish hatcheries, horse stables						Exercise caution with uses involving noise-sensitive animals [2]
Outdoor Major Assembly Facilities (capacity ≥1,000 people): spectator-oriented outdoor stadiums, amphitheaters, fairgrounds, zoos						Exercise caution if clear audibility by users is essential [3]
Group Recreation (limited spectator stands): athletic fields, water recreation facilities, picnic areas						Exercise caution if clear audibility by users is essential [3]
Small/Non-Group Recreation: golf courses, tennis courts, shooting ranges						Exercise caution if clear audibility by users is essential [3]
Local Parks: children-oriented neighborhood parks, playgrounds						Exercise caution if clear audibility by users is essential [3]
Camping: campgrounds, recreational vehicle/motor home parks						
Cemeteries (excluding chapels)						Compatible at levels indicated, but noise disruption of outdoor activities will occur
Residential and Lodging Uses						
Single-Family Residential: individual dwellings, townhouses, mobile homes, bed & breakfast inns		**45**				
Multi-Family Residential (≥8 d.u./acre)		**45**				
Long-Term Lodging (>30 nights): extended-stay hotels, dormitories		**45**				
Short-Term Lodging (≤30 nights): hotels, motels, other transient lodging (except conference/assembly facilities)		**45**				
Congregate Care: retirement homes, assisted living, nursing homes, intermediate care facilities		**45**				
Educational and Institutional Uses						
Family day care homes (≤ 14 children)		**45**				
Children's Schools: K-12, day care centers (>14 children); school libraries		**45**				

Table 1

Noise Compatibility Criteria

Modesto City-County Airport, Oakdale Municipal Airport

Land Use Category › Multiple land use categories and compatibility criteria may apply to a project › Land uses not specifically listed shall be evaluated using the criteria for similar uses	**Exterior Noise Exposure** [1] **(CNEL dB)**					**Criteria for Conditional Uses** › Interior noise level limits shown in yellow cells also apply *(see Policy 3.2.3)* › An acoustical study may be prudent for noise-sensitive uses proposed in areas exposed to CNEL 60 dB or greater *(see Policy 3.2.3(d))*
	≤ 55	**55-60**	**60-65**	**65-70**	**≥ 70**	
Legend *(see last page of table for interpretation)*	***Normally Compatible***			***Conditional***	***Incompatible***	
Adult Education classroom space: adult schools, colleges, universities (excluding aviation-related schools)		45	45			Applies only to classrooms (acoustical study may be warranted); offices, laboratory facilities, gymnasiums, outdoor athletic facilities, and other uses to be evaluated as indicated for those land use categories
Community Libraries		45				
Indoor Major Assembly Facilities (capacity ≥1,000 people): auditoriums, conference centers, concert halls, indoor arenas			45	45		
Indoor Large Assembly Facilities (capacity 300 to 999 people): movie theaters, places of worship, cemetery chapels, mortuaries			45	45		Acoustical study may be warranted for noise-sensitive uses (e.g., places of worship) *See Policy 3.2.3(d)*
Indoor Small Assembly Facilities (capacity <300 people): places of worship, cemetery chapels, mortuaries, meeting halls			45	45		Acoustical study may be warranted for noise-sensitive uses (e.g., places of worship) *See Policy 3.2.3(d)*
Indoor Recreation: gymnasiums, club houses, athletic clubs, dance studios				45		
In-Patient Medical: hospitals, mental hospitals			45			Acoustical study may be warranted *See Policy 3.2.3(d)*
Out-Patient Medical: health care centers, clinics			45	45		
Penal Institutions: prisons, reformatories			45			
Public Safety Facilities: police, fire stations				45		
Commercial, Office, and Service Uses						
Major Retail: regional shopping centers, 'big box' retail				50		Outdoor dining or gathering places incompatible above CNEL 65 dB
Local Retail: community/neighborhood shopping centers, grocery stores				50		Outdoor dining or gathering places incompatible above CNEL 65 dB
Eating/Drinking Establishments: restaurants, fast-food dining, bars						Outdoor dining or gathering places incompatible above CNEL 65 dB
Limited Retail/Wholesale: furniture, automobiles, heavy equipment, lumber yards, nurseries						Noise attenuation required for office areas *See Policy 4.2.3*
Offices: professional services, doctors, finance, civic; radio, television & recording studios, office space associated with other listed uses				50		
Personal & Miscellaneous Services: barbers, car washes, print shops				50		
Vehicle Fueling: gas stations, trucking & transportation terminals					50	Noise attenuation required for office areas *See Policy 3.2.3*

Table 1, continued

Land Use Category › Multiple land use categories and compatibility criteria may apply to a project › Land uses not specifically listed shall be evaluated using the criteria for similar uses	**Exterior Noise Exposure** [1] **(CNEL dB)**					**Criteria for Conditional Uses** › Interior noise level limits shown in yellow cells also apply *(see Policy 3.2.3)* › An acoustical study may be prudent for noise-sensitive uses proposed in areas exposed to CNEL 60 dB or greater *(see Policy 3.2.3(d))*
	≤ 55	**55-60**	**60-65**	**65-70**	**≥ 70**	
Legend *(see last page of table for interpretation)*	***Normally Compatible***			***Conditional***		***Incompatible***
Industrial, Manufacturing, and Storage Uses						
Hazardous Materials Production: oil refineries, chemical plants				**50**	**50**	Noise attenuation required for office areas *See Policy 3.2.3*
Heavy Industrial				**50**	**50**	Noise attenuation required for office areas *See Policy 3.2.3*
Light Industrial, High Intensity: food products preparation, electronic equipment				**50**	**50**	Noise attenuation required for office areas *See Policy 3.2.3*
Light Industrial, Low Intensity: machine shops, wood products, auto repair				**50**	**50**	Noise attenuation required for office areas *See Policy 3.2.3*
Research & Development				**50**		Noise attenuation required for office areas *See Policy 3.2.3*
Indoor Storage: wholesale sales, warehouses, mini/other indoor storage, barns, greenhouses						
Outdoor Storage: public works yards, automobile dismantling						
Mining & Extraction						
Transportation, Communication, and Utilities						
Rail & Bus Stations					**50**	Noise attenuation required for public and office areas *See Policy 3.2.3*
Transportation Routes: road & rail rights-of-way, bus stops						
Auto Parking: surface lots, structures						
Communications Facilities: emergency communications, broadcast & cell towers						
Power Plants						
Electrical Substations						
Wastewater Facilities: treatment, disposal						
Solid Waste Disposal Facilities: landfill, incineration						
Solid Waste Transfer Facilities, Recycle Centers						

Table 1, continued

Land Use	Acceptability	Interpretation/Comments
	Normally Compatible	*Indoor Uses:* Either the activities associated with the land use are inherently noisy or standard construction methods will sufficiently attenuate exterior noise to an acceptable indoor community noise equivalent level (CNEL). For land use types that are compatible because of inherent noise levels, sound attenuation must be provided for associated office, retail, and other noise-sensitive indoor spaces sufficient to reduce exterior noise to an interior maximum of CNEL 45 dB. *Outdoor Uses:* Except as noted in the table, activities associated with the land use may be carried out with minimal interference from aircraft noise.
	Conditional	*Indoor Uses:* Building structure must be capable of attenuating exterior noise from all noise sources to the indoor CNEL indicated by the number in the cell (40, 45 or 50). See *Policy 4.2.3*. *Outdoor Uses:* Caution should be exercised with regard to noise-sensitive outdoor uses; these uses are likely to be disrupted by aircraft noise events; acceptability is dependent upon characteristics of the specific use.[2]
	Incompatible	*Indoor Uses:* Unacceptable noise interference if windows are open; at exposures above CNEL 65 dB, extensive mitigation techniques required to make the indoor environment acceptable for performance of activities associated with the land use. *Outdoor Uses:* Severe noise interference makes the outdoor environment unacceptable for performance of activities associated with the land use.

Notes

[1] For the purposes of these criteria, the exterior noise exposure generated by aircraft activity at airport involved is defined by the projected noise contours illustrated in Chapter 3 of this *Compatibility Plan*.

[2] This caution is directed at the project proponent and is not intended to preclude approval of the project.

[3] Noise-sensitive land uses are ones for which the associated primary activities, whether indoor or outdoor, are susceptible to disruption by loud noise events. See *Policy 1.2.26* for examples of noise-sensitive uses.

Table 1, continued

Land Use Category	Safety Zone						Criteria for Conditional Uses
▸ Multiple land use categories and compatibility criteria may apply to a project ▸ Land uses not specifically listed shall be evaluated using the criteria for similar uses ▸ Numbers in brackets for some uses are occupancy load factors [1]	1	2	3	4	5	6	▸ Numbers below indicate zone in which condition applies ▸ Nonresidential development must satisfy both forms of intensity limits *(see Policy 3.3.3)* ▸ Up to 10% of total floor area may be devoted to ancillary use *(see Policy 3.3.3(d))* ▸ See *Policy 3.3.4* for information on how to calculate nonresidential intensity ▸ Maximum Intensity criteria apply to Normally Compatible as well as Conditional land uses
Max. Sitewide Average Intensity (people/acre) **Max. Single-Acre Intensity (people/acre)** *applicable to all nonresidential development*	**10** **20** [2]	**60** **120**	**100** **300**	**150** **450**	**100** **300**	**300** **1000**	
Legend *(see last page of table for interpretation)*	***Normally Compatible***			***Conditional***		***Incompatible***	
Outdoor Uses (limited or no activities in buildings)							
Natural Land Areas: woods, brush lands, desert							1: Objects above runway elevation not allowed in Object Free Area (OFA) [3] All: Also see Airspace Protection Policy 3.4.3 regarding wildlife hazards to flight
Water: flood plains, wetlands, lakes, reservoirs [4]							1: Objects above runway elevation not allowed in Object Free Area (OFA) [3] All: Also see Airspace Protection Policy 3.4.3 regarding wildlife hazards to flight
Agriculture (except residences and livestock): crops, orchards, vineyards, pasture, range land							1: Not allowed in Object Free Area (OFA) [3] All: Also see Airspace Protection Policy 3.4.3 regarding wildlife hazards to flight
Livestock Uses: feed lots, stockyards, breeding, fish hatcheries, horse stables [4]							All: Also see Airspace Protection Policy 3.4.3 regarding wildlife hazards to flight
Outdoor Major Assembly Facilities (capacity ≥1,000 people): spectator-oriented outdoor stadiums, amphitheaters, fairgrounds, zoos [5]							6: Allowed only if alternative site outside zone would not serve intended function
Group Recreation (limited spectator stands): athletic fields, water recreation facilities, picnic areas							3, 4: Allowed only if alternative site outside zone would not serve intended function
Small/Non-Group Recreation: golf courses,[4] tennis courts, shooting ranges							2: Allowed only if alternative site outside zone would not serve intended function and intensity criteria met
Local Parks: children-oriented neighborhood parks, playgrounds							
Camping: campgrounds, recreational vehicle/ motor home parks							3, 4: Allowed only if intensity criteria met
Cemeteries (except chapels)							
Residential and Lodging Uses							
Single-Family Residential (<8 d.u./acre): individual dwellings, townhouses, mobile homes, bed & breakfast inns [6]							2: Acceptable only if dwelling site is not within of zone boundaries 3, 4: Incompatible at density >1 d.u./5.0 acres sitewide average or >2.0 d.u. per any single acre *See Policy 3.3.2*
Multi-Family Residential (≥8 d.u./acre): condominiums, apartments, agricultural-related housing [6]							
Long-Term Lodging (>30 nights): extended-stay hotels, dormitories							

Table 2

Safety Compatibility Criteria

Modesto City-County Airport, Oakdale Municipal Airport

Land Use Category › Multiple land use categories and compatibility criteria may apply to a project › Land uses not specifically listed shall be evaluated using the criteria for similar uses › Numbers in brackets for some uses are occupancy load factors [1]	**Safety Zone** 1	2	3	4	5	6	**Criteria for Conditional Uses** › Numbers below indicate zone in which condition applies › Nonresidential development must satisfy both forms of intensity limits *(see Policy 3.3.3)* › Up to 10% of total floor area may be devoted to ancillary use *(see Policy 3.3.3(d))* › See *Policy 3.3.4* for information on how to calculate nonresidential intensity › Maximum Intensity criteria apply to Normally Compatible as well as Conditional land uses
Max. Sitewide Average Intensity (people/acre)	**10**	**60**	**100**	**150**	**100**	**300**	
Max. Single-Acre Intensity (people/acre) *applicable to all nonresidential development*	**20** [2]	**120**	**300**	**450**	**300**	**1000**	
Legend *(see last page of table for interpretation)*	***Normally Compatible***				***Conditional***		***Incompatible***
Short-Term Lodging (≤30 nights): hotels, motels, other transient lodging (except conference/assembly facilities) [approx. 200 s.f./person]							3, 4: Ensure intensity criteria met
Congregate Care: retirement homes, assisted living, nursing homes, intermediate care facilities [7]							
Educational and Institutional Uses							
Family day care homes (≤14 children)							3, 4: Allowed only in existing dwellings or where new single-family residential is allowed See *Policy 3.3.2(d)*
Children's Schools: K-12, day care centers (>14 children); school libraries [7]							3, 4: No new sites or land acquisition 6: No new sites or land acquisition within ½ mile of runway 3, 4, 6: Bldg replacement/expansion allowed for existing school sites; expansion limited to ≤50 students (not school staff) See *Policy 3.6.3(c)*
Adult Education classroom space: adult schools, colleges, universities [approx. 40 s.f./person]							3, 4: Ensure intensity criteria met; also see individual components of campus facilities (e.g., assembly facilities, offices, gymnasiums)
Community Libraries [approx. 100 s.f./person]							3, 4: Ensure intensity criteria met
Indoor Major Assembly Facilities (capacity ≥1,000 people): auditoriums, conference centers, concert halls, indoor arenas [4]							6: Allowed only if beyond ½ mile from runway and alternative site outside zone would not serve intended function; not allowed within ½ mile of runway
Indoor Large Assembly Facilities (capacity 300 to 999 people): movie theaters, places of worship, cemetery chapels, mortuaries [4] [approx. 15 s.f./person]							3, 4: Ensure intensity criteria met
Indoor Small Assembly Facilities (capacity <300 people): places of worship, cemetery chapels, mortuaries, meeting halls [approx. 30 s.f./person]							3, 4: Ensure intensity criteria met
Indoor Recreation: gymnasiums, club houses, athletic clubs, dance studios [approx. 60 s.f./person]							3, 4: Ensure intensity criteria met
In-Patient Medical: hospitals, mental hospitals [7]							3, 4: No new sites or land acquisition; replacement/expansion of existing facilities limited to existing size
Out-Patient Medical: health care centers, clinics [approx. 240 s.f./person]							3, 4: Ensure intensity criteria met

Table 2, continued

Land Use Category › Multiple land use categories and compatibility criteria may apply to a project › Land uses not specifically listed shall be evaluated using the criteria for similar uses › Numbers in brackets for some uses are occupancy load factors [1]	**Safety Zone**						**Criteria for Conditional Uses** › Numbers below indicate zone in which condition applies › Nonresidential development must satisfy both forms of intensity limits *(see Policy 3.3.3)* › Up to 10% of total floor area may be devoted to ancillary use *(see Policy 3.3.3(d))* › See *Policy 3.3.4* for information on how to calculate nonresidential intensity › Maximum Intensity criteria apply to Normally Compatible as well as Conditional land uses
	1	**2**	**3**	**4**	**5**	**6**	
Max. Sitewide Average Intensity (people/acre) **Max. Single-Acre Intensity (people/acre)** *applicable to all nonresidential development*	**10** **20** [2]	**60** **120**	**100** **300**	**150** **450**	**100** **300**	**300** **1000**	
Legend *(see last page of table for interpretation)*	***Normally Compatible***				***Conditional***		***Incompatible***
Penal Institutions: prisons, reformatories [7]							
Public Safety Facilities: police, fire stations [7]							3, 4: Allowed only if alternative site outside zone would not serve intended public function 5: Allowed only if airport serving
Commercial, Office, and Service Use							
Major Retail: regional shopping centers, 'big box' retail [approx. 110 s.f./person]							3, 4: Ensure intensity criteria met; capacity <1,000 people per bldg; evaluate eating/ drinking areas separately if >10% of total floor area
Local Retail: community/neighborhood shopping centers, grocery stores [approx. 170 s.f./person]							3, 4: Ensure intensity criteria met; evaluate eating/ drinking areas separately if >10% of total floor area
Eating/Drinking Establishments: restaurants, fast-food dining, bars [approx. 60 s.f./person]							3-5: Ensure intensity criteria met
Limited Retail/Wholesale: furniture, automobiles, heavy equipment, lumber yards, nurseries [approx. 250 s.f./person]							2, 5: Ensure intensity criteria met; design site to place parking inside and bldgs outside of zone if possible
Offices: professional services, doctors, finance, civic; radio, television & recording studios, office space associated with other listed uses [approx. 215 s.f./person]							2-5: Ensure intensity criteria met 6: Review intensity compliance if >3 story bldg and <½ mile from runway
Personal & Miscellaneous Services: barbers, car washes, print shops [approx. 200 s.f./perso							2-5: Ensure intensity criteria met
Vehicle Fueling: gas stations, trucking & transportation terminals							5: Allowed only if airport serving
Industrial, Manufacturing, and Storage Uses							
Hazardous Materials Production: oil refineries, chemical plants [7]							6: Allowed only if alternative site outside zone would not serve intended function
Heavy Industrial [7]							3, 4: Avoid bulk storage of hazardous (flammable, explosive, corrosive, or toxic) materials; permitting agencies to evaluate possible need for special measures to minimize hazards if struck by aircraft
Light Industrial, High Intensity: food products preparation, electronic equipment [approx. 200 s.f./person]							2-4: Ensure intensity criteria met; avoid bulk storage of hazardous (flammable, explosive, corrosive, or toxic) materials; permitting agencies to evaluate possible need for special measures to minimize hazards if struck by aircraft

Table 2, continued

Land Use Category › Multiple land use categories and compatibility criteria may apply to a project › Land uses not specifically listed shall be evaluated using the criteria for similar uses › Numbers in brackets for some uses are occupancy load factors [1]	**Safety Zone**						**Criteria for Conditional Uses** › Numbers below indicate zone in which condition applies › Nonresidential development must satisfy both forms of intensity limits *(see Policy 3.3.3)* › Up to 10% of total floor area may be devoted to ancillary use *(see Policy 3.3.3(d))* › See *Policy 3.3.4* for information on how to calculate nonresidential intensity › Maximum Intensity criteria apply to Normally Compatible as well as Conditional land uses
	1	**2**	**3**	**4**	**5**	**6**	
Max. Sitewide Average Intensity (people/acre) **Max. Single-Acre Intensity (people/acre)** *applicable to all nonresidential development*	**10** **20** [2]	**60** **120**	**100** **300**	**150** **450**	**100** **300**	**300** **1000**	
Legend *(see last page of table for interpretation)*	***Normally Compatible***				***Conditional***		***Incompatible***
Light Industrial, Low Intensity: machine shops, wood products, auto repair [approx. 350 s.f./person]							2-4: Ensure intensity criteria met 5: Single story only; max. 10% in mezzanine 2-5: Avoid bulk storage of hazardous (flammable, explosive, corrosive, or toxic) materials; permitting agencies to evaluate possible need for special measures to minimize hazards if struck by aircraft
Indoor Storage: wholesale sales, warehouses, mini/other indoor storage, barns, greenhouses [approx. 1,000 s.f./person]							2, 5: Single story only; max. 10% in mezzanine
Research & Development [approx. 300 s.f./person]							3, 4: Ensure intensity criteria met; avoid bulk storage of hazardous (flammable, explosive, corrosive, or toxic) materials; permitting agencies to evaluate possible need for special measures to minimize hazards if struck by aircraft
Outdoor Storage: public works yards, automobile dismantling							
Mining & Extraction [8]							2: Allowed only if intensity criteria met
Transportation, Communication, and Utilities							
Airport Terminals: airline, general aviation							
Rail & Bus Stations							2: Allowed only if alternative site outside zone would not serve intended public function 5: Allowed only if airport serving
Transportation Routes: road & rail rights-of-way, bus stops							1: Not allowed in Object Free Area (OFA) [2]
Auto Parking: surface lots, structures							1: Not allowed in Object Free Area (OFA) [2]
Communications Facilities: emergency communications, broadcast & cell towers [7, 9]							3-5: Allowed only if alternative site outside zone would not serve intended public function; not allowed within ½ of runway 6: Not allowed within ½ mile of runway
Power Plants [7, 9]							
Electrical Substations [7]							2, 5: Allowed only if alternative site outside zone would not serve intended public function
Wastewater Facilities: treatment, disposal [7]							2, 5: Allowed only if alternative site outside zone would not serve intended public function
Solid Waste Disposal Facilities: landfill, incineration [4]							2: Allowed only if alternative site outside zone would not serve intended public function
Solid Waste Transfer Facilities, Recycle Centers [3]							

Table 2, continued

Land Use Acceptability		Interpretation/Comments
	Normally Compatible	Normal examples of the use are compatible under the presumption that usage criteria will be met. Atypical examples may require review to ensure compliance with usage intensity criteria. Noise, airspace protection, and/or overflight limitations may apply.
	Conditional	Use is compatible if indicated conditions are met.
	Incompatible	Use should not be permitted under any circumstances.

Notes

1 Common occupancy load factors source (approx. number of square feet per person): compiled by Mead & Hunt, Inc. based upon information from various sources including building and fire codes, facility management industry sources, and ALUC surveys.
2 No new structures intended to be regularly occupied are allowed.
3 Object Free Area (OFA): Dimensions are established by FAA airport design standards for the runway and are depicted on the respective Safety Zones Policy Maps in Chapter 3.
4 These uses may attract birds or other wildlife that could pose hazards to flight. See *Section 3.4* for applicable airspace protection policies.
5 Occupancy limits for Large and Major Assembly Facilities coincide with International Building Code categories.
6 Construction of a single-family home, including a second dwelling unit as defined by state law, allowed on a legal lot of record if such use is permitted by local land use regulations. A family day care home (serving ≤14 children) may be established in any dwelling. See *Policies 2.3.4(a)(4)* and 3*.3.2(d).*
7 These uses constitute uses of special concern for which safety restrictions apply irrespective of usage intensities. See Policy 3.3.5.
8 These uses may generate dust or other hazards to flight. See *Section 3.4* for applicable policies.
9 Power lines or other tall objects associated with these uses may be hazards to flight. See *Section 3.4* for applicable policies.

Table 2, continued

Chapter **3**

INDIVIDUAL AIRPORT POLICIES AND COMPATIBILITY MAPS

Stanislaus County
Striving to be the Best

3

Individual Airport Policies and Compatibility Maps

CHAPTER OVERVIEW

This chapter presents policies and maps that are specific to each of the three airports addressed in this document: Modesto City-County Airport, Oakdale Municipal Airport, and Crows Landing Airport (forthcoming). The respective section for each airport, combined with the general policies that comprise Chapter 2, represents the *Compatibility Plan* for that particular airport.

To the extent that any of the policies in Chapter 2 are not intended to apply to a particular airport, those modifications are indicated here. Any additional policies that apply only to a specific airport are listed as well. These special policies are not to be generalized or considered as precedent applicable to other locations near the same airport or to the environs of other airports addressed by this *Compatibility Plan*. Where no special policies are listed, the policies in Chapter 2 prevail.

For each airport, a set of five policy maps is provided:

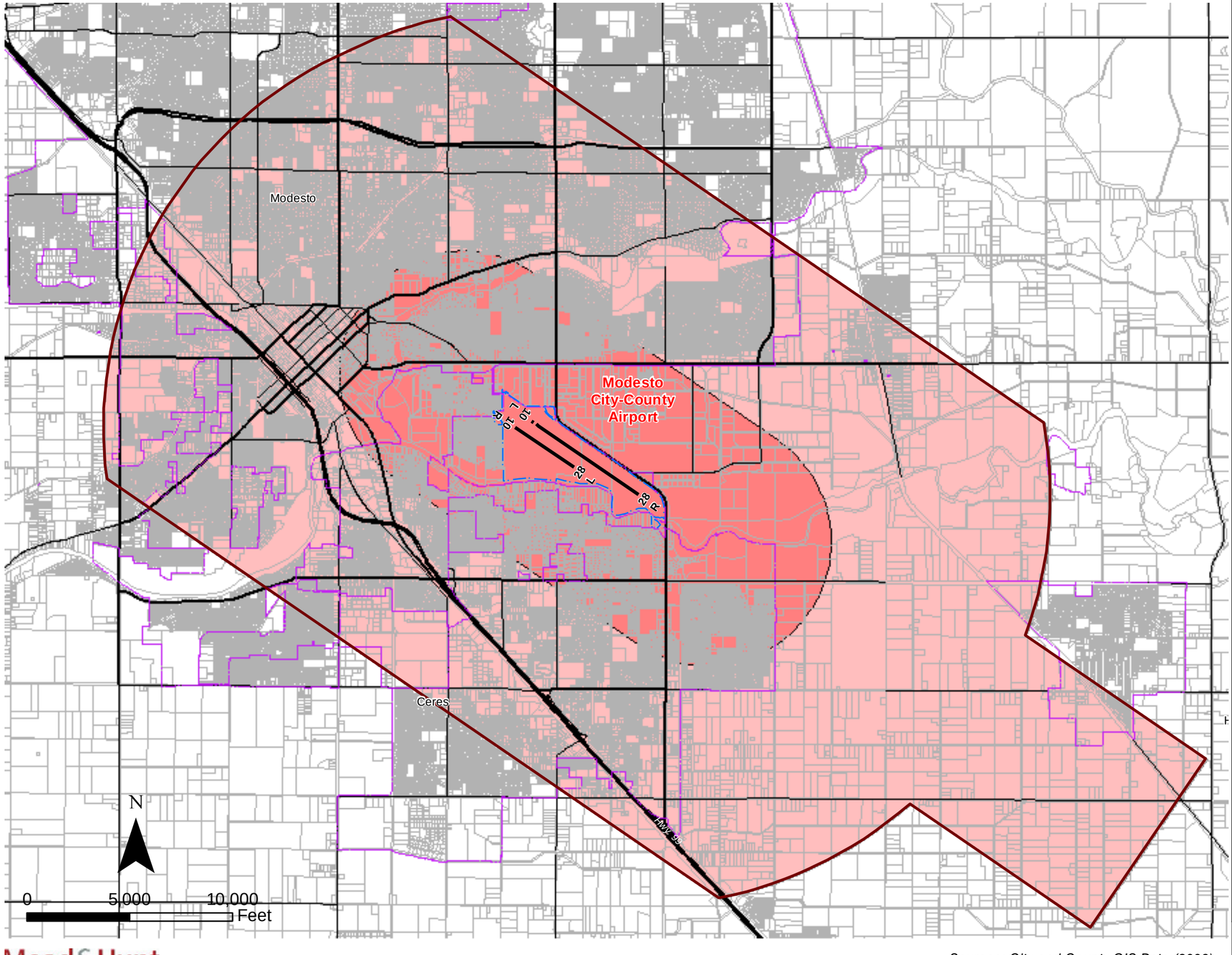
- *Airport Influence Area Policy Maps* indicate the overall boundary of the area, as well as the two subareas—Referral Areas 1 and 2—within which certain land use actions are subject to ALUC review.
- *Airport Noise Zones Policy Maps* depict the locations within which criteria addressing noise impacts are applicable.
- *Safety Zones Policy Maps* show locations where certain types of proposed development may be restricted on the basis of safety compatibility with the airport.
- *Airspace Protection Zones Policy Maps* define where limits on the heights of structures and other objects are necessary.
- *Overflight Areas Policy Maps* show where policies providing certain buyer awareness measures are applicable.

These maps provide the geographic context for the compatibility policies set forth in Chapter 2. Information and other factors considered in developing the maps for each airport are described and illustrated in the background data chapters for the respective airports (Chapters 4 through 6).

MOD. MODESTO CITY-COUNTY AIRPORT

MOD.1 Additional Compatibility Policies

MOD 1.1 None.



Legend

- Road
- City
- Airport Boundary
- Referral Area 2
- Referral Area 1
- Airport Influence Boundary

Stanislaus County

Airport Land Use Compatibility Plans

(January 2014, Draft)

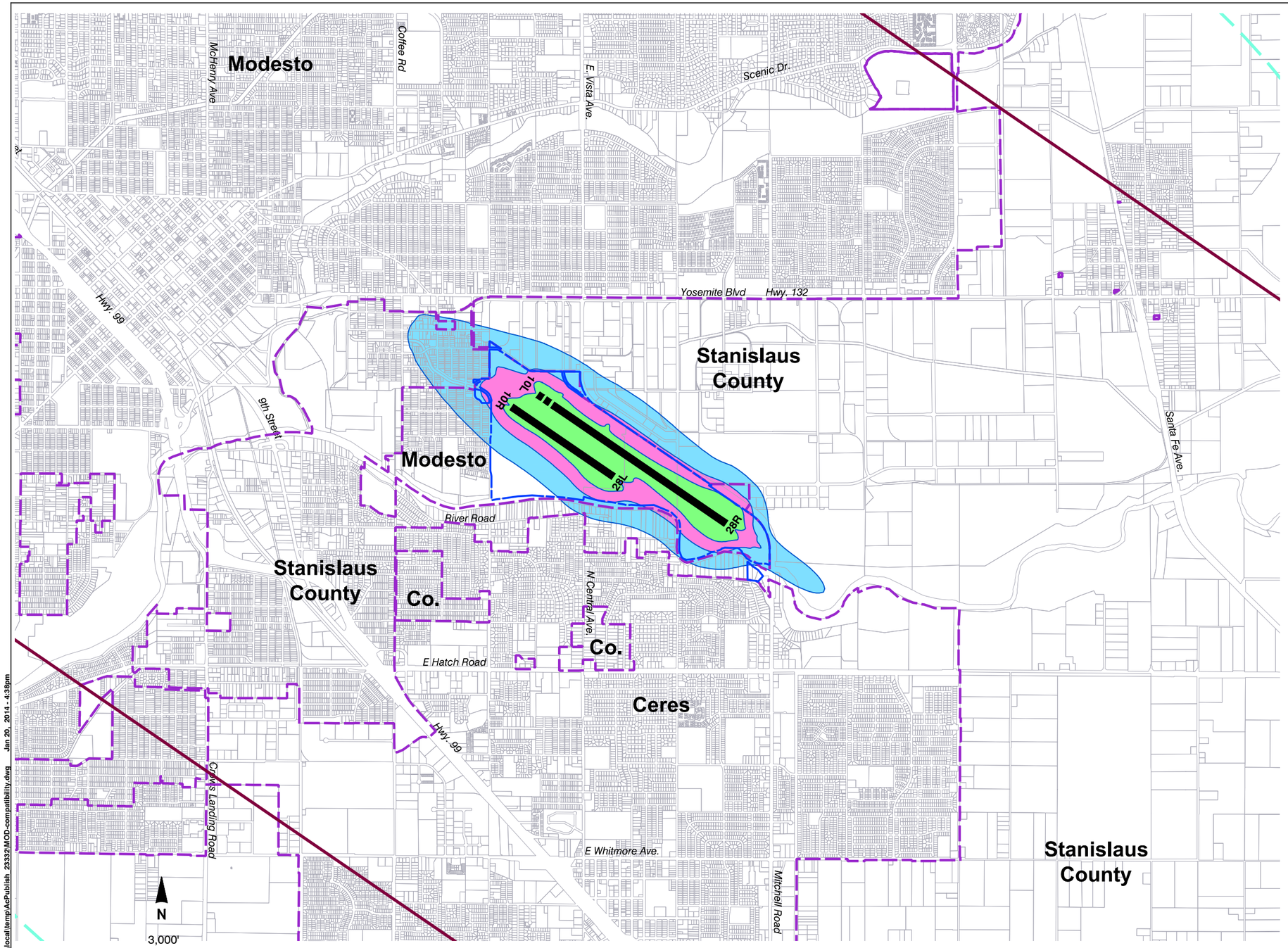
Map MOD-1

Airport Influence Area Policy Map

Modesto City-County Airport

Mead&Hunt

Sources: City and County GIS Data (2009)



Legend

Boundary Lines

- Airport Property Line
- City Limits
- Existing Runway
- Future Runway
- Airport Influence Area

Noise Impact Zones[1]

- 60 - 65 dB CNEL
- 65 - 70 dB CNEL
- 70+ dB CNEL

Notes

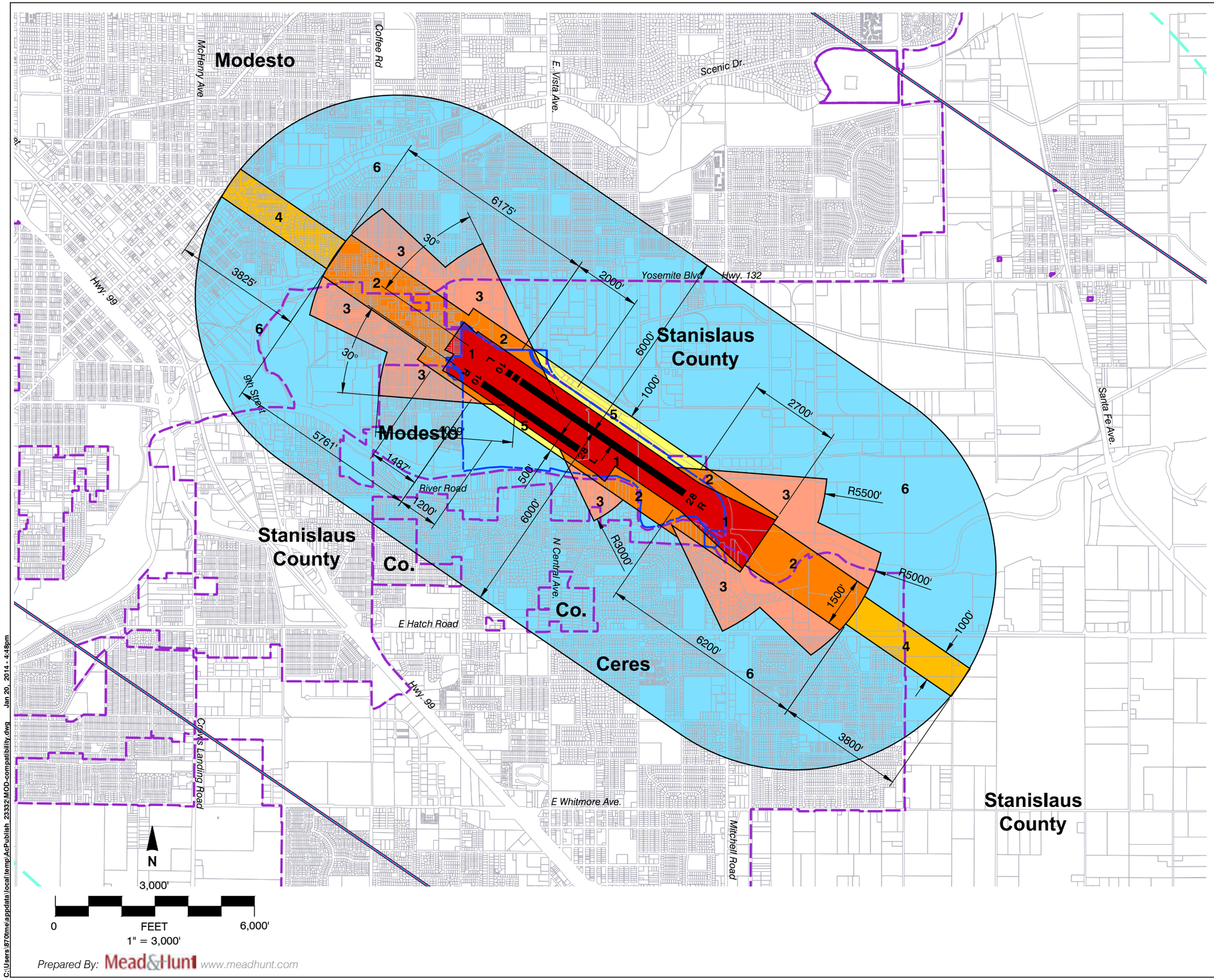
1. Noise Contours reflect long range scenario with 141,000 annual operations.

Stanislaus County
Airport Land Use Compatibility Plans
(January 2014, Draft)

Map MOD-2

Airport Noise Zones Policy Map

Modesto City-County Airport



Legend

Boundary Lines

- Airport Property Line
- City Limits
- Existing Runway
- Future Runway
- Airport Influence Area

Safety Zones (Composite)

- Zone 1 Runway Protection Zone
- Zone 2 Approach/Departure Zone
- Zone 3 Inner Turning Zone
- Zone 4 Outer Approach/Departure Zone
- Zone 5 Sideline Zone
- Zone 6 Traffic Pattern Zone

Notes

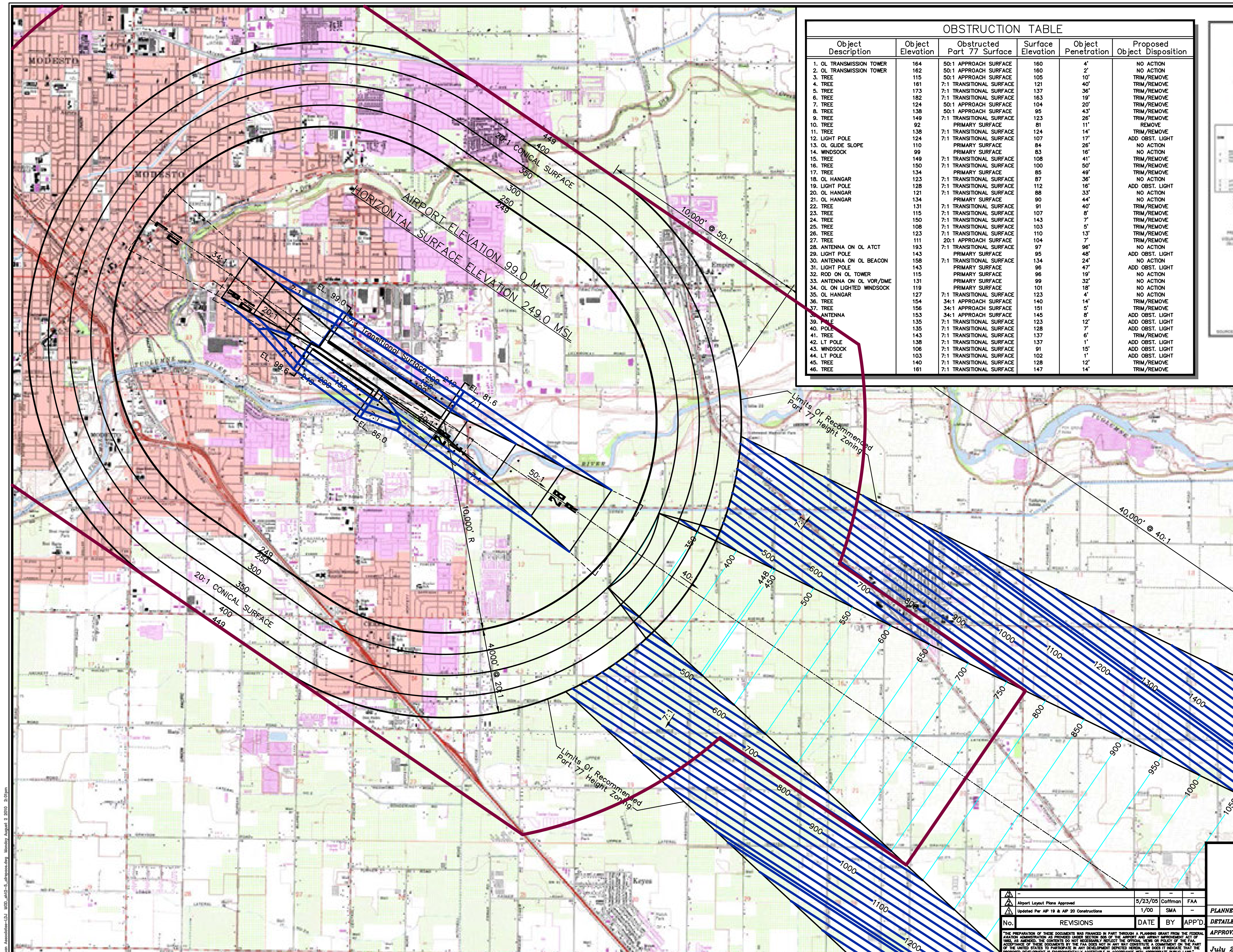
1. Safety zone source: California Airport Land Use Planning Handbook (January 2002).
2. Composite safety zones reflect existing runway configuation and 500' extension.Composite zones combine large air carrier runway zones, medium general aviation runway zones, and long general aviation runway zones for Runway 10L-28R.
3. Short general aviation zones were used for Runway 10R-28L.
4. Zone 1 has been adjusted to reflect runway protection zones depicted on the Airport Layout Plan (December 2009).

Stanislaus County
Airport Land Use Compatibility Plans
(January 2014, Draft)

Map MOD-3

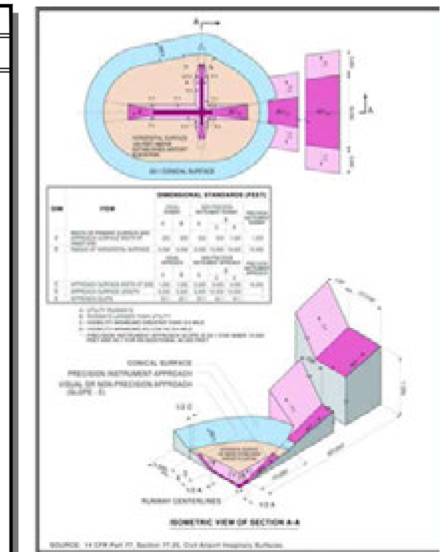
Airport Safety Zones Policy Map

Modesto City-County Airport



OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
1. OL TRANSMISSION TOWER	164	50:1 APPROACH SURFACE	160	4'	NO ACTION
2. OL TRANSMISSION TOWER	162	50:1 APPROACH SURFACE	160	2'	NO ACTION
3. TREE	115	50:1 APPROACH SURFACE	105	10'	TRIM/REMOVE
4. TREE	161	7:1 TRANSITIONAL SURFACE	121	40'	TRIM/REMOVE
5. TREE	173	7:1 TRANSITIONAL SURFACE	137	36'	TRIM/REMOVE
6. TREE	182	7:1 TRANSITIONAL SURFACE	163	19'	TRIM/REMOVE
7. TREE	124	50:1 APPROACH SURFACE	104	20'	TRIM/REMOVE
8. TREE	138	50:1 APPROACH SURFACE	95	43'	TRIM/REMOVE
9. TREE	149	7:1 TRANSITIONAL SURFACE	123	26'	TRIM/REMOVE
10. TREE	92	PRIMARY SURFACE	81	11'	REMOVE
11. TREE	138	7:1 TRANSITIONAL SURFACE	124	14'	TRIM/REMOVE
12. LIGHT POLE	124	7:1 TRANSITIONAL SURFACE	107	17'	ADD OBST. LIGHT
13. OL GLIDE SLOPE	110	PRIMARY SURFACE	84	26'	NO ACTION
14. WINDSOCK	99	PRIMARY SURFACE	83	16'	NO ACTION
15. TREE	149	7:1 TRANSITIONAL SURFACE	108	41'	TRIM/REMOVE
16. TREE	150	7:1 TRANSITIONAL SURFACE	100	50'	TRIM/REMOVE
17. TREE	134	PRIMARY SURFACE	85	49'	TRIM/REMOVE
18. OL HANGAR	123	7:1 TRANSITIONAL SURFACE	87	36'	NO ACTION
19. LIGHT POLE	128	7:1 TRANSITIONAL SURFACE	112	16'	ADD OBST. LIGHT
20. OL HANGAR	121	7:1 TRANSITIONAL SURFACE	88	33'	NO ACTION
21. OL HANGAR	134	PRIMARY SURFACE	90	44'	NO ACTION
22. TREE	131	7:1 TRANSITIONAL SURFACE	91	40'	TRIM/REMOVE
23. TREE	115	7:1 TRANSITIONAL SURFACE	107	8'	TRIM/REMOVE
24. TREE	150	7:1 TRANSITIONAL SURFACE	143	7'	TRIM/REMOVE
25. TREE	108	7:1 TRANSITIONAL SURFACE	103	5'	TRIM/REMOVE
26. TREE	123	7:1 TRANSITIONAL SURFACE	110	13'	TRIM/REMOVE
27. TREE	111	20:1 APPROACH SURFACE	104	7'	TRIM/REMOVE
28. ANTENNA ON OL ATCT	193	7:1 TRANSITIONAL SURFACE	97	96'	NO ACTION
29. LIGHT POLE	143	PRIMARY SURFACE	95	48'	ADD OBST. LIGHT
30. ANTENNA ON OL BEACON	158	7:1 TRANSITIONAL SURFACE	134	24'	NO ACTION
31. LIGHT POLE	143	PRIMARY SURFACE	96	47'	ADD OBST. LIGHT
32. ROD ON OL TOWER	115	PRIMARY SURFACE	96	19'	NO ACTION
33. ANTENNA ON OL VOR/DME	131	PRIMARY SURFACE	99	32'	NO ACTION
34. OL ON LIGHTED WINDSOCK	119	PRIMARY SURFACE	101	18'	NO ACTION
35. OL HANGAR	127	7:1 TRANSITIONAL SURFACE	123	4'	NO ACTION
36. TREE	154	34:1 APPROACH SURFACE	140	14'	TRIM/REMOVE
37. TREE	156	34:1 APPROACH SURFACE	151	5'	TRIM/REMOVE
38. ANTENNA	153	34:1 APPROACH SURFACE	145	8'	ADD OBST. LIGHT
39. POLE	135	7:1 TRANSITIONAL SURFACE	123	12'	ADD OBST. LIGHT
40. POLE	135	7:1 TRANSITIONAL SURFACE	128	7'	ADD OBST. LIGHT
41. TREE	143	7:1 TRANSITIONAL SURFACE	137	6'	TRIM/REMOVE
42. LT POLE	138	7:1 TRANSITIONAL SURFACE	137	1'	ADD OBST. LIGHT
43. WINDSOCK	106	7:1 TRANSITIONAL SURFACE	91	15'	ADD OBST. LIGHT
44. LT POLE	103	7:1 TRANSITIONAL SURFACE	102	1'	ADD OBST. LIGHT
45. TREE	140	7:1 TRANSITIONAL SURFACE	128	12'	TRIM/REMOVE
46. TREE	161	7:1 TRANSITIONAL SURFACE	147	14'	TRIM/REMOVE



OBSTRUCTION LEGEND

- ●1 OBSTRUCTION
- GROUP or MULTIPLE OBSTRUCTIONS TOPOGRAPHIC OBSTRUCTION

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Depiction of features and objects within the primary, transitional, and horizontal Part 77 surfaces, is illustrated on the PART 77 AIRSPACE DRAWING, sheets 2 and 3 of these plans.
3. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the RUNWAY APPROACH SURFACE PROFILES, sheets 4 and 5 of these plans.
4. Depiction of features and objects within the inner portion of the approach surfaces, is illustrated on the INNER PORTION OF RUNWAY APPROACH SURFACE DRAWINGS, sheets 6, 7, 8 and 9 of these plans.

Airport Influence Area

TRUE NORTH 14° 7' East

Magnetic Declination
14° 7' E (August 2009)
Annual Rate of Change 6' West

0 2000 4000 6000
SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D.
3	-	-	-	-
2	Airport Layout Plans Approved	5/23/05	Coffman	FAA
1	Updated Per AIP 19 & AIP 20 Constructions	1/00	SMA	-

"THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN, NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."

MODESTO CITY-COUNTY AIRPORT
HARRY SHAM FIELD

AIRPORT AIRSPACE DRAWING

Modesto, California

PLANNED BY: Stephen C. Wagner/Vicki L. Rogers
DETAILED BY: Larry D. Johnson
APPROVED BY: James M. Harris, P.E.
July 22, 2010 SHEET 2 OF 15

Coffman Associates Airport Consultants www.coffmanassociates.com

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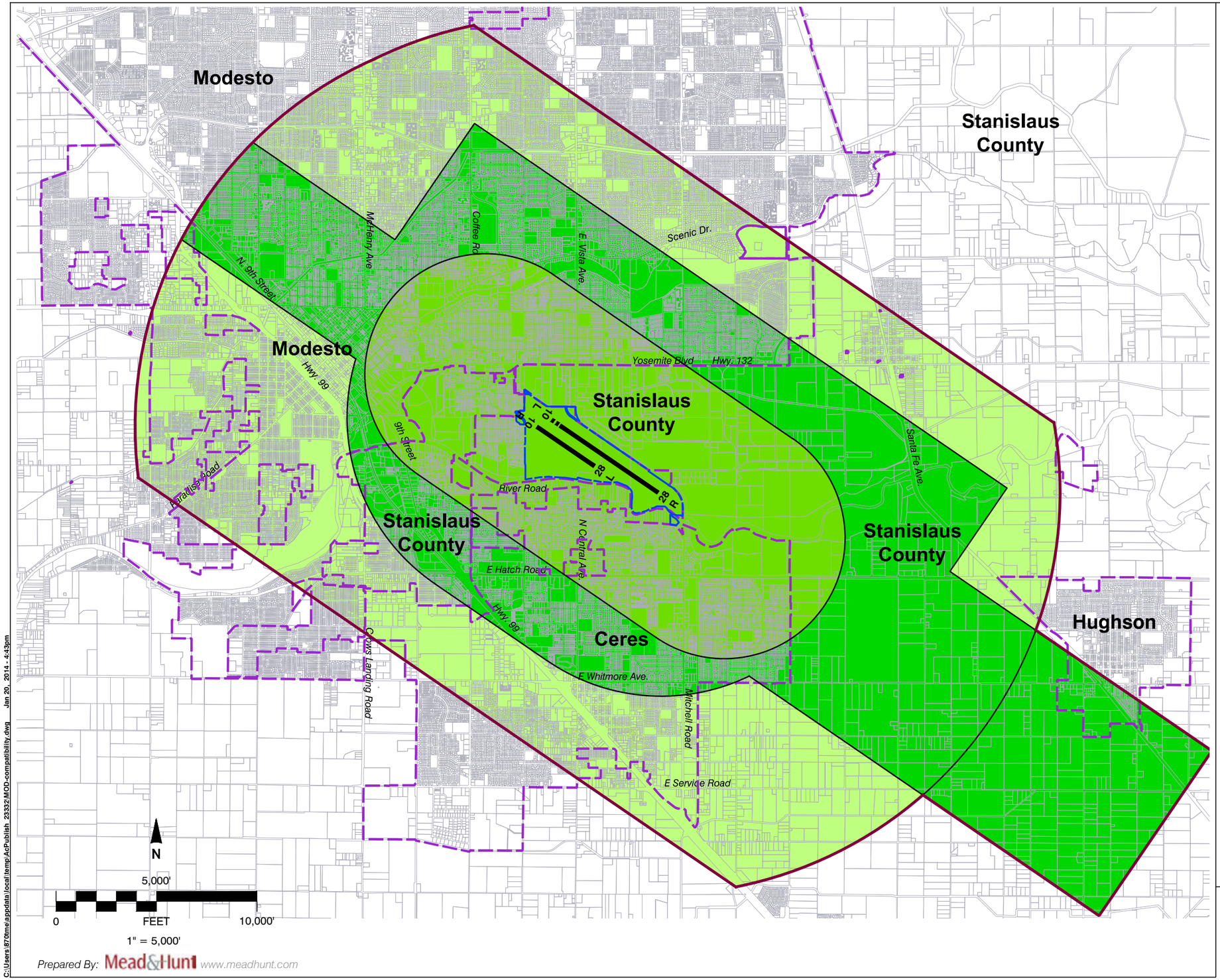
This is a reduced version of a large size drawing.

Map MOD-4

Airspace Protection Zones Policy Map

Modesto City-County Airport



Legend

Boundary Lines

- Airport Property Line/Easements
- City Limits
- Existing Runway
- Future Runway
- Airport Influence Area

Overflight Zones

- Avigation Easement Dedication [1]
- Recorded Deed Notice [2]
- Real Estate Disclosure [3]

Notes

1. Avigation Easement Dedication required within CNEL 60dB noise contour and safety zones 1 through 6 and critical portions of approach and transitional surfaces to where these surfaces intersect the horizontal surface.

2. Recorded Deed Notice required in areas commonly overflown by low flying aircraft (1,500 feet or less above the airport elevation). Along the straight-in/straight-out corridors, zone boundary extends 30,000 feet southeast of Runway 28R and 20,000 feet northwest of Runway 10L. Lateral to the runways, this boundary encompasses the downwind pattern north and south of the airport. For the area south of the airport, zone boundary matches the outer limits of the horizontal surface as defined by FAR Part 77. For the area north of the airport, zone boundary extends 10,000 feet lateral (north) of Runway 10L-28R, 16,000 feet southeast of Runway 28R, and 12,000 feet northwest of Runway 10L. This boundary encompasses outermost touch-and-go pattern and extended downwind pattern used by pilots when the airport is busy (flight track not depicted). Recorded deed notice requirement applies to proposed residential development on parcels of more than 10 acres.

3. Real Estate Disclosure required within entire airport influence area. Zone boundary matches the outer boundary of the FAA height notification surface northwest and southeast of airport runways. Lateral of the runways, zone boundary matches outer limits of the conical surface as defined by FAR Part 77. Real Estate Disclosure requirement applies to existing and future residential development.

Stanislaus County
Airport Land Use Compatibility Plans
(January 2014, Draft)

Map MOD-5

Overflight Zones Policy Map

Modesto City-County Airport

OAK. OAKDALE MUNICIPAL AIRPORT

OAK.1 Additional Compatibility Policies

OAK.1.1 None.

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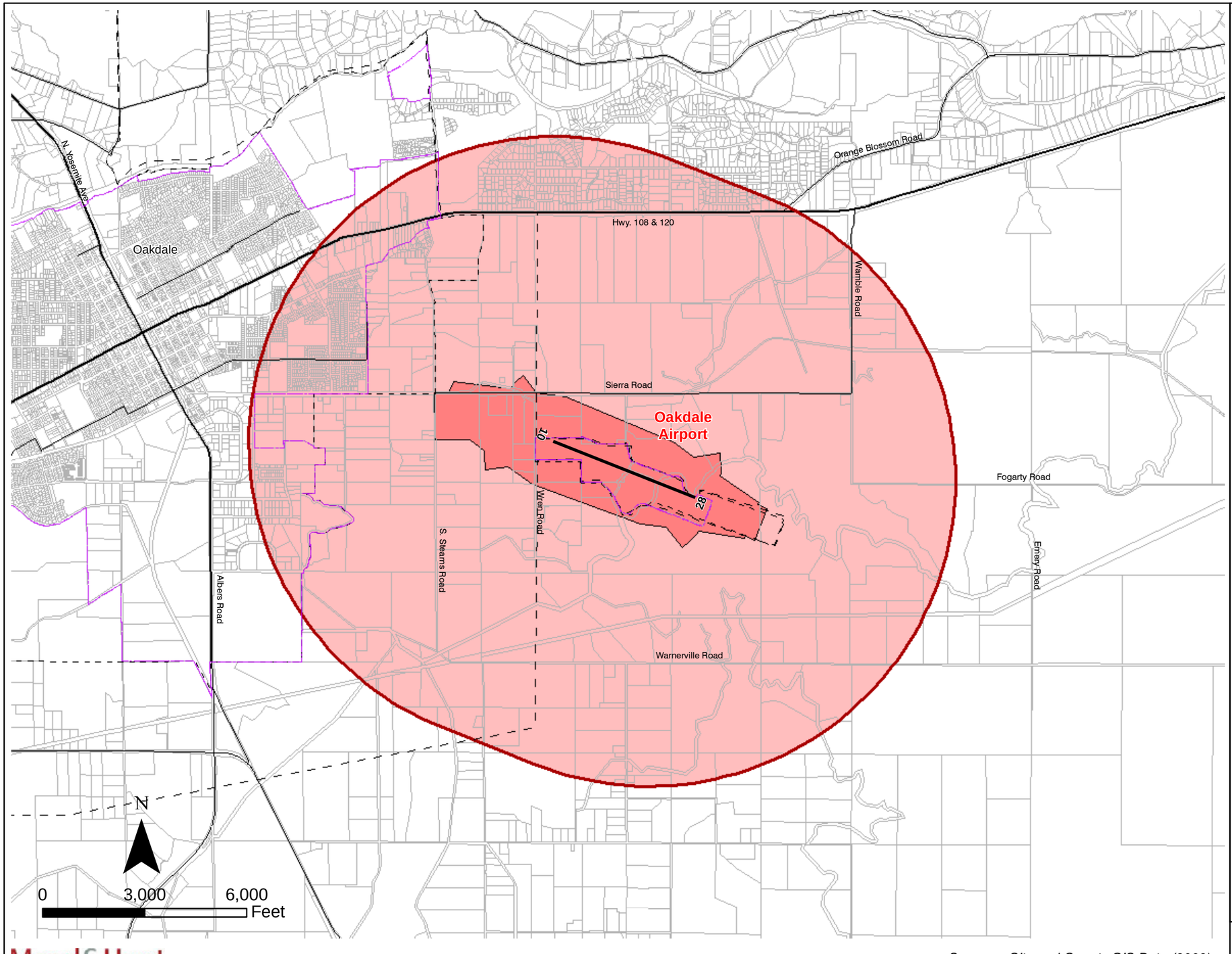


Legend

- Road
- City of Oakdale
- Existing Sphere of Influence
- Future Sphere of Influence
- Airport Boundary
- Referral Area 1
- Referral Area 2
- Airport Influence Area

Stanislaus County

Airport Land Use Compatibility Plans

(May 2014, Draft)

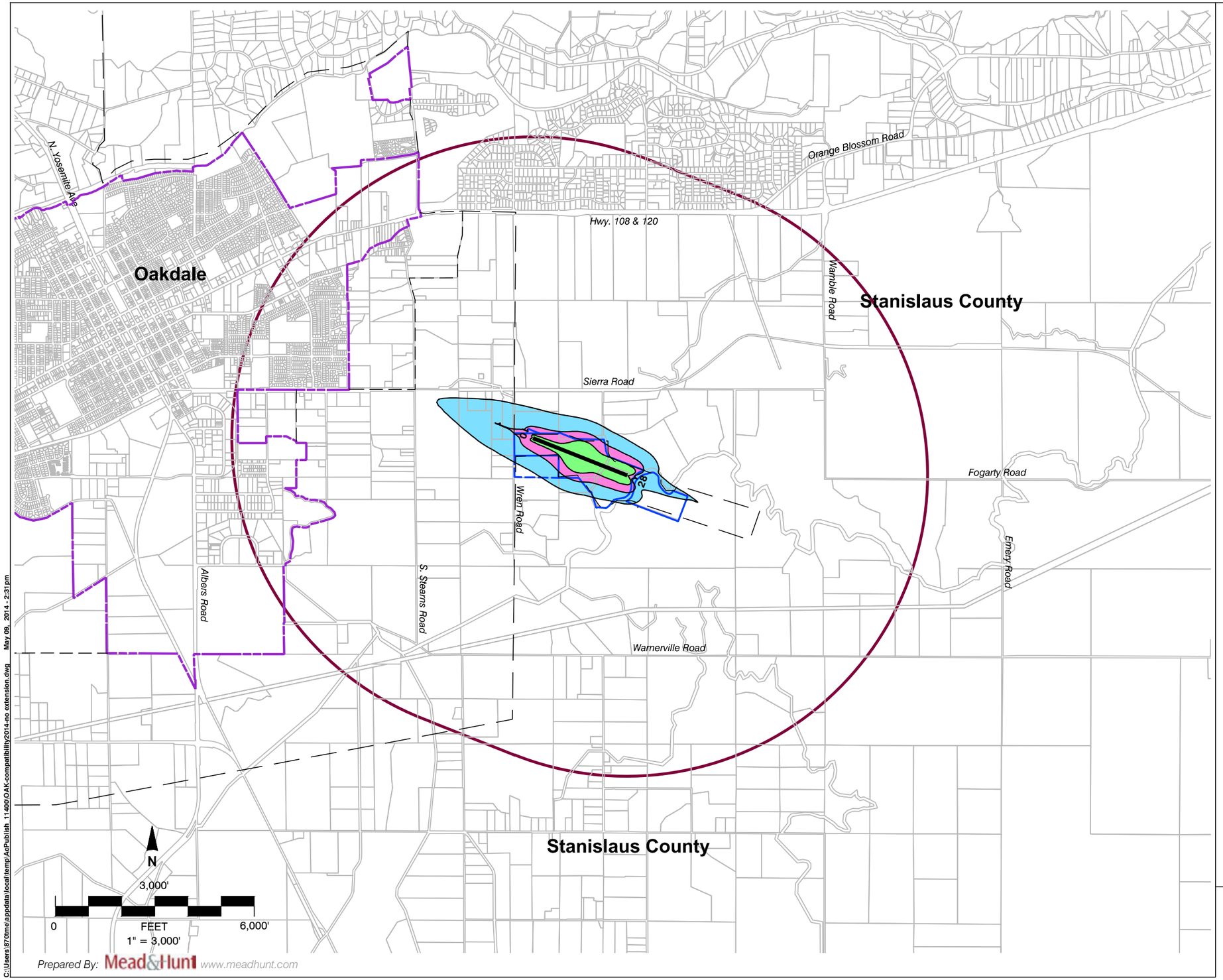
Map OAK-1

Airport Influence Area Policy Map

Oakdale Municipal Airport

Mead&Hunt

Sources: City and County GIS Data (2009)



Legend

Boundary Lines

- Existing Airport Property Line
- Future Airport Property Line
- City Limits
- Existing Sphere of Influence
- Future Sphere of Influence
- Runway
- Airport Influence Area

Noise Zones

- 60 - 65 dB CNEL
- 65 - 70 dB CNEL
- 70+ dB CNEL

} 52,200 Annual Operations

Stanislaus County

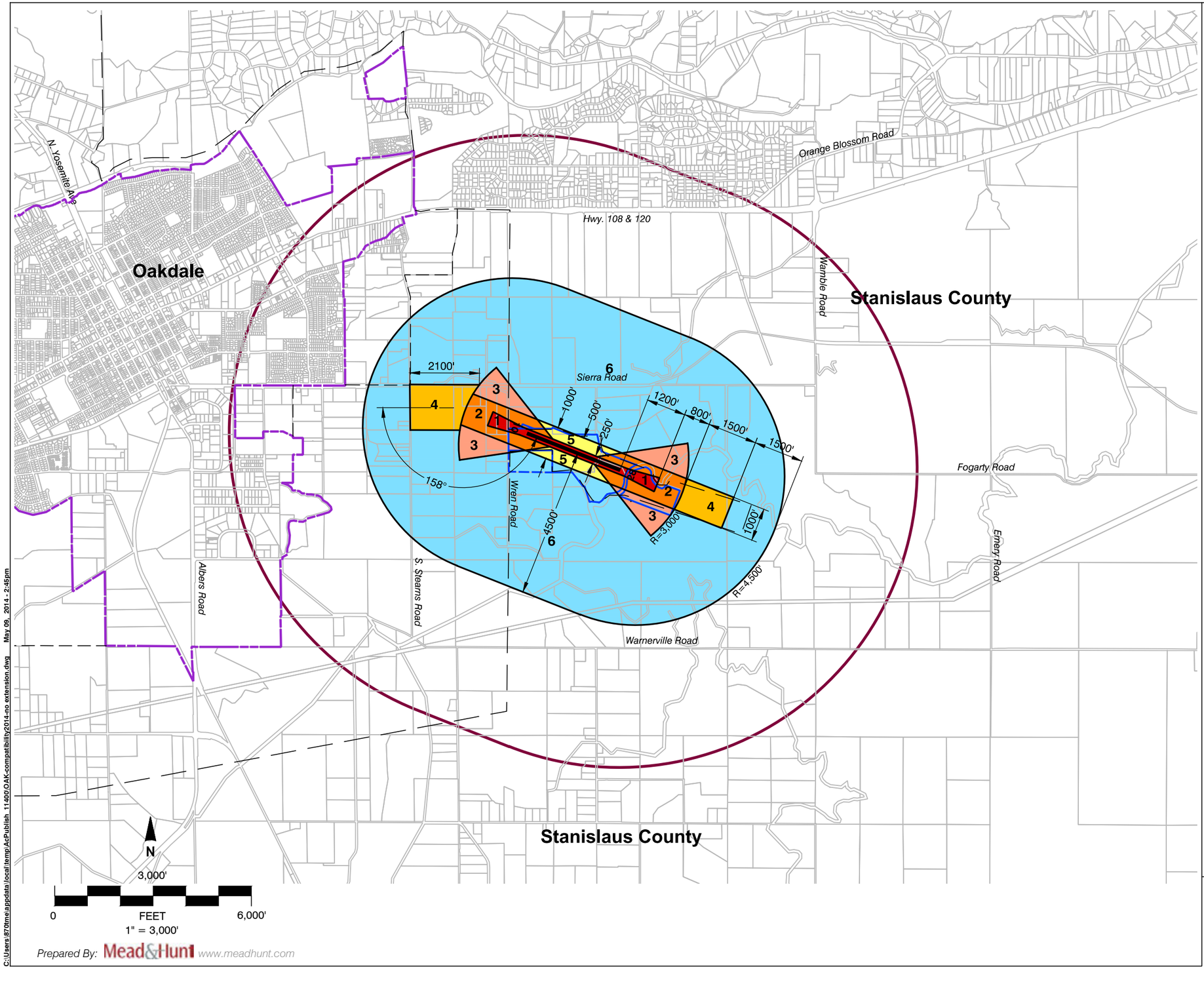
Airport Land Use Compatibility Plans

(May 2014, Draft)

Map OAK-2

Airport Noise Zones Policy Map

Oakdale Municipal Airport



Legend

Boundary Lines

- Existing Airport Property Line
- Future Airport Property Line
- City Limits
- Existing Sphere of Influence
- Future Sphere of Influence
- Runway
- Airport Influence Area

Safety Zones

- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Zone 5
- Zone 6

Stanislaus County

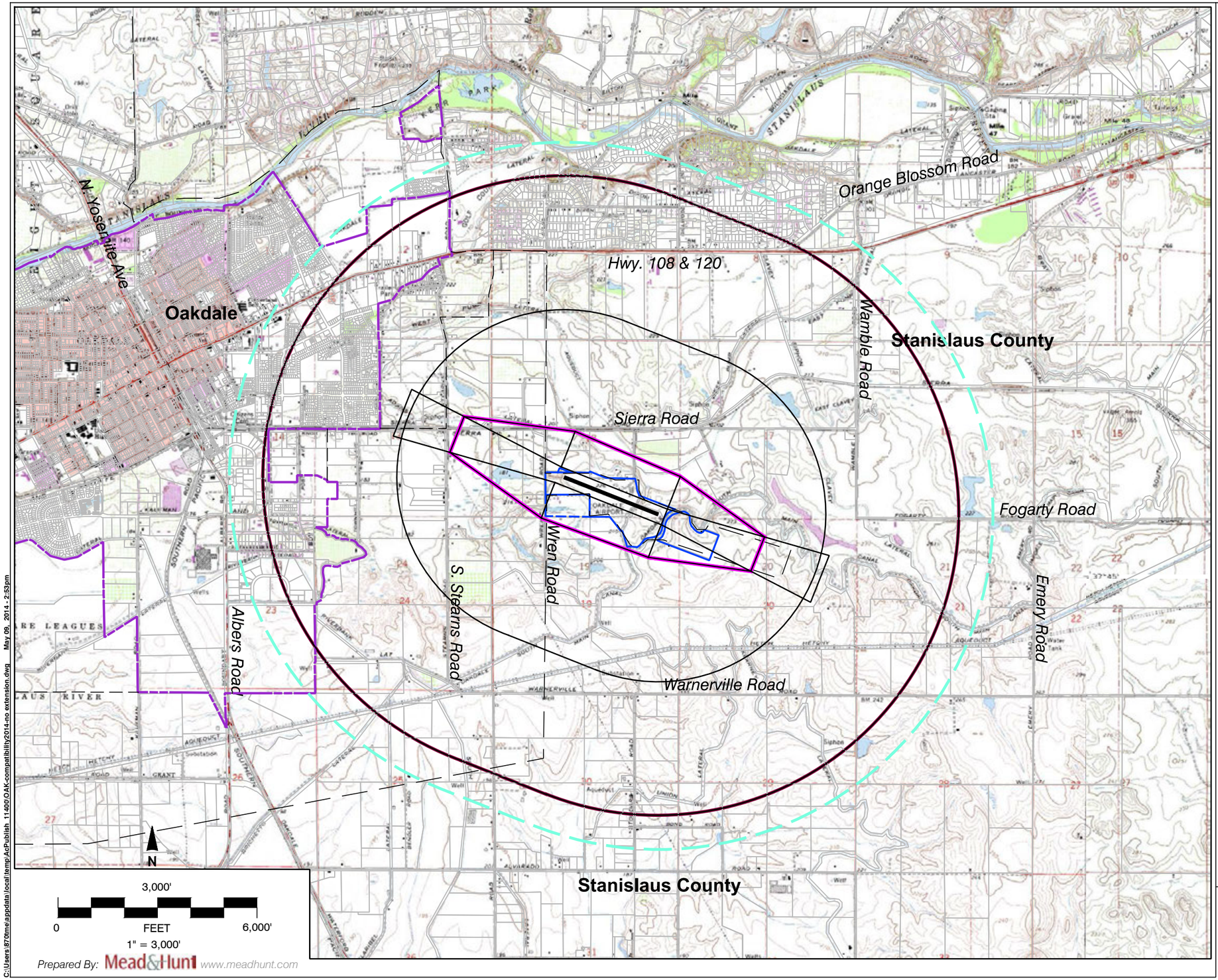
Airport Land Use Compatibility Plans

(May 2014, Draft)

Map OAK-3

Airport Safety Zones Policy Map

Oakdale Municipal Airport



Legend

Boundary Lines

- Airport Property Line
- Future Airport Property Line
- City Limits
- Existing Sphere of Influence
- Future Sphere of Influence
- Runway
- Airport Influence Area

Airspace Protection Zones[1]

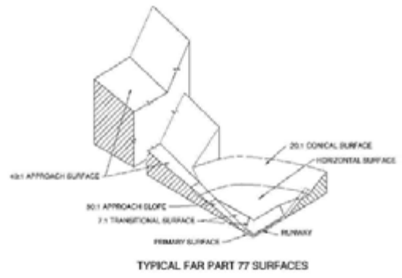
- FAA Height Notification Surface [2]
- FAR Part 77 Surfaces [3]
- Critical Airspace Protection Zone

Notes

1. Airspace surfaces reflect the existing runway configuration and nonprecision approaches to Runway 10-28. Airport elevation is 237.0' above mean sea level (MSL).

2. Based on FAR Part 77, Subpart B, which requires that the FAA be notified of any proposed construction or alteration having a height greater than an imaginary surface extending 50 feet outward and 1 foot upward (slope of 50 to 1) for a distance of 10,000 feet from the nearest point of any runway. Beyond FAA Height Notification Area boundary, any object taller than 200 feet requires FAA notification.

3. FAR Part 77 Obstruction Surfaces: Based on FAR Part 77, Subpart C, which establishes standards for determining obstructions to air navigation. Source: Oakdale Municipal Airport Airspace Drawing (November 2013 Draft).



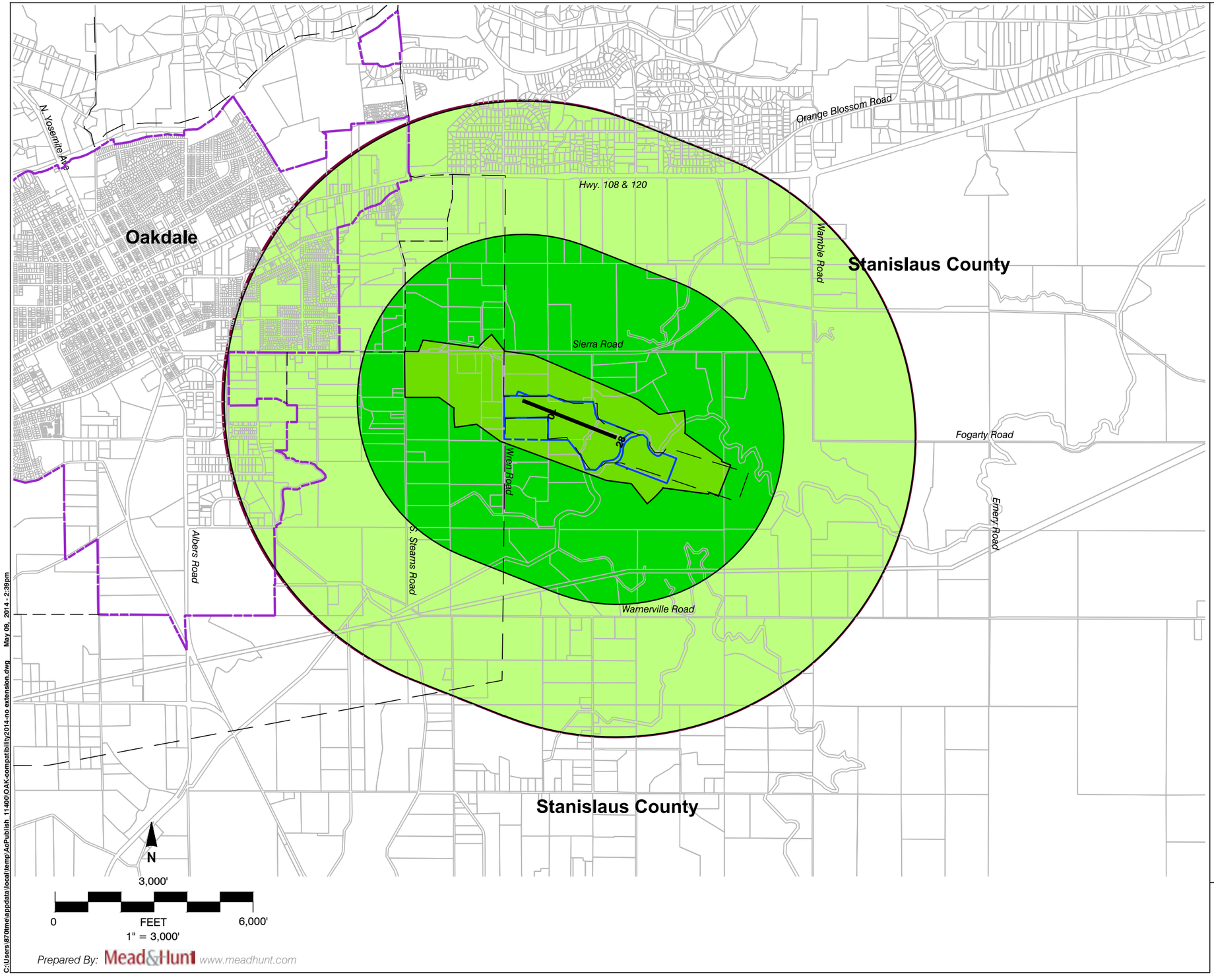
TYPICAL FAR PART 77 SURFACES

Stanislaus County
Airport Land Use Compatibility Plans
(May 2014, Draft)

Map OAK-4

Airspace Protection Zones Policy Map

Oakdale Municipal Airport



Legend

Boundary Lines

- Existing Airport Property Line
- Future Airport Property Line
- City Limits
- Existing Sphere of Influence
- Future Sphere of Influence
- Runway
- Airport Influence Area

Overflight Zones

- Avigation Easement Dedication [1]
- Recorded Deed Notice [2]
- Real Estate Disclosure [3]

Notes

1. Avigation Easement Dedication required within CNEL 60dB noise contour, safety zones 1 through 5, and critical portions of approach and transitional surfaces to where these surfaces intersect the horizontal surface.

2. Recorded Deed Notice required in areas commonly overflown by low flying aircraft. Aircraft on straight-in/straight-out departure are less than 600 feet above the airport elevation. Aircraft entering the traffic pattern are flying at an altitude of about 1,000 feet above airport elevation. Zone boundary matches the outer boundary of the horizontal surface as defined by FAR Part 77.

3. Real Estate Disclosure required within all areas where aircraft are 1,500 feet or less above the airport elevation. Zone boundary matches the outer boundary of the conical surface as defined by FAR Part 77.

Stanislaus County
Airport Land Use Compatibility Plans
(May 2014, Draft)

Map OAK-5

Overflight Zones Policy Map

Oakdale Municipal Airport

CRO. CROWS LANDING AIRPORT

CRO.1 Additional Compatibility Policies

CRO 1.1 *FORTHCOMING*

Policies for the former Crows Landing Airfield, as presented in the 2004 ALUCP, will remain in force until the County receives an airport operating permit from the Caltrans Division of Aeronautics to re-open the airfield for general aviation use.

Chapter **4**

MODESTO CITY-COUNTY AIRPORT AND ENVIRONS BACKGROUND DATA

Stanislaus County
Striving to be the Best

4

Background Data: Modesto City-County Airport and Environs

INTRODUCTION

Modesto City-County Airport is located within the heart of the San Joaquin Valley The airport is located in the central portion of Stanislaus County approximately 2 miles southeast of the City of Modesto, 10 miles northwest of the City of Turlock and 18 miles southeast of the City of Manteca. Located south of Yosemite Boulevard (Highway 132), the primary means of accessing the airport is via Mitchell Road.

The airport opened in 1920 and was the nation's first municipally owned airport. Later in 1929, the airport was relocated to its current location. During World War II, the airport was used as a training center for the US Army. Today, the airport is owned by the City of Modesto, however, a nine-member committee appointed by the member agencies of Modesto City Council, Stanislaus County Board of Supervisors, and Cities of Ceres and Turlock act in an advisory capacity on airport policy matters. Modesto City-County Airport is the only commercial service airport in the County, although it primarily serves general aviation.

STATUS OF AIRPORT PLANS

The City of Modesto undertook a master planning effort for Modesto City-County Airport in 2002. However, due to changes in airport management and the expiration of the federal grant, the plan was never completed.

In 2008, the City prepared a noise compatibility study in accordance with FAR Part 150. This noise study was updated in February 2009. The Part 150 study included a baseline (2008) and two forecast levels of activity (2015 and "Long Range"). The "Long Range" forecast presented in the Part 150 study is the basis for the forecast operations and resulting noise contours used in this ALUCP update. The assumptions of the long-range forecast are discussed later in this paper.

In December 2009, an Airport Layout Plan (ALP) and Narrative Report were published for Modesto City-County Airport. The purpose of the ALP is to depict the currently planned airport improvements for the airport. The 2009 ALP and Narrative Report were approved by the FAA in February 2011. Pertinent airport data from the 2009 ALP are summarized in **Exhibit MOD-2**. The ALP is provided in **Exhibit MOD-3**.

The long term airport improvements as described in the 2009 ALP Narrative Report are not reflected in the 2004 ALUC Plan for the airport. For comparison purposes, **Exhibit MOD-4** summarizes pertinent airport data upon which the 2004 ALUC Plan and this ALUCP update are based.

AIRFIELD CONFIGURATION

Modesto City-County Airport has two parallel runways. Runway 10L-28R is 5,911 feet long and is designated as the air carrier runway for the airport. The smaller of the two runways is 10R-28L and is 3,459 feet long. The runways are aligned with the prevailing wind direction in a northwest/southeast alignment—winds are commonly out of the northwest.

Modesto City-County Airport is currently, and is planned to remain, designated Airport Reference Code (ARC) C-III. Runway 10L-28R is designated as ARC C-III to accommodate commercial aircraft (e.g., Boeing 737). The second runway, 10R-28L is designated as ARC B-I to accommodate general aviation aircraft (e.g., Cessna 421).

Runway 28R is equipped with straight-in precision instrument approach capabilities providing visibility minimums as low as ½ statute mile and a decision altitude of 288 feet MSL (200 AGL). Currently, this is the only runway at the airport with instrument approach procedures.

The principal change proposed for the airfield is extending Runway 28R–10L by 500 feet to the northwest for a total length of 6,411 feet. This extension is proposed so that the airport can fully accommodate the Canadair Challenger without payload or stage length restrictions.

The size of the runway protection zone (RPZ) at each runway end is a function of the type of aircraft and approach visibility minimums associated with that runway end. All four existing and ultimate RPZs meet current FAA standards. The established RPZs are as follows:

- 28R: Existing and Ultimate – 1,000 foot inner width, 1,750 foot outer width, and a length of 2,500 feet.
- 10L: Existing and Relocated – 500 foot inner width, 1,010 foot outer width, and a length of 1,700 feet.
- 28L: Existing and Ultimate – 500 foot inner width, 700 foot outer width, and a length of 1,000 feet.
- 10R: Existing and Relocated – 500 foot inner width, 700 foot outer width, and a length of 1,000 feet.

None of the four RPZs are contained entirely on airport. Additional information pertaining to the individual RPZs can be found in the Airport Features, **Exhibit MOD-2**.

The 2010 Airspace Plan for Modesto City-County Airport depicts the Federal Aviation Regulations (FAR) Part 77 imaginary airspace surfaces for a precision instrument runway. A precision instrument runway is a runway equipped with electronic and visual navigation aids for which a precision approach procedure having straight-in landing minimums has been approved. Precision instrument approaches provide both horizontal and vertical guidance for aircraft during approach and landing. The airspace surfaces for Modesto City-County Airport reflect the ultimate runway lengths (500' northwest extension to Runway 10L-28R), existing precision approach to Runway 28R and future non-precision approach to Runway 10L. Visual approaches are in place to Runways 10R and 28L. Portions of the airspace surfaces for the visual runways are included in the airspace plan, but are subsumed by the precision and non-precision approach surfaces for the primary runway.

ACTIVITY

The Federal Aviation Administration's (FAA) National Plan of Integrated Airport Systems (NPIAS) classifies Modesto City-County Airport as Non-Hub Commercial Service-Primary. The airport has an Airport Traffic Control Tower (ATCT), which operates during the hours of 7 am to 9 pm. The air traffic controllers direct the movement of aircraft on and around the airport.

In 2008, the airport experienced an estimated 84,185 annual operations. The majority (62%) of these operations were conducted by itinerant aircraft including air carrier, military, and general aviation. The balance of the activity (some 32,000 annual operations) is generated primarily by local general aviation aircraft conducting flight training.

Activity Forecast

The 2009 Part 150 Noise Compatibility Study provides a "Long Range" forecast of aviation activity for the airport. For airport planning purposes, it is recommended that this long range forecast (approximately 141,000 annual operations) be used as the basis for the ALUCP for Modesto City-County Airport as it represents the highest anticipated use of airport. Operations by all aircraft categories other than airlines were based on counts provided by the air traffic control tower.

Airline operations were based on the current schedule at the time the forecasts were generated. **Exhibit MOD-4** summarizes the existing and forecast aviation activity for Modesto City-County Airport.

Noise Contours

The "Long Range" noise contours depicted in **Exhibit MOD-5** are noticeably smaller than the noise contours which are provided in the current 2004 ALUC Plan for the airport. The ALUCP does not document the activity forecast and noise assumptions upon which the plan is based. It is presumed that the recently created "long range" forecast and noise contours contained assumptions of a much more modern fleet of aircraft. Advances in engine and airframe technology have effectively reduced noise contours even with an increase in annual operations.

Overflight Patterns

The 2009 Part 150 Study includes modeled flight tracks, which were used to create the noise contours for the study. These flight tracks depict the arrival and departure tracks, which aircraft use at the airport. The flight tracks are shown on **Exhibit MOD-5**.

For Modesto City-County Airport, three sets of generic safety zones are proposed to be applied to the existing and future runways configurations to derive a set of composite safety zones. The proposed safety zones are a composite of several types of generic safety zones because the airport does not necessarily fit into only one category. Runway 10L-28R is technically an air carrier runway. However, the vast majority of traffic using the runway is general aviation. For this reason, the following generic safety zones are applied:

- "Large Air Carrier" to represent the air carrier activity;
- "Medium General Aviation Runway (4,000 to 5,999 feet in runway length)" for the existing runway length and general aviation activity levels;
- "Long General Aviation Runway (≥ 6,000 feet in runway length)" for the ultimate runway length; and

- "Small General Aviation Runway (<4,000 feet in runway length)" which is used for Runway 10R-28L.

The recommended composite safety zones reflect the most restrictive set of safety zones for Modesto City-County Airport (see **Exhibit MOD-6**). FAR Part 77 Airspace surfaces are depicted in **Exhibit MOD-7**.

Airport Environs

Exhibits MOD-9A through **9-C** show a detailed summary of Modesto City-County Airport's existing and planned environs, including airport compatibility policies adopted by the local agencies. Stanislaus County and the cities of Modesto and Ceres are within the airport's influence area.

As shown in the exhibits, the airport is surrounded by urban development on all sides. An open space corridor exists south of the airport along the Tuolumne River. The City of Modesto is located north and west of the airport, although small areas of unincorporated lands separate the City from the airport. Planned uses within the City's sphere of influence for the unincorporated lands immediately adjacent to the airport include residential (<7.5 dwelling units per acre) immediately northwest of the airport and industrial uses west and east of the airport. Commercial uses are planned along Yosemite Boulevard (Highway 132) with residential uses to the north. The City of Ceres is located south of the airport and Tuolumne River. Planned land uses include residential uses of mixed densities and pockets of commercial and light industrial uses. Very Low Density Residential uses (<4.5 dwelling units per acre) are planned about 1 mile south of the approach end of Runway 28R. Unincorporated lands of Stanislaus County border the airport to the east. Planned land uses include industrial adjacent to the airport and agricultural to the southeast.

BACKGROUND INFORMATION

The following exhibits present the data upon which *Compatibility Plan* policy maps are based:

- **Exhibit MOD-1**—Airport Location: Presents the location of the airport in the context of existing environment (aerial photograph).
- **Exhibit MOD-2**—Airport Features Summary: Presents data pertaining to existing and proposed infrastructure (runways, taxiways, etc.), traffic patterns, and approach data.
- **Exhibit MOD-3**—Airport Layout Plan (ALP): Presents existing airport facilities and proposed facilities as conditionally approved by FAA.
- **Exhibit MOD-**4—Airport Activity: Presents aviation forecasts for the planning period.
- **Exhibit MOD-5**—Noise and Overflight Factors: Presents the geographic area over which aircraft operating at the airport routinely fly, as well as the noise contours based on the planning period forecasts.
- **Exhibit MOD-6**—Safety Factors: Presents the locations of safety zones using the guidance and templates presented by the California Division of Aeronautics in its manual, *California Airport Land Use Planning Handbook*. Adjustments to the generic zones are also depicted.
- **Exhibit MOD-7**—Part 77 Airspace Surfaces: Depicts the Federal Aviation Regulations Part 77 airspace surfaces which should be kept free of obstructions.

- **Exhibit MOD-8**—Airport Environs: Presents site data, existing and planned land uses, affected jurisdictions, and compatible land use measures.
- **Exhibit MOD-9A**—Existing Land Uses: Presents existing land uses from the City of Modesto General Plan.
- **Exhibit MOD-9B**—Existing Land Uses: Presents existing land uses from the City of Ceres General Plan.
- **Exhibit MOD-9C**—Existing Land Uses: Presents existing land uses from the County of Stanislaus General Plan.

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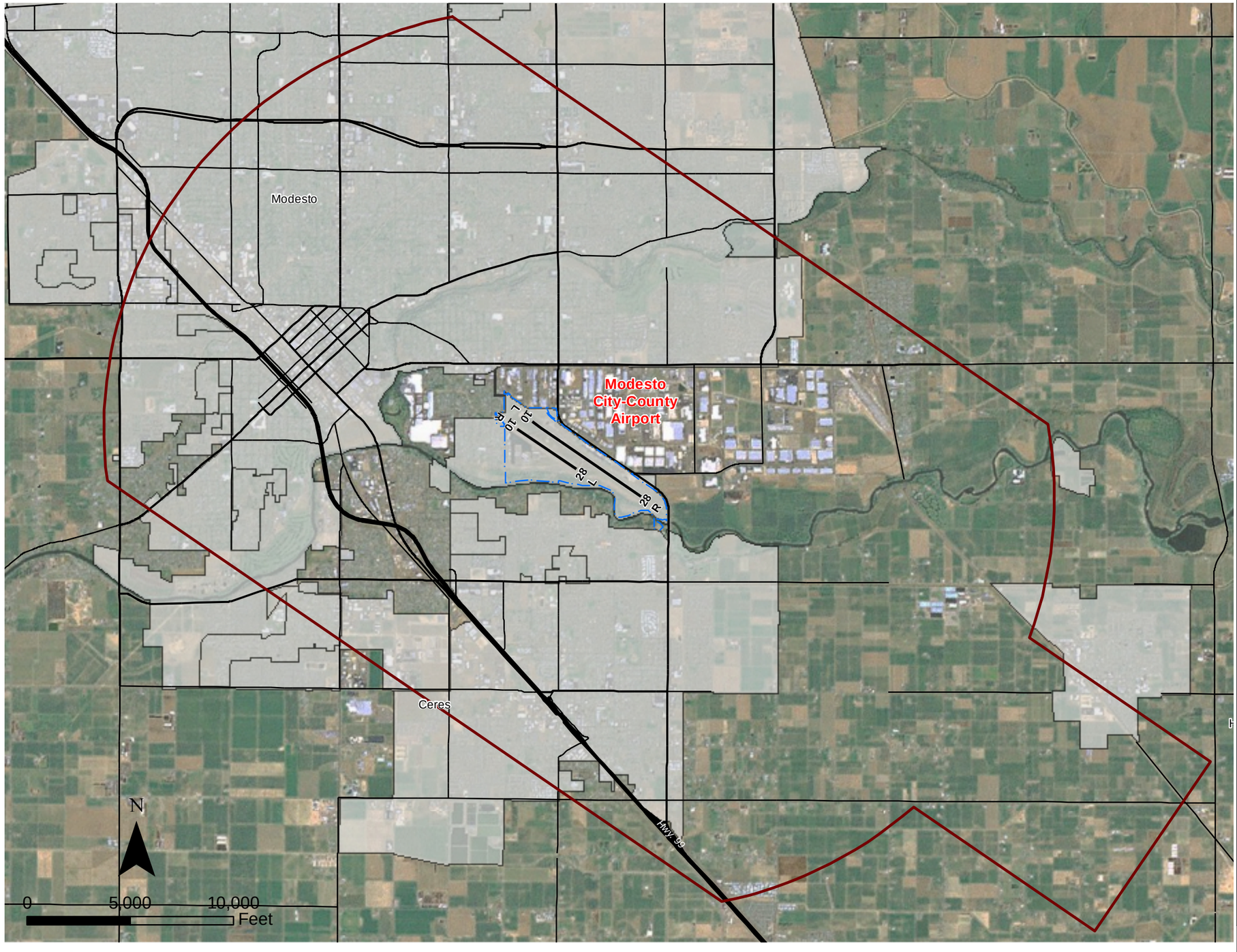


Legend

- Road
- City
- Airport Boundary
- Airport Influence Boundary

Stanislaus County
Airport Land Use Compatibility Plans
(January 2014, Draft)

Exhibit MOD-1

Mead&Hunt

Sources: City and County GIS Data (2009)

Airport Location
Modesto City-County Airport

GENERAL INFORMATION

- Airport Ownership – City of Modesto
- Property size
  - Fee title: 455 acres
  - Avigation easements: 275 acres
- Airport Classification – Primary Non-hub Commercial
- Airport Elevation — 99 feet MSL (surveyed)
- Access
  - Via Airport Way or Tioga Dr from Highway 132
  - 0.5 miles from Highway 132; 2 miles from central Modesto

RUNWAY SYSTEM

Runway 10L-28R

- Critical Aircraft — Boeing 737-300
- Classification — Airport Reference Code C-III
- Dimensions — 5,911 feet long; 150 feet wide
- Pavement Strength — 60,000 lbs for aircraft with single-wheel main landing gear; 200,000 lbs dual-wheel; 400,000 dual tandem wheel
- Average Gradient — 0.3%
- Lighting — High-intensity edge lighting
- Primary Taxiways — Full length parallel on northeast

Runway 10R-28L

- Critical Aircraft — Cessna 421
- Classification — Airport Reference Code B-I
- Dimensions — 3,459 feet long; 100 feet wide
- Pavement Strength — 30,000 lbs for aircraft with single-wheel main landing gear; Closed to aircraft over 12,500 lbs
- Average Gradient — 0.36%
- Lighting — Medium-intensity edge lighting
- Primary Taxiways — Full length parallel on southwest

APPROACH PROTECTION

Runway 10L-28R

- Runway Protection Zones
  - Runway 10L: 1,700 feet long; nearly all on airport
  - Runway 28R: 2,500 feet long; about 50% on airport property
  - All potions of RPZs off airport property fall on Stanislaus County land
- Approach Obstacles
  - Runway 10L: 73-foot tree , 2,700 feet from runway, 450 feet right of centerline, 34:1 to clear
  - Runway 28R: Road 1,600 feet from runway, on centerline, 50:1 to clear

Runway 10R-28L

- Runway Protection Zones
  - Runway 10R: 1,000 feet long; nearly all on airport
  - Runway 28L: 1,000 feet long; nearly all on airport
  - All portions of RPZs off airport property fall on unincorporated land
- Approach Obstacles
  - Runway 10R: 56-foot tree , 1,340 feet from runway, 75 feet left of centerline, 20:1 to clear
  - Runway 28L: 47-foot tree, 1,700 feet from runway, on centerline, 31:1 to clear

AIRPORT PLANNING

- Airport Planning Documents
  - Airport Layout Plan and Narrative Report (December 2009)
  - Part 150 Study (February 2009)
  - Airport Master Plan (not completed)

Source: Data compiled by Mead & Hunt, Inc. (October 2010)

BUILDING AREA

- Location – Northeast side of runway
- Aircraft Parking Capacity
  - Hangar spaces for 175 aircraft
  - Approx. 100 tiedown spaces on apron (incl. FBO/transient areas)
- Services
  - Maintenance, supplies, aircraft rental, charter, instruction, car rental
  - Fuel (aviation gasoline and jet fuel)
  - Airport has commuter airline service
- Other Major Facilities
  - Airline terminal building
  - Air traffic control tower
  - Fixed base operator

TRAFFIC PATTERNS AND APPROACH PROCEDURES

- Airplane Traffic Pattern
  - Right traffic on Runway 28R and 10R
  - Pattern altitude – 1,000 feet AGL (single-engine aircraft excluding warbirds); 1,500 AGL all other aircraft
- Instrument Approaches
  - Runway 28R GPS-LPV: precision straight-in (½-mile visibility, 288 ft. minimum descent height); missed approach straight-out
  - Runway 28R ILS: precision straight-in (½ mi. visibility, 200 ft. min. descent height); missed approach climbs to 1,500 feet AGL then climbing right turn
  - Runway 28R VOR: nonprecision straight-in (½-mile visibility, 392 ft. minimum descent height); missed approach climbs to 900 feet AGL then climbing right turn
- Visual Navigational Aids
  - Runway 10L: REILS, 4-VASI (3.0°)
  - Runway 28R: MALSR
  - Runway 10R: 2-PAPI (3.5°)
  - Runway 28L: 2-PAPI (3.0°)
- Noise Abatement Procedures
  - Runways 28R/28L designated as calm wind runways
  - During calm winds (less than 5 knots), departures on Runway 10L encouraged for all large and jet aircraft, when feasible
  - No turns until at least 1,500 feet MSL (single-engine 600 feet MSL) for departures on Runway 10L-28R and 600 feet MSL for departures on Runway 10R-28L
  - Remain at pattern altitude over residential areas, when practical
  - Additional procedures available at: http://modairport.com
- Helicopters
  - Avoid overflight of residential areas where possible
  - Climb to 500 feet MSL over the airport before departing enroute
  - Remain at or above 500 feet MSL until over airport when landing

PROPOSED FACILITY IMPROVEMENTS

- Runway/Taxiway System
  - Extend Runway 10L-28R 500 feet to east
- Approach Protection
  - ALP proposes easement for off airport portion of Runway 28R RPZ
- Building Area
  - Relocated and expanded terminal building
  - Expanded terminal parking area
  - Construction of additional Executive and T-hangars

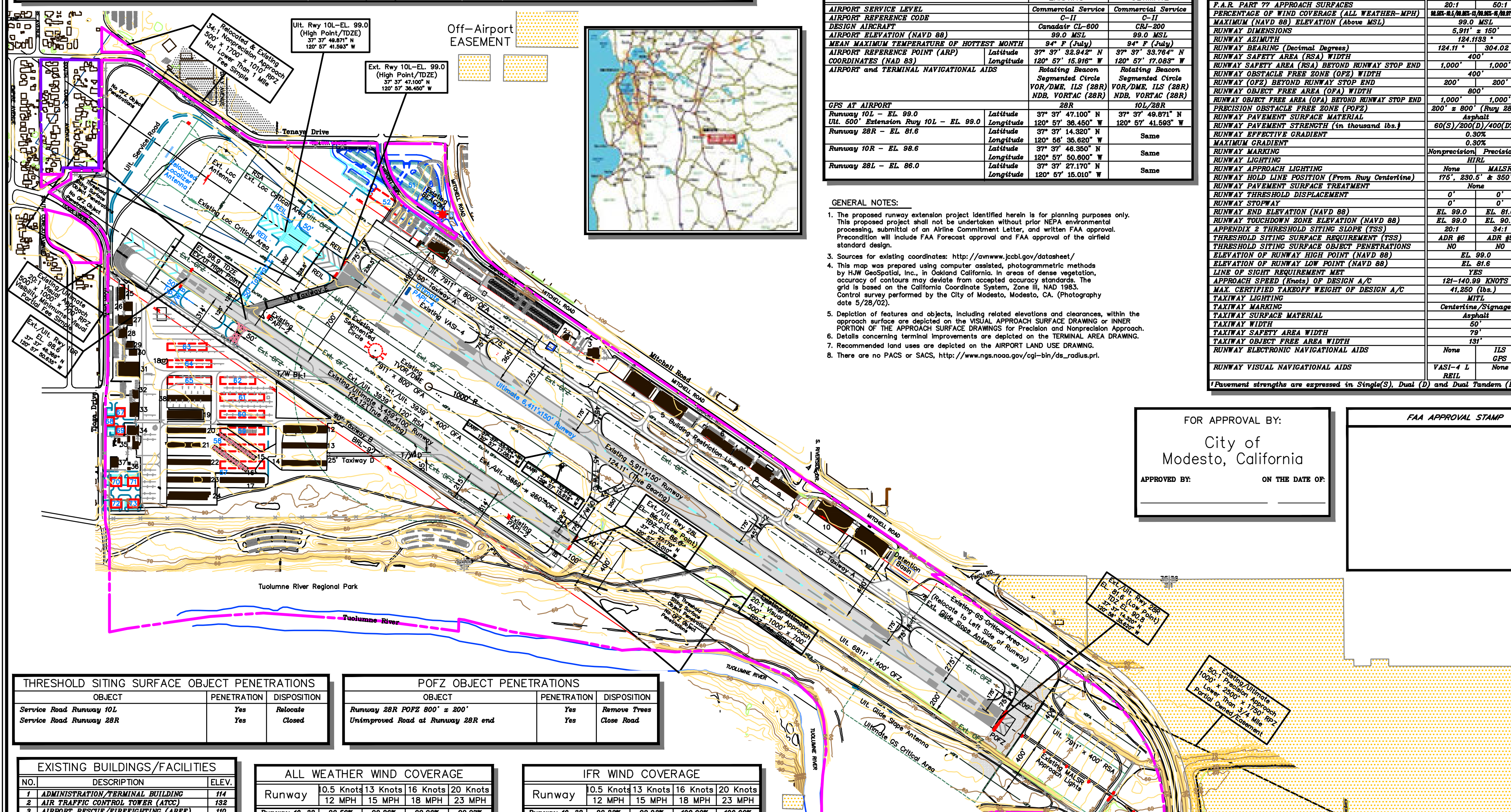
Exhibit MOD -2

Airport Features Summary

Modesto City-County Airport

MODIFICATION OF AIRPORT DESIGN STANDARDS TABLE

DEVIATION DESCRIPTION	EFFECTED DESIGN STANDARD	EXISTING	PROPOSED DISPOSITION
Runway (10L-28R)-Taxiway "A" Separation	400' For Design Group C-II Precision	275'	Requested Modification Of Airport Design Standards (4/8/2005)
Runway (10R-28L)-Taxiway "B" Separation	225' For Design Group B-I Visual	215'	Requested Modification Of Airport Design Standards (4/8/2005)
Runway (10L-28R) - Hold Line Separations	250' For Design Group C-II Precision	175'	Requested Modification Of Airport Design Standards (4/8/2005)
Runway (10L-28R)-Aircraft Parking Area Limit	500' For Design Group C-II Precision	345'	Requested Modification Of Airport Design Standards (4/8/2005)



AIRPORT DATA

Modesto City-County-Harry Sham Field (MOD)

OWNER: City of Modesto, CA/County of Stanislaus, CA	AIRPORT NPAIS CODE: Primary
CITY: Modesto, California	COUNTY: Stanislaus, California
RANGE: 9 East TOWNSHIP: 3 South	CIVIL TOWNSHIP: N/A

		EXISTING	ULTIMATE
AIRPORT SERVICE LEVEL		Commercial Service	Commercial Service
AIRPORT REFERENCE CODE		C-II	C-II
DESIGN AIRCRAFT		Canadair CL-600	CRJ-200
AIRPORT ELEVATION (NAVD 88)		99.0 MSL	99.0 MSL
MEAN MAXIMUM TEMPERATURE OF HOTTEST MONTH		94° F (July)	94° F (July)
AIRPORT REFERENCE POINT (ARP) COORDINATES (NAD 83)	Latitude	37° 37' 32.942" N	37° 37' 33.764" N
	Longitude	120° 57' 15.916" W	120° 57' 17.083" W
AIRPORT and TERMINAL NAVIGATIONAL AIDS		Rotating Beacon Segmented Circle VOR/DME, ILS (28R) NDB, VORTAC (28R)	Rotating Beacon Segmented Circle VOR/DME, ILS (28R) NDB, VORTAC (28R)
GPS AT AIRPORT		28R	10L/28R
Runway 10L - EL. 99.0 Ult. 500' Extension Rwy 10L - EL. 99.0	Latitude	37° 37' 47.100" N	37° 37' 49.871" N
	Longitude	120° 57' 36.450" W	120° 57' 41.593" W
Runway 28R - EL. 81.6	Latitude	37° 37' 14.320" N	Same
	Longitude	120° 56' 35.620" W	
Runway 10R - EL. 98.6	Latitude	37° 37' 46.350" N	Same
	Longitude	120° 57' 50.600" W	
Runway 28L - EL. 86.0	Latitude	37° 37' 27.170" N	Same
	Longitude	120° 57' 15.010" W	

GENERAL NOTES:

1. The proposed runway extension project identified herein is for planning purposes only. This proposed project shall not be undertaken without prior NEPA environmental processing, submittal of an Airline Commitment Letter, and written FAA approval. Precondition will include FAA Forecast approval and FAA approval of the airfield standard design.
3. Sources for existing coordinates: http://avnwww.jccbi.gov/datasheet/
4. This map was prepared using computer assisted, photogrammetric methods by HJW GeoSpatial, Inc., in Oakland California. In areas of dense vegetation, accuracy of contours may deviate from accepted accuracy standards. The grid is based on the California Coordinate System, Zone III, NAD 1983. Control survey performed by the City of Modesto, Modesto, CA. (Photography date 5/28/02).
5. Depiction of features and objects, including related elevations and clearances, within the approach surface are depicted on the VISUAL APPROACH SURFACE DRAWING or INNER PORTION OF THE APPROACH SURFACE DRAWINGS for Precision and Nonprecision Approach.
6. Details concerning terminal improvements are depicted on the TERMINAL AREA DRAWING.
7. Recommended land uses are depicted on the AIRPORT LAND USE DRAWING.
8. There are no PACS or SACS, http://www.ngs.noaa.gov/cgi-bin/ds_radius.prl.

RUNWAY DATA

RUNWAY DATA	RUNWAY 10L-28R				RUNWAY 10R-28L			
	EXISTING		ULTIMATE		EXISTING		ULTIMATE	
	10L	28R	10L	28R	10R	28L	10R	28L
AIRCRAFT APPROACH CATEGORY-DESIGN GROUP	C-II		C-II		B-I		B-I	
APPROACH VISIBILITY MINIMUMS (Lowest)	Visual	1/2 Mile	1 Mile	1/2 Mile	Visual	Visual	Visual	Visual
F.A.R. PART 77 CATEGORY	Visual (BV)	Precision	Nonprecision	Precision	Visual (BV)	Visual (BV)	Visual (BV)	Visual (BV)
F.A.R. PART 77 APPROACH SURFACES	20:1	50:1	34:1	50:1	20:1	20:1	20:1	20:1
PERCENTAGE OF WIND COVERAGE (ALL WEATHER-MPH)	99.56%-10.5/99.86%-13/99.96%-16/99.97%-20		99.56%-10.5/99.86%-13/99.96%-16/99.97%-20		99.56%-10.5/99.86%-13/99.96%-16/99.97%-20		99.56%-10.5/99.86%-13/99.96%-16/99.97%-20	
MAXIMUM (NAVD 88) ELEVATION (Above MSL)	99.0 MSL		99.0 MSL		98.9 MSL		98.9 MSL	
RUNWAY DIMENSIONS	5,911' x 150'		6,411' x 150'		3,459' x 100'		3,459' x 100'	
RUNWAY AZIMUTH	124.1133 °		124.1133 °		124.1178 °		124.1178 °	
RUNWAY BEARING (Decimal Degrees)	124.11 °	304.02 °	124.11 °	304.02 °	124.12 °	304.12 °	124.12 °	304.12 °
RUNWAY SAFETY AREA (RSA) WIDTH	400'		400'		120'		120'	
RUNWAY SAFETY AREA (RSA) BEYOND RUNWAY STOP END	1,000'	1,000'	1,000'	1,000'	240'	240'	240'	240'
RUNWAY OBSTACLE FREE ZONE (OFZ) WIDTH	400'		400'		250'		250'	
RUNWAY (OFZ) BEYOND RUNWAY STOP END	200'	200'	200'	200'	200'	200'	200'	200'
RUNWAY OBJECT FREE AREA (OFA) WIDTH	800'		800'		400'		400'	
RUNWAY OBJECT FREE AREA (OFA) BEYOND RUNWAY STOP END	1,000'	1,000'	1,000'	1,000'	240'	240'	240'	240'
PRECISION OBSTACLE FREE ZONE (POFZ)	200' x 800' (Rwy 28R)		200' x 800' (Rwy 28R)		None		None	
RUNWAY PAVEMENT SURFACE MATERIAL	Asphalt		Asphalt		Asphalt		Asphalt	
RUNWAY PAVEMENT STRENGTH (in thousand lbs.)[1]	60(S)/200(D)/400(DT)		60(S)/200(D)/400(DT)		30(S)		30(S)	
RUNWAY EFFECTIVE GRADIENT	0.30%		0.30%		0.36%		0.36%	
MAXIMUM GRADIENT	0.30%		0.30%		0.54%		0.54%	
RUNWAY MARKING	Nonprecision	Precision	Nonprecision	Precision	Basic	Basic	Basic	Basic
RUNWAY LIGHTING	HIRL		HIRL		MIRL		MIRL	
RUNWAY APPROACH LIGHTING	None	MALSR	None	MALSR	None	None	None	None
RUNWAY HOLD LINE POSITION (From Rwy Centerline)	175', 230.5' & 350'		175', 230.5' & 350'		125'		125'	
RUNWAY PAVEMENT SURFACE TREATMENT	None		None		None		None	
RUNWAY THRESHOLD DISPLACEMENT	0'	0'	0'	0'	0'	0'	0'	0'
RUNWAY STOPWAY	0'	0'	0'	0'	0'	0'	0'	0'
RUNWAY END ELEVATION (NAVD 88)	EL. 99.0	EL. 81.6	EL. 99.0	EL. 81.6	EL. 98.6	EL. 86.0	EL. 98.6	EL. 86.0
RUNWAY TOUCHDOWN ZONE ELEVATION (NAVD 88)	EL. 99.0	EL. 90.9	EL. 99.0	EL. 90.9	EL. 98.9	EL. 98.8	EL. 98.9	EL. 98.8
APPENDIX 2 THRESHOLD SITING SLOPE (TSS)	20:1	34:1	20:1	34:1	20:1	20:1	20:1	20:1
THRESHOLD SITING SURFACE REQUIREMENT (TSS)	ADR #6	ADR #9	ADR #6	ADR #9	ADR #2	ADR #2	ADR #2	ADR #2
THRESHOLD SITING SURFACE OBJECT PENETRATIONS	NO	NO	Yes	Yes	NO	NO	NO	NO
ELEVATION OF RUNWAY HIGH POINT (NAVD 88)	EL. 99.0		EL. 99.0		EL. 98.9		EL. 98.9	
ELEVATION OF RUNWAY LOW POINT (NAVD 88)	EL. 81.6		EL. 81.6		EL. 86.0		EL. 86.0	
LINE OF SIGHT REQUIREMENT MET	YES		YES		YES		YES	
APPROACH SPEED (Knots) OF DESIGN A/C	121-140.99 KNOTS		141-165.99 KNOTS		91-120.99 KNOTS		91-120.99 KNOTS	
MAX. CERTIFIED TAKEOFF WEIGHT OF DESIGN A/C	41,250 (lbs.)		47,450 (lbs.)		20,000 (lbs.)		20,000 (lbs.)	
TAXIWAY LIGHTING	MITL		MITL		MITL		MITL	
TAXIWAY MARKING	Centerline/Signage		Centerline/Signage		Centerline/Signage		Centerline/Signage	
TAXIWAY SURFACE MATERIAL	Asphalt		Asphalt		Asphalt		Asphalt	
TAXIWAY WIDTH	50'		50'		25'		25'	
TAXIWAY SAFETY AREA WIDTH	79'		79'		49'		49'	
TAXIWAY OBJECT FREE AREA WIDTH	131'		131'		89'		89'	
RUNWAY ELECTRONIC NAVIGATIONAL AIDS	None	ILS GPS	GPS	ILS GPS	None	None	None	None
RUNWAY VISUAL NAVIGATIONAL AIDS	VASI-4 L REIL	None	VASI-4 L REIL	None	PAPI-2 (L)	PAPI-2 (L)	PAPI-2 (L)	PAPI-2 (L)

[1] Pavement strengths are expressed in Single(S), Dual (D) and Dual Tandem (DT), and/or Double Dual Tandem (DDT), wheel loading capacities.

FOR APPROVAL BY:

City of Modesto, California

APPROVED BY: ON THE DATE OF:

FAA APPROVAL STAMP

LEGEND

EXISTING	ULTIMATE	DESCRIPTION
[hatched pavement]	SAME	ABANDONED PAVEMENT (To Be Removed)
[magenta line]	[purple line]	AIRPORT PROPERTY LINE/FENCE
[black ARP symbol]	[blue ARP symbol]	AIRPORT REFERENCE POINT (ARP)
[red beacon symbol]	[blue beacon symbol]	AIRPORT ROTATING BEACON
[hatched building]	SAME	BUILDING ABANDONMENT (To Be Removed)
[solid building]	[red dashed outline]	BUILDING CONSTRUCTION (Off/on Airport)
[blue dash-dot line]	SAME	DRAINAGE
[black double line]	[blue dashed double line]	FACILITY CONSTRUCTION
[grey fence line]	[cyan fence line]	FENCING
PAPI-2	SAME	NAVIGATIONAL AID INSTALLATION (GVGI)
REIL	REIL	RUNWAY END IDENTIFICATION LIGHTS
[red dots]	SAME	RUNWAY THRESHOLD LIGHTS
[section corner symbol]	SAME	SECTION CORNER
[red circle]	[blue circle]	SEGMENTED CIRCLE/WIND INDICATOR
1080	SAME	TOPOGRAPHY (2005)
[wind indicator symbol]	SAME	WIND INDICATOR (Lighted)
[black hold line]	[blue hold line]	HOLDING POSITION MARKING
BRL	BRL	BUILDING RESTRICTION LINE (BRL)
[dotted line]	[dotted line]	DIRT ROAD
[tree symbol]	[tree line]	TREES
Ext OFZ	Ult OFZ	RUNWAY OBSTACLE FREE ZONE
xRSA	uRSA	RUNWAY SAFETY AREA
xOFA	uOFA	RUNWAY OBJECT FREE AREA
[survey monument symbol]		SURVEY MONUMENT (No PACS or SACS)
[grey band]		RUNWAY SHADE
[helipad symbol]	SAME	HELICOPTER PARKING
[tie-down symbols]	SAME	TIE-DOWNS
[RPZ outline]	[RPZ outline]	RUNWAY PROTECTION ZONE (RPZ)

THRESHOLD SITING SURFACE OBJECT PENETRATIONS

OBJECT	PENETRATION	DISPOSITION
Service Road Runway 10L	Yes	Relocate
Service Road Runway 28R	Yes	Closed

POFZ OBJECT PENETRATIONS

OBJECT	PENETRATION	DISPOSITION
Runway 28R POFZ 800' x 200'	Yes	Remove Trees
Unimproved Road at Runway 28R end	Yes	Close Road

EXISTING BUILDINGS/FACILITIES

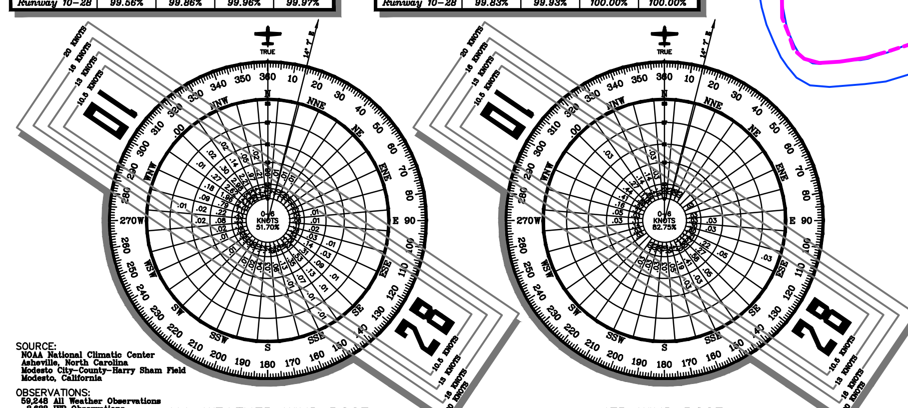
NO.	DESCRIPTION	ELEV.
1	ADMINISTRATION/TERMINAL BUILDING	114
2	AIR TRAFFIC CONTROL TOWER (ATCC)	132
3	AIRPORT RESCUE/FIREFIGHTING (ARFF)	110
4	SKY TREK AVIATION	124
5	SKY TREK AVIATION	122
6	SKY TREK AVIATION	111
7	SKY TREK AVIATION	115
8	SKY TREK AVIATION	112
9	SKY TREK AVIATION	116
10	DAN COSTA-DCAIR	126
11	FOSTER FARMS	121
12	T-HANGAR	114
13	T-HANGAR	109
14	T-HANGAR	109
15	T-HANGAR (To Be Removed)	105
16	T-HANGAR (To Be Removed)	106
17	T-HANGAR	107
18	FUEL ISLAND	N/A
19	T-HANGAR	109
20	T-HANGAR	103
21	T-HANGAR	104
22	T-HANGAR	106
23	T-HANGAR	105
24	T-HANGAR	104
25	HANGAR 7 (Tom Hillier Hangar/Museum)	112
26	HANGAR 6 (E and J Gallo Winery)	111
27	HANGAR 5 (Modesto Aviation)	111
28	HANGAR 3 (Pacific Aircraft Service)	111
29	OFFICE BUILDING (Vacant)	108
30	ADMINISTRATION (Modesto Aviation)	106
31	HANGAR 1 (Commemorative Air Force)	112
32	OFFICE BUILDING 2 (Vacant)	104
33	HANGAR 2 (Business Aircraft Maintenance)	114
34	HANGAR 4 (Pacific Aircraft Maintenance)	107
35	MAINTENANCE FACILITY	102
36	FUEL FACILITY	N/A
37	MODESTO POLICE DEPARTMENT	105
38	T-HANGAR	106

ALL WEATHER WIND COVERAGE

Runway	10.5 Knots 12 MPH	13 Knots 15 MPH	16 Knots 18 MPH	20 Knots 23 MPH
Runway 10-28	99.56%	99.86%	99.96%	99.97%

IFR WIND COVERAGE

Runway	10.5 Knots 12 MPH	13 Knots 15 MPH	16 Knots 18 MPH	20 Knots 23 MPH
Runway 10-28	99.83%	99.93%	100.00%	100.00%



SOURCE:
NOAA National Climatic Center
Asheville, North Carolina
Modesto City-County-Harry Sham Field
Modesto, California

OBSERVATIONS:
59,248 All Weather Observations
3,638 IFR Observations
1992-2001

ALL WEATHER WIND ROSE

IFR WIND ROSE

ULTIMATE BUILDINGS/FACILITIES

NO.	DESCRIPTION	Elevation
51	NEW TERMINAL BUILDING PARKING	LT Poles 25'
52	NEW TERMINAL BUILDING	40' AGL
57	T-HANGAR	23' AGL
58	T-HANGAR	23' AGL
59	T-HANGAR	23' AGL
60	T-HANGAR	23' AGL
61	T-HANGAR	23' AGL
62	T-HANGAR	23' AGL
63	T-HANGAR	23' AGL
64	T-HANGAR	23' AGL
65	T-HANGAR	23' AGL
67	EXECUTIVE HANGAR	25' AGL
68	EXECUTIVE HANGAR	25' AGL
69	EXECUTIVE HANGAR	25' AGL
70	EXECUTIVE HANGAR	25' AGL
71	EXECUTIVE HANGAR	25' AGL
72	EXECUTIVE HANGAR	25' AGL
73	EXECUTIVE HANGAR	25' AGL

Magnetic Declination
14° 7' E (August 2009)
Annual Rate of Change 6' West

TRUE NORTH 14° 7' East

0 400 800
SCALE IN FEET

No.	REVISIONS	DATE	BY	APP'D.
3	-	-	-	-
2	Airport Layout Plans Approved	5/23/05	Coffman	FAA
1	Updated Per AIP 19 & AIP 20 Constructions	1/00	SMA	-

"THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN, NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."

MODESTO CITY-COUNTY AIRPORT
HARRY SHAM FIELD

AIRPORT LAYOUT PLAN

Modesto, California

PLANNED BY: Stephen C. Wagner/Vicki L. Rogers
DETAILED BY: Larry D. Johnson
APPROVED BY: James M. Harris, P.E.

July 22, 2010 SHEET 1 OF 15

Coffman Associates Airport Consultants www.coffmanassociates.com

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This is a reduced version of a large size drawing.

Exhibit MOD-3

Airport Layout Plan

Modesto City-County Airport

BASED AIRCRAFT [a]

Aircraft Type	Current	Future
Single Engine	150	181
Multi Engine	25	47
Jet	1	6
Helicopter	8	11
Total	184	245

AIRCRAFT OPERATIONS

	Current[b]	Future [b]
Total		
Annual	84,185	141,000
Average Day	230	386
Distribution by Aircraft Type		
Airline	7%	6%
GA/Air Taxi	56%	56%
GA Local	38%	38%
Military	<1%	<1%
Distribution by Type of Operation [b]		
Local		
(incl. touch-and-goes)	38%	No
Itinerant	62%	Change

TIME OF DAY DISTRIBUTION

	Current and Future [b]
Airlines	
Day	88%
Evening	12%
Night	<1%
GA/Air Taxi	
Day	87%
Evening	5%
Night	8%
Military	
Day	94%
Evening	3%
Night	2%
GA/Local	
Day	95%
Evening	3%
Night	2%

RUNWAY USE DISTRIBUTION [b]

	Current	Future
Business/Regional Jet & Turboprop/Multi-Engine		
Takeoffs and Landings		
Runway 10L	20%	No
Runway 28R	80%	Change
Runway 10R	0%	No
Runway 28L	0%	Change
Single & Multi-Engine Piston		
Takeoffs and Landings		
Runway 10L	12%	No
Runway 28R	48%	Change
Runway 10R	8%	No
Runway 28L	32%	Change

FLIGHT TRACK DISTRIBUTION

Data Not Available

Notes:

[a] Source: *Modesto City-County Airport Layout Plan Narrative Report* (December 2009)

[b] Source: *Modesto City-County Airport Part 150 Study* (February 2009).

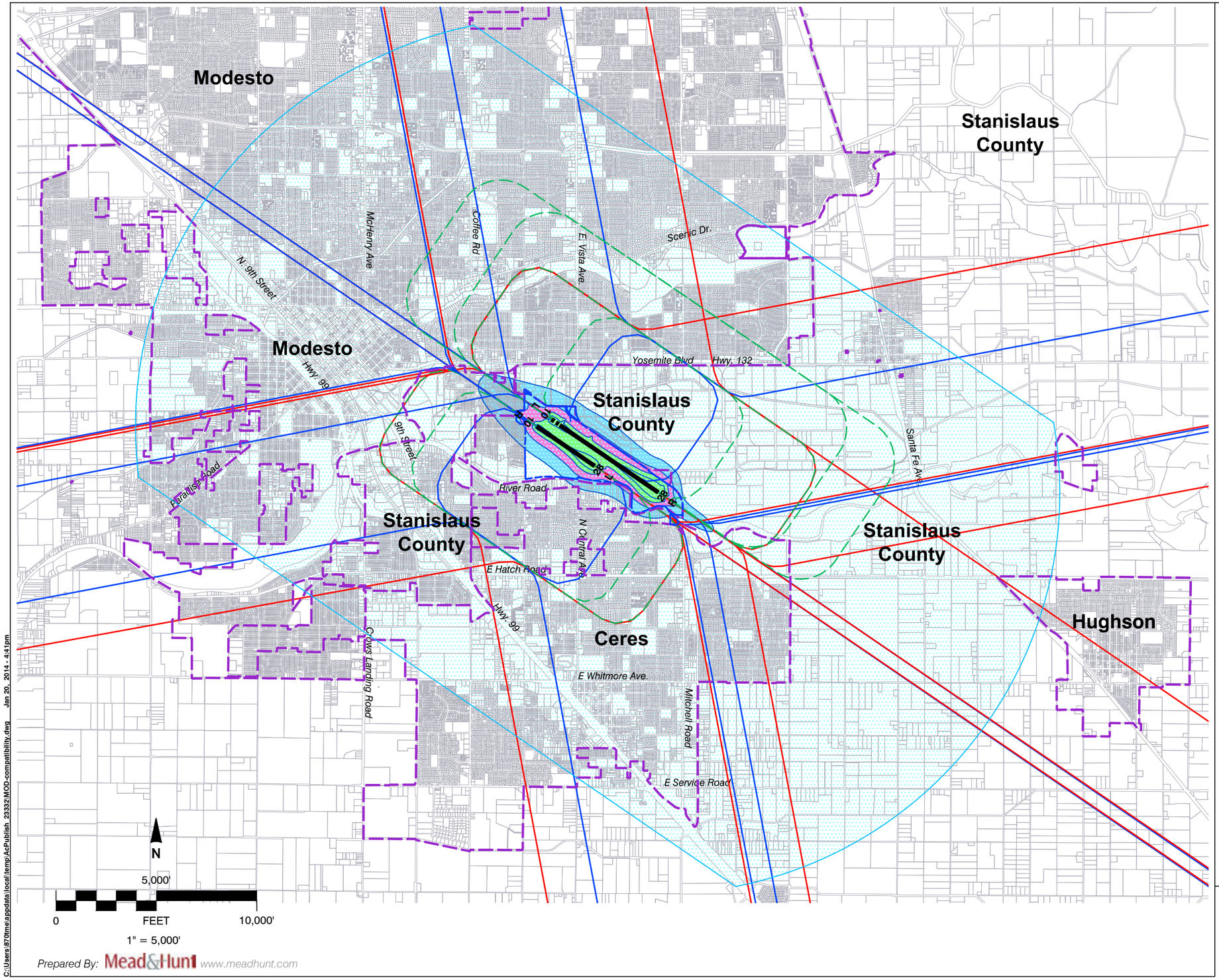
* Figures may not add up to 100%, due to rounding.

Exhibit MOD-4

Airport Activity Data

Modesto City-County Airport

Data compiled by Mead & Hunt, Inc.



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Legend

Boundary Lines

- Airport Property Line/Easements
- City Limits
- Existing Runway
- Future Runway

2009 Part 150 Study Noise Contours [1]

- 60 - 65 dB CNEL
- 65 - 70 dB CNEL
- 70+ dB CNEL

Overflight Factors [1]

- Arrival
- Departure
- Touch and Go
- Aircraft Traffic Envelope [2]

Notes

1. Flight track source: 2009 Part 150 study. Noise contours and flight tracks shown reflect long range scenario with 141,000 annual operations.

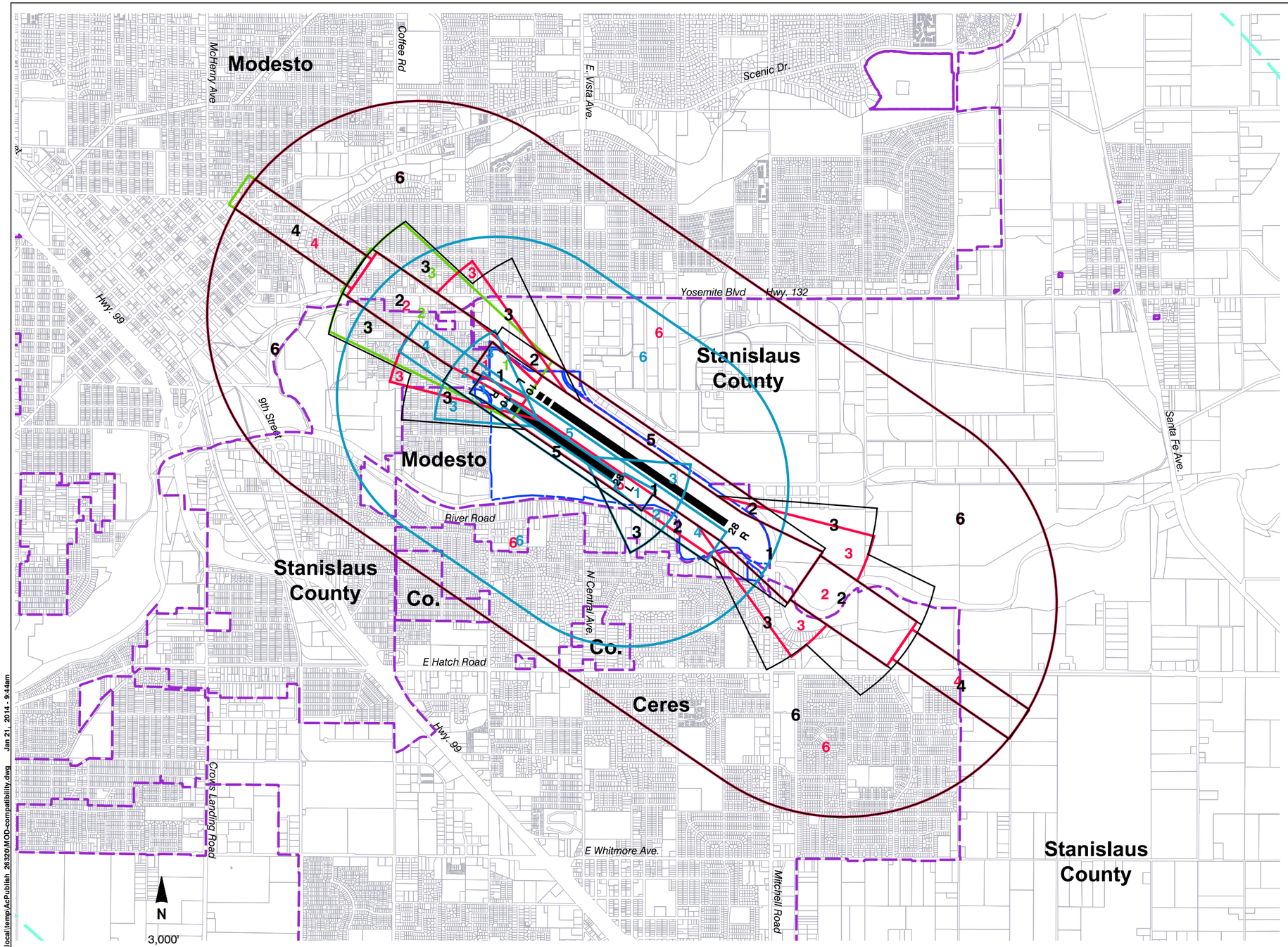
2. Approximately 80% of aircraft overflights estimated to occur within these limits at an altitude of 1,500 feet AGL or less. The traffic pattern altitude is established at 1,000 feet above the airport elevation for small aircraft and 1,500 feet for large aircraft.

Stanislaus County
Airport Land Use Compatibility Plans
(January 2014, Draft)

Exhibit MOD-5

Noise and Overflight Factors

Modesto City-County Airport



Legend

Boundary Lines

- Airport Property Line
- City Limits
- Existing Runway
- Future Runway

Safety Zone Factors

- Generic Long Length General Aviation Runway
- Generic Short Length General Aviation Runway
- Generic Large Air-Carrier Length General Aviation Runway
- Safety Policy Zones

Notes

1. Safety zone source: California Airport Land Use Planning Handbook (January 2002).
2. Composite safety zones reflect existing runway configuation and 500' extension.Composite zones combine large air carrier runway zones, medium general aviation runway zones, and long general aviation runway zones for Runway 10L-28R.
3. Short general aviation zones were used for Runway 10R-28L.
4. Zone 1 has been adjusted to reflect runway protection zones depicted on the Airport Layout Plan (December 2009).

Stanislaus County
Airport Land Use Compatibility Plans
(January 2014, Draft)

Exhibit MOD-6

Safety Factors

Modesto City-County Airport

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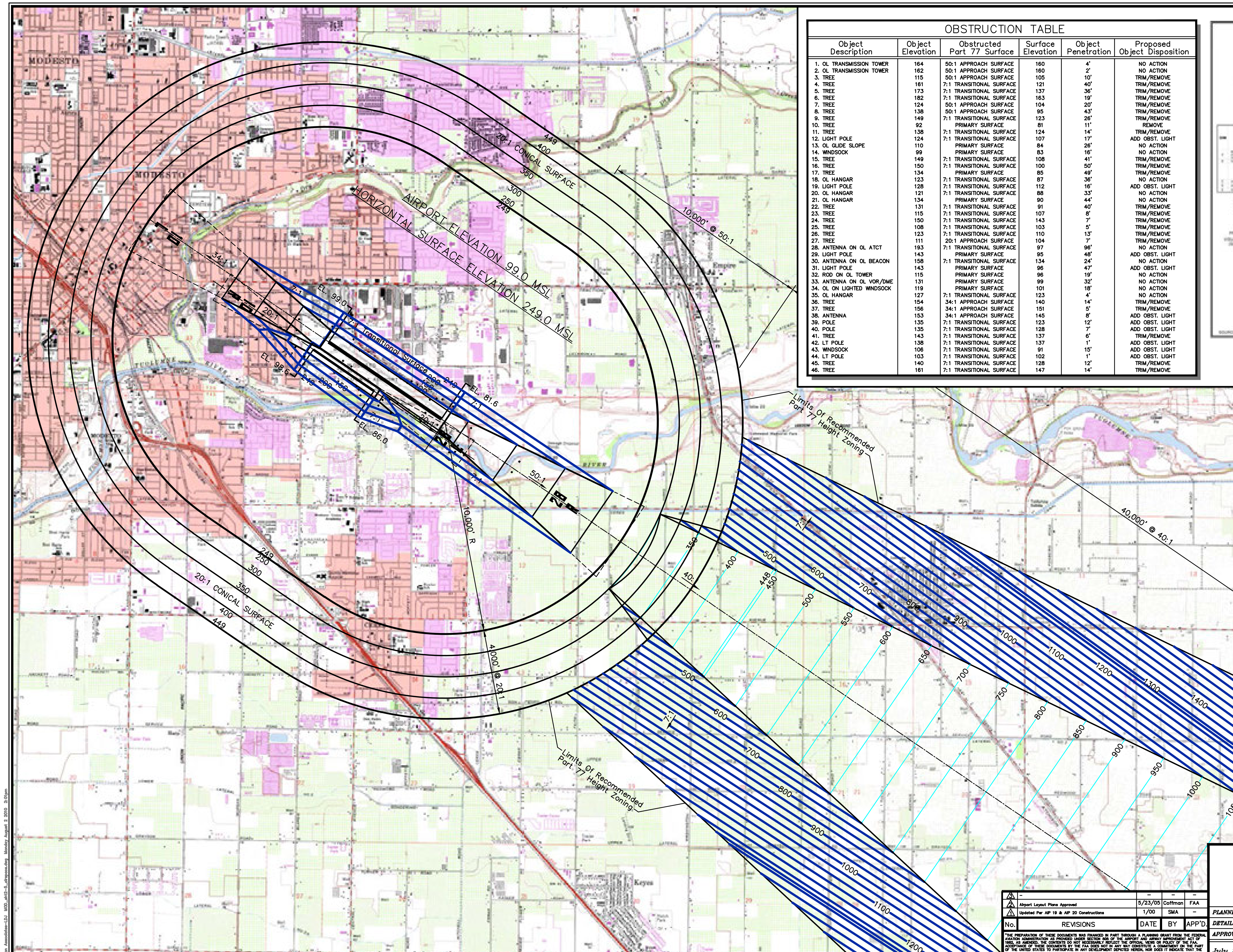
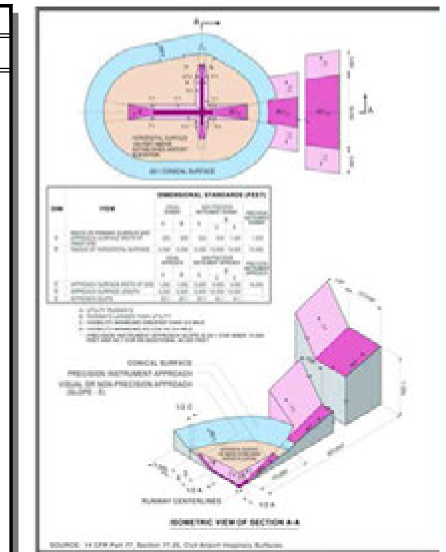


OBSTRUCTION TABLE

Object Description	Object Elevation	Obstructed Part 77 Surface	Surface Elevation	Object Penetration	Proposed Object Disposition
1. OL TRANSMISSION TOWER	164	50:1 APPROACH SURFACE	160	4'	NO ACTION
2. OL TRANSMISSION TOWER	162	50:1 APPROACH SURFACE	160	2'	NO ACTION
3. TREE	115	50:1 APPROACH SURFACE	105	10'	TRIM/REMOVE
4. TREE	161	7:1 TRANSITIONAL SURFACE	121	40'	TRIM/REMOVE
5. TREE	173	7:1 TRANSITIONAL SURFACE	137	36'	TRIM/REMOVE
6. TREE	182	7:1 TRANSITIONAL SURFACE	163	19'	TRIM/REMOVE
7. TREE	124	50:1 APPROACH SURFACE	104	20'	TRIM/REMOVE
8. TREE	138	50:1 APPROACH SURFACE	95	43'	TRIM/REMOVE
9. TREE	149	7:1 TRANSITIONAL SURFACE	123	26'	TRIM/REMOVE
10. TREE	92	PRIMARY SURFACE	81	11'	REMOVE
11. TREE	138	7:1 TRANSITIONAL SURFACE	124	14'	TRIM/REMOVE
12. LIGHT POLE	124	7:1 TRANSITIONAL SURFACE	107	17'	ADD OBST. LIGHT
13. OL GLIDE SLOPE	110	PRIMARY SURFACE	84	26'	NO ACTION
14. WINDSOCK	99	PRIMARY SURFACE	83	16'	NO ACTION
15. TREE	149	7:1 TRANSITIONAL SURFACE	108	41'	TRIM/REMOVE
16. TREE	150	7:1 TRANSITIONAL SURFACE	100	50'	TRIM/REMOVE
17. TREE	134	PRIMARY SURFACE	85	49'	TRIM/REMOVE
18. OL HANGAR	123	7:1 TRANSITIONAL SURFACE	87	36'	NO ACTION
19. LIGHT POLE	128	7:1 TRANSITIONAL SURFACE	112	16'	ADD OBST. LIGHT
20. OL HANGAR	121	7:1 TRANSITIONAL SURFACE	88	33'	NO ACTION
21. OL HANGAR	134	PRIMARY SURFACE	90	44'	NO ACTION
22. TREE	131	7:1 TRANSITIONAL SURFACE	91	40'	TRIM/REMOVE
23. TREE	115	7:1 TRANSITIONAL SURFACE	107	8'	TRIM/REMOVE
24. TREE	150	7:1 TRANSITIONAL SURFACE	143	7'	TRIM/REMOVE
25. TREE	108	7:1 TRANSITIONAL SURFACE	103	5'	TRIM/REMOVE
26. TREE	123	7:1 TRANSITIONAL SURFACE	110	13'	TRIM/REMOVE
27. TREE	111	20:1 APPROACH SURFACE	104	7'	TRIM/REMOVE
28. ANTENNA ON OL ATCT	193	7:1 TRANSITIONAL SURFACE	97	96'	NO ACTION
29. LIGHT POLE	143	PRIMARY SURFACE	95	48'	ADD OBST. LIGHT
30. ANTENNA ON OL BEACON	158	7:1 TRANSITIONAL SURFACE	134	24'	NO ACTION
31. LIGHT POLE	143	PRIMARY SURFACE	96	47'	ADD OBST. LIGHT
32. ROD ON OL TOWER	115	PRIMARY SURFACE	96	19'	NO ACTION
33. ANTENNA ON OL VOR/DME	131	PRIMARY SURFACE	99	32'	NO ACTION
34. OL ON LIGHTED WINDSOCK	119	PRIMARY SURFACE	101	18'	NO ACTION
35. OL HANGAR	127	7:1 TRANSITIONAL SURFACE	123	4'	NO ACTION
36. TREE	154	34:1 APPROACH SURFACE	140	14'	TRIM/REMOVE
37. TREE	156	34:1 APPROACH SURFACE	151	5'	TRIM/REMOVE
38. ANTENNA	153	34:1 APPROACH SURFACE	145	8'	ADD OBST. LIGHT
39. POLE	135	7:1 TRANSITIONAL SURFACE	123	12'	ADD OBST. LIGHT
40. POLE	135	7:1 TRANSITIONAL SURFACE	128	7'	ADD OBST. LIGHT
41. TREE	143	7:1 TRANSITIONAL SURFACE	137	6'	TRIM/REMOVE
42. LT POLE	138	7:1 TRANSITIONAL SURFACE	137	1'	ADD OBST. LIGHT
43. WINDSOCK	106	7:1 TRANSITIONAL SURFACE	91	15'	ADD OBST. LIGHT
44. LT POLE	103	7:1 TRANSITIONAL SURFACE	102	1'	ADD OBST. LIGHT
45. TREE	140	7:1 TRANSITIONAL SURFACE	128	12'	TRIM/REMOVE
46. TREE	161	7:1 TRANSITIONAL SURFACE	147	14'	TRIM/REMOVE



OBSTRUCTION LEGEND

- ●1 OBSTRUCTION
- GROUP or MULTIPLE OBSTRUCTIONS TOPOGRAPHIC OBSTRUCTION

GENERAL NOTES:

1. Obstructions, clearances, and locations are calculated from ultimate runway end elevations and ultimate approach surfaces, unless otherwise noted.
2. Depiction of features and objects within the primary, transitional, and horizontal Part 77 surfaces, is illustrated on the PART 77 AIRSPACE DRAWING, sheets 2 and 3 of these plans.
3. Depiction of features and objects within the outer portion of the approach surfaces, is illustrated on the RUNWAY APPROACH SURFACE PROFILES, sheets 4 and 5 of these plans.
4. Depiction of features and objects within the inner portion of the approach surfaces, is illustrated on the INNER PORTION OF RUNWAY APPROACH SURFACE DRAWINGS, sheets 6, 7, 8 and 9 of these plans.

Magnetic Declination
14° 7' E (August 2009)
Annual Rate of Change 6' West

TRUE NORTH 14° 7' East

SCALE IN FEET: 0 2000 4000 6000

No.	REVISIONS	DATE	BY	APP'D.
3	-	-	-	-
2	Airport Layout Plans Approved	5/23/05	Coffman	FAA
1	Updated Per AIP 19 & AIP 20 Constructions	1/00	SMA	-

"THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN, NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."

MODESTO CITY-COUNTY AIRPORT
HARRY SHAM FIELD

AIRPORT AIRSPACE DRAWING

Modesto, California

PLANNED BY: Stephen C. Wagner/Vicki L. Rogers
DETAILED BY: Larry D. Johnson
APPROVED BY: James M. Harris, P.E.

July 22, 2010 SHEET 2 OF 15

Coffman Associates Airport Consultants www.coffmanassociates.com

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This is a reduced version of a large size drawing.

Exhibit MOD-7

Part 77 Airspace Surfaces

Modesto City-County Airport

AIRPORT LOCATION AND NEARBY TOPOGRAPHY

- *Location*
  - Airport in city of Modesto, 2.0 miles southeast of city center
  - City of Ceres borders airport on south
  - Unincorporated land borders airport on east
- Topography
  - Situated on floor of San Joaquin Valley; no major high terrain in vicinity
  - Elevation: 97 feet Above Mean Sea Level (MSL)

EXISTING AIRPORT AREA LAND USES

- General Character
  - Urban development to north, east, west and southwest
  - Agricultural land to southeast
- Runway Approaches
  - Northwest (Rwy 10): residential neighborhoods and commercial and industrial uses
  - Southeast (Rwy 28): open space and residential neighborhoods
- Traffic Pattern
  - Industrial park to northeast and residential neighborhoods to southwest

AIRPORT ENVIRONS AND LAND USE JURISDICTIONS

- City of Modesto
  - Airport property and portions of Runway Protection Zones (RPZs) within city limits
- City of Ceres
  - Portions of southeastern RPZs, runway approaches and southwestern traffic pattern over city
- County of Stanislaus
  - Portions of southeastern RPZs and southwestern traffic pattern over unincorporated lands

STATUS OF LOCAL AGENCY PLANS

- City of Modesto
  - Urban Area General Plan adopted October 2008
- City of Ceres
  - General Plan adopted February 1997
- Stanislaus County
  - General Plan adopted December 1995
  - Undergoing a General Plan update; anticipated adoption early 2012

PLANNED AIRPORT AREA LAND USES

- City of Modesto General Plan
  - Planned residential (<7.5 du/ac) to west, commercial to northwest, and industrial to east
- City of Ceres General Plan
  - Very low density residential (<4.5 du/ac) proposed immediately south/southeast of airport
- Stanislaus County General Plan
  - Maintain agriculture to southeast

ESTABLISHED COMPATIBILITY MEASURES

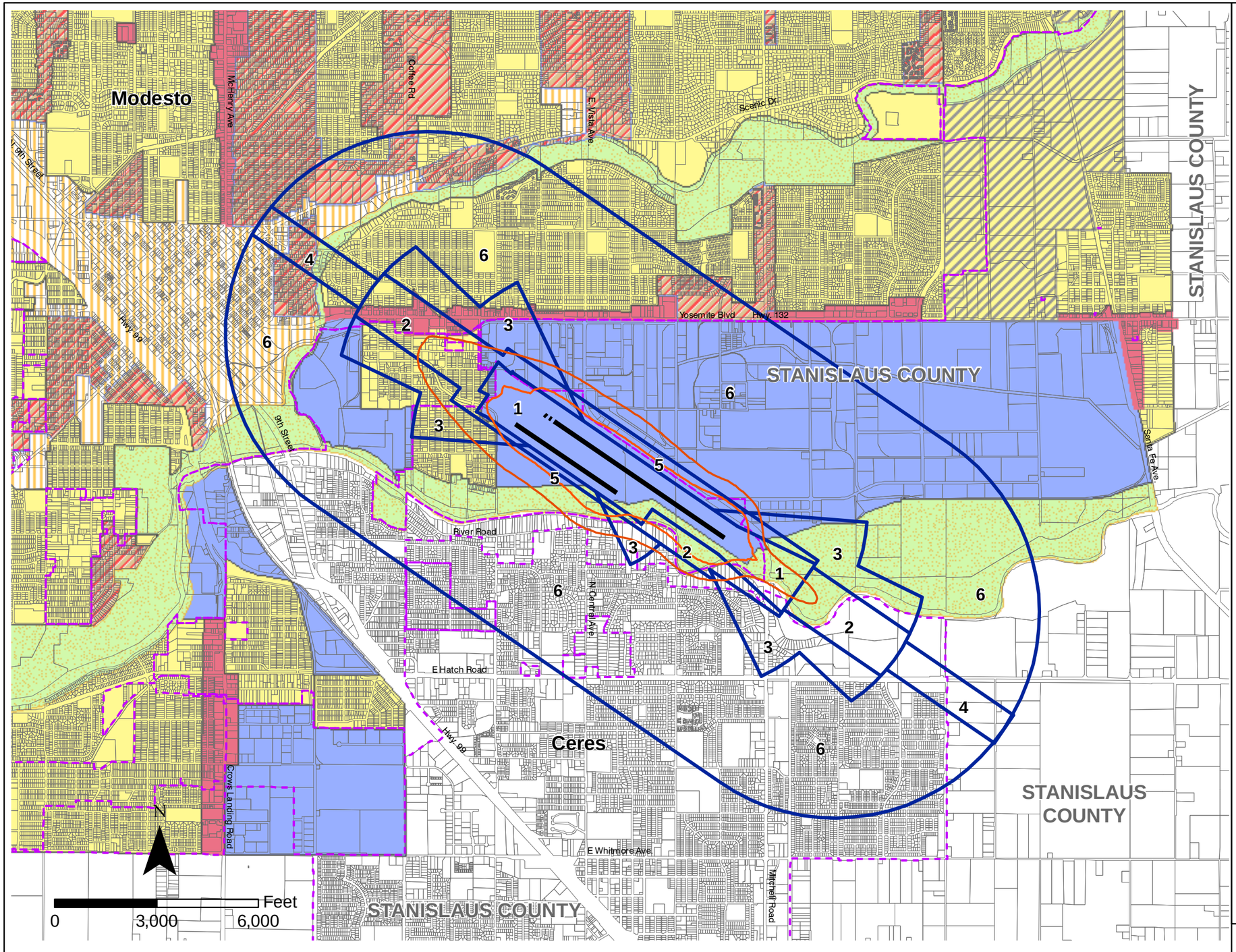
- City of Modesto 2008 Urban Area General Plan
  - Land use around Airport will be consistent with Stanislaus County Airport Land Use Commission (ALUC) Plan (p. V-26)
- City of Modesto 2008 Urban Area General Plan (continued)
  - Mitigation required for new construction to meet noise compatibility standards of General Plan (p. VII-25)

Data compiled by Mead & Hunt

ESTABLISHED COMPATIBILITY MEASURES (continued)

- City of Ceres 1997 General Plan
  - Emphasize compatibility of land uses for both urban development and for airport facilities to ensure availability of local air transportation services and a quality living environment (p. 1-25).
  - All new development within Airport Safety Zones to be developed according to General Plan standards (p. 1-27).
  - Work with appropriate agencies, including ALUC, to ensure compatibility of land uses with airport facilities and operations (p. 1-27).
  - Limit building heights for airspace protection in accordance with Federal Aviation Regulation Part 77 (p. 1-27).
  - Require dedication of overflight easements and/or deed notices when development is proposed on property within airport safety zones (p. 1-27).
  - Ensure new development around Airport does not create safety hazards such as lights from direct or reflective sources, smoke, electrical interference, hazardous chemicals, or fuel storage in violation of adopted safety standards (p. 7-6).
  - Oppose changes in flight patterns that would increase flight activity over Ceres and significantly increase noise or safety concerns (p. 7-6).
  - Prohibit new development of noise-sensitive land uses in areas exposed to existing or projected levels of noise from transportation noise sources, unless project design includes effective mitigation measures to reduce exterior noise and noise levels in interior spaces to specified levels (p. 7-11).
- Stanislaus County 1995 General Plan
  - Policy LU-4. Applications for development in areas with growth-limiting factors such as airport hazards shall include measures to mitigate problems. County will continue to enforce height limiting ordinance near airports (p. 1-3).
  - Policy LU-5. Residential development shall not be approved at maximum density if it does not comply with airport height limiting ordinance restrictions (p. 1-4).
  - Policy C-9. Support development of public use airports consistent with airport master plans developed for Oakdale Municipal and Modesto City-County Airports (p. 2-35).
  - Policy N-2. New development of noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into project design reducing noise levels to following levels: 60 CNEL or less in outdoor activity areas of single family residences, 65 CNEL or less in community outdoor space for multi-family residences, and 45 CNEL or less within noise-sensitive interior spaces. Where it is not practical to reduce exterior noise, an exterior level of up to 65 CNEL will be allowed. Under no circumstances will interior noise levels be allowed to exceed 45 CNEL with windows and doors closed in residential uses (p. 4-15).
  - Policy S-12. Development within areas protected by ALUC Plan shall only be approved if they meet requirements of the Plan. All amendments to a land use designation, zoning district, or zoning regulation affecting land within Plan boundary shall be referred to ALUC for comment. If ALUC recommends denial, Board of Supervisors may overrule that recommendation only by a two-thirds majority vote. Height and exterior materials of new structures in Airport Zone require review (p. 5-9).

Exhibit MOD-8
Airport Environs Table
Modesto City-County Airport



Sources: City and County GIS Data (2009)

Legend

- City Boundary
- Existing Runway
- Future Runway Extension
- 60dB CNEL Noise Contour
- 65dB CNEL Noise Contour
- Safety Zones (composite)

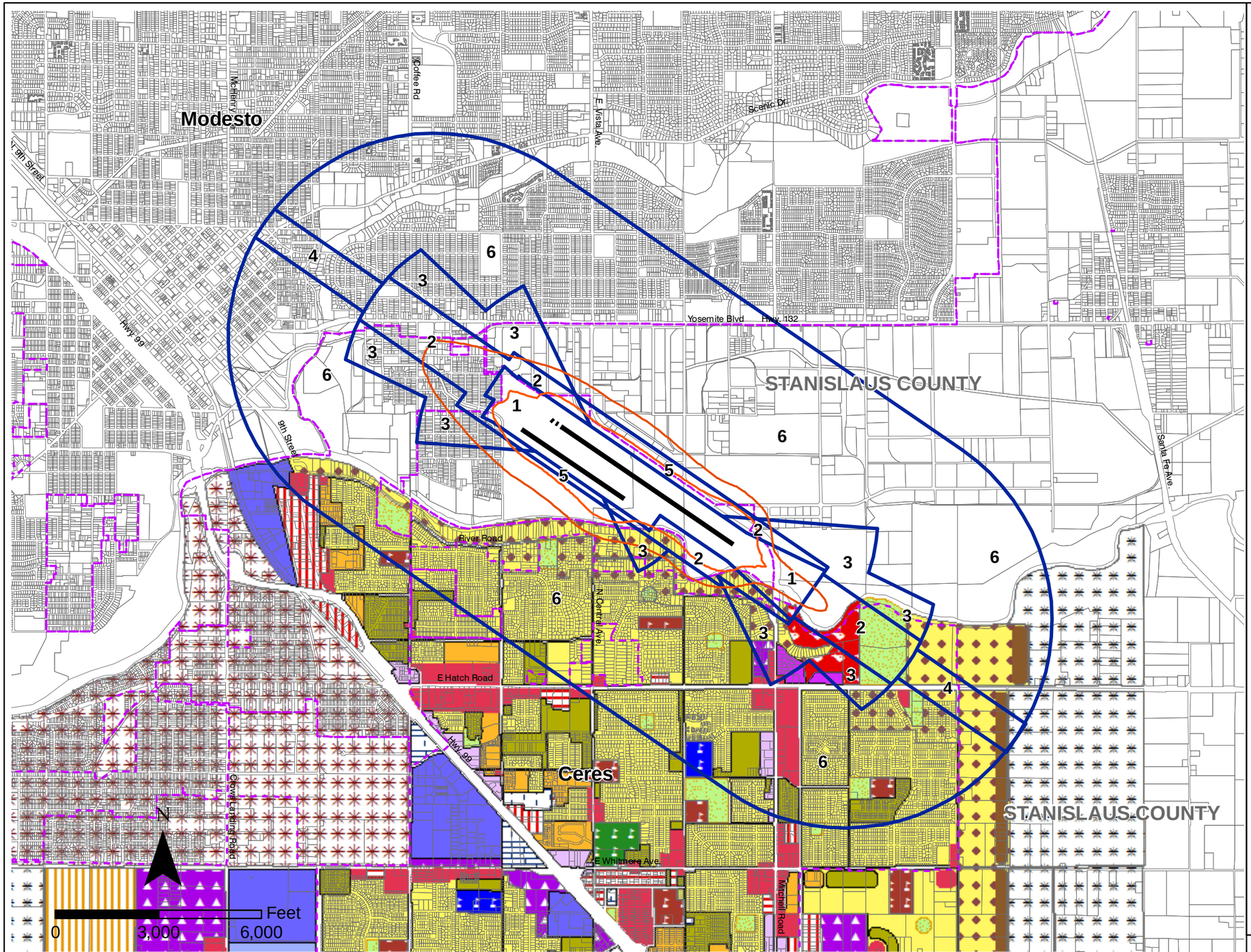
City of Modesto General Plan

- Business Park
- Commercial
- Industrial
- Mixed Use
- Open Space
- Residential
- Commercial - Regional
- Redevelopment Planning District
- Salida Community Plan
- Residential - Village

Stanislaus County
Airport Land Use Compatibility Plans
(January 2014, Draft)

Exhibit MOD-9A

Modesto General Plan
Modesto City-County Airport



Legend

- City Boundary
- Existing Runway
- Future Runway Extension
- 60dB CNEL Noise Contour
- 65dB CNEL Noise Contour
- Safety Zones (composite)

City of Ceres General Plan

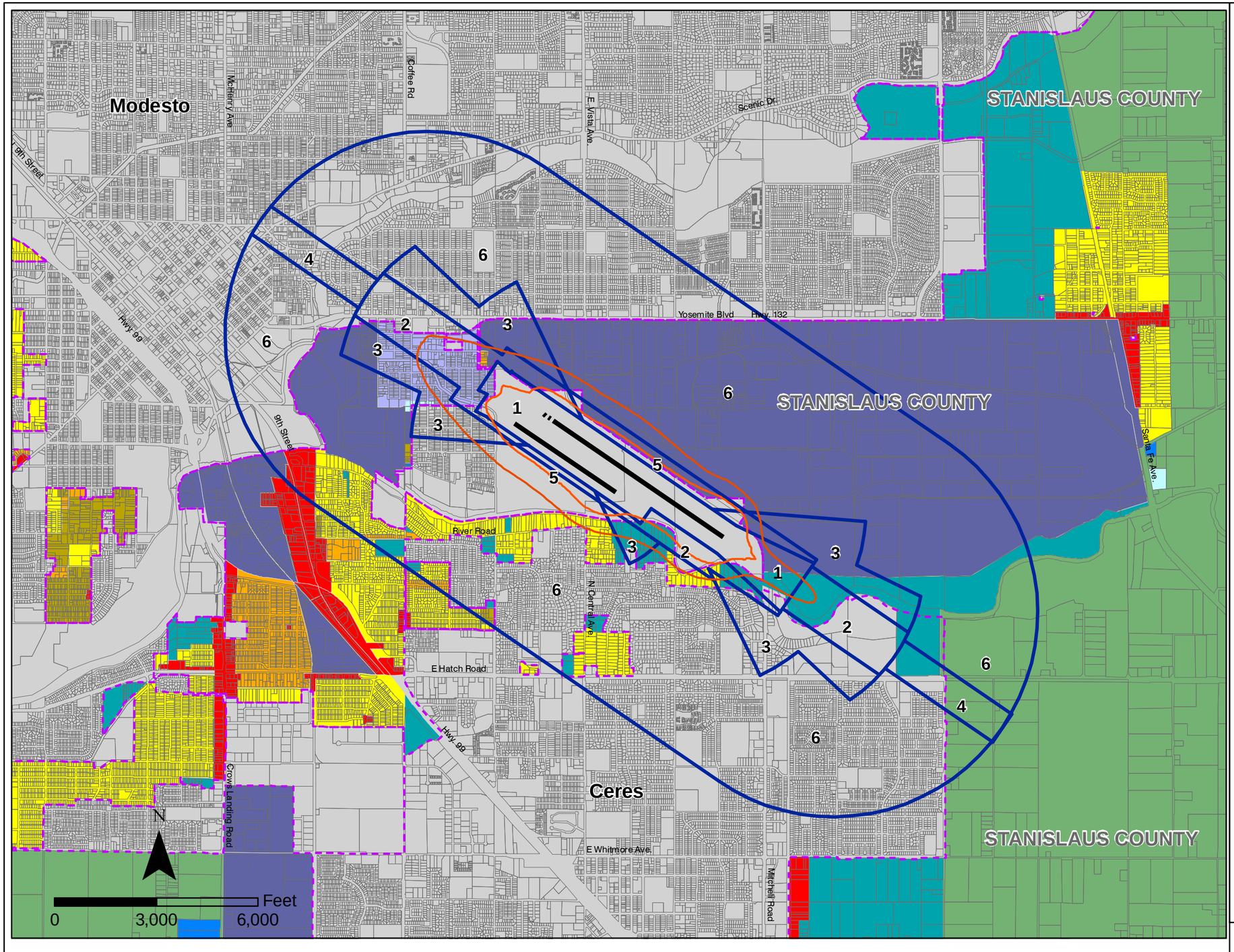
- Agriculture
- Adjacent Urban
- Business Park
- Commercial - General
- Community Facilities
- Community Facilities - PSF
- Commercial - Recreation
- School - Elementary
- Industrial - General
- School - High
- Residential - High Density
- School - High
- Industrial - Reserve
- School - Junior High
- Residential - Low Density
- Industrial - Light
- Residential - Medium Density
- Commercial - Neighborhood
- Office
- Parks
- Residential -Agriculture
- Residential - Reserve
- Commercial - Service
- Residential - Very Low Density

Sources: City and County GIS Data (2009)

Stanislaus County
Airport Land Use Compatibility Plans
(January 2014 Draft)

Exhibit MOD 9B

Ceres General Plan
Modesto City-County Airport



Legend

- City Boundary
- Existing Runway
- Future Runway Extension
- 60dB CNEL Noise Contour
- 65dB CNEL Noise Contour
- Safety Zones (composite)

Stanislaus County General Plan

- Agriculture
- Commercial
- Estate Residential
- Hwy. Commercial/Planned Devpt.
- Historical
- Industrial Business Park
- Industrial
- Industrial Transition
- Low Density Residential
- Medium Density Residential
- Medium High Density Residential
- Planned Development
- Planned Industrial
- Specific Plan 1
- Urban Transition
- City

Sources: City and County GIS Data (2009)

Stanislaus County
Airport Land Use Compatibility Plans
(January 2014 Draft)

Exhibit MOD 9C

Stanislaus County General Plan
Modesto City-County Airport

Chapter **5**

OAKDALE MUNICIPAL AIRPORT AND ENVIRONS BACKGROUND DATA

Stanislaus County
Striving to be the Best

5

Background Data: Oakdale Municipal Airport and Environs

INTRODUCTION

Oakdale Municipal Airport is a general aviation (GA) facility that is owned and operated by the City of Oakdale. The airport was established as a private aviation facility in 1947 and then purchased by the City of Oakdale in 1960. Although the airport is located on City property, the airport property is not contiguous to the remainder of the City. The City of Oakdale is located approximately 2.5 miles west of the airport. Access to the airport is from Laughlin Road from Sierra Road. The airport lies at an elevation of 237 feet above Mean Sea Level (MSL) and encompasses 117 acres.

STATUS OF AIRPORT PLANS

The Oakdale City Council adopted the most recent Master Plan for Oakdale Municipal Airport in 1998 (Resolution 98-88). The 1998 Master Plan includes a long-term development plan for the airport covering a planning horizon of 20 years. A legible copy of the Master Plan was not available for use in preparation of the ALUCP.

In 2006, the City prepared an Airport Layout Plan to assist airport staff in implementing short-term improvements to the airfield. As an administrative drawing, the 2006 ALP was never submitted or approved by the Federal Aviation Administration (FAA).

In 2013, the City prepared an ALP drawing set and associated Narrative Report. The ALP drawing set includes the ALP, Airspace Plan and Airport Property Map. The ALP Narrative report describes existing and planned airport facilities and documents existing and forecast aircraft activity. Based on discussions with FAA, the proposed ALP does not include all of the long-term Master Plan development projects, such as the runway extension and upgrade to ARC B-II. The ALP is FAA pending approval. In accordance with Section 21675(a) of the California Public Utilities Code, the 2013 ALP was presented to the Caltrans Division of Aeronautics with a request that it serve as the basis of the Oakdale Municipal Airport Land Use Compatibility Plan.

The 2013 ALP, together with supplemental information provided by airport personnel, forms the foundation for this ALUCP. Existing and future airport features are summarized in **Exhibit OAK-2** and discussed further below. The proposed 2014 ALP is presented as **Exhibit OAK-3.**

AIRFIELD CONFIGURATION

Oakdale Municipal Airport has a single paved runway (Runway 10-28) 3,013 feet long and 75 feet wide. The runway is aligned with the prevailing wind direction in a nearly northwest/southeast alignment. Winds at the airport are primarily out of the northwest. The airport building area is located north of the airfield. Air transportation services include flight instruction, charter service, rentals, and engine repair and maintenance.

Oakdale Municipal Airport has an Airport Reference Code (ARC) classification of B-I (small) which means that the airport is designed to accommodate small aircraft weighing less than 12,500 pounds (e.g., Cessna 172). Both ends of Runway 10-28 are equipped with straight-in, non-precision instrument (GPS) approach capabilities providing visibility minimums as low as one statute mile and a decision altitude of 519 feet MSL (295 feet above ground level [AGL]) for Runway 10 and 7/8 statute mile and a decision altitude of 532 feet MSL (295 feet AGL) for Runway 28.

The Runway Protection Zones (RPZs) for each runway reflect FAA criteria for an ARC B-I (small) runway. Each RPZ has an inner width of 250 feet, an outer width of 450 feet and a length of 1,000 feet. Less than 15% of the Runway 10 RPZ is located on airport property, while nearly 90% of the RPZ for Runway 28 is off-airport.

As described in the 2013 ALP and Narrative Report, the long-term development plans for the airport include:

- Property acquisition north and south of Runway 10 for future airport development; Acquisition of easements for the portions of the RPZs located outside of the airport property boundaries; and
- Construction of future aircraft hangars and parking aprons.

AIRSPACE PLAN

The 2013 ALP includes an Airspace Plan which depicts the future Federal Aviation Regulations (FAR) Part 77 imaginary airspace surfaces (see **Exhibit OAK-7**). The 2013 Airspace Plan reflects the existing airfield configuration and design of the runway (i.e., ARC B-I (small)) and non-precision instrument approaches to both runway ends.

EXISTING ACTIVITY

The FAA's National Plan of Integrated Airport Systems (NPIAS) classifies Oakdale Municipal Airport as a general aviation facility. As is typical with most small general aviation facilities, Oakdale Municipal Airport does not have an Airport Traffic Control Tower (ATCT). As such, existing aircraft activity levels must be estimated based upon observations by airport management, airport users, and activity data provided in the 2013 ALP Narrative Report. Current (2013) aircraft activity levels are estimated at 42,200 annual operations. Most of this activity (85%) is local operations, which includes flight training exercises known as touch-and-go's.

Based on information provided by airport personnel, up to one-third of the local operations are conducted by helicopters arriving from other airports to conduct training exercises at the airport. Helicopters enter the left-hand traffic pattern on the south side of the airport to land on the runway.

Helicopter training exercises can take place for up to 6 hours at a time, 2 to 3 times a month. The remaining local operations are by fixed-wing aircraft, typically single-engine aircraft, also flying the left-hand closed-circuit pattern south of the airport. Itinerant operations make up 15% of the total activity. Although the airport is used predominantly by single-engine aircraft, a small percentage of multi-engine (3%), turboprop (3%), and jet (1%) aircraft use the airport on a regular basis.

Activity Forecast

As provided in the 2013 ALP Narrative report, a forecast of 52,200 annual operations assumes that aircraft activity will increase at a rate of 1.1 percent from the base year level of some 42,200 annual operations (2012). No change in the fleet mix is anticipated over the planning horizon.

The activity forecast of 52,200 annual operations provided in the 2013 ALP Narrative Report is brought forward and used as the basis of this ALUCP. Existing and future aircraft activity assumptions are summarized in **Exhibit OAK-4**.

Noise Contours

Future noise contours were generated reflecting the new activity forecast of 52,200 annual operations. The future noise contours for Oakdale Municipal Airport are shown in **Exhibit OAK-5**.

Overflight Patterns

The typical aircraft traffic patterns at Oakdale Municipal Airport are illustrated on **Exhibit OAK-5**. The airport has standard left-hand traffic patterns to Runway 10 and Runway 28. Runway 28 is the primary runway for landings and takeoffs. Due to prevailing winds, an estimated 90% of operations take place on Runway 28 and operate into the wind in an east to west direction. Arriving aircraft usually enter the pattern downwind at a 45° angle. Airport management indicates that 30% of aircraft arrive from the west, 30% from the north, 30% from the south, and 10% from the east. It is also estimated that 40% of aircraft depart straight out and 60% turn left (westward). The traffic pattern altitude is established at 1,000 feet above the established airport elevation of 237 feet MSL. Aircraft following straight-in approach procedures will be at a lower altitudes relative to the runway ends than aircraft entering the traffic pattern.

Safety Zones

For Oakdale Municipal Airport, the generic safety zones for a short general aviation runway (< 4,000 feet in length) were applied to the existing runway configuration.[1] Adjustments to the generic safety zones were made to reflect the following:

- Zone 1 reflects the existing RPZs;
- Zone 4 at the northwest end of the runway is modified to reflect that aircraft departing the airport will typically make a left-hand turn at Sierra Road to head south or west.

The safety zones for Oakdale Municipal Airport are shown in **Exhibit OAK-6**.

[1] Source: *California Airport Land Use Planning Handbook* (October 2011).

Airport Environs

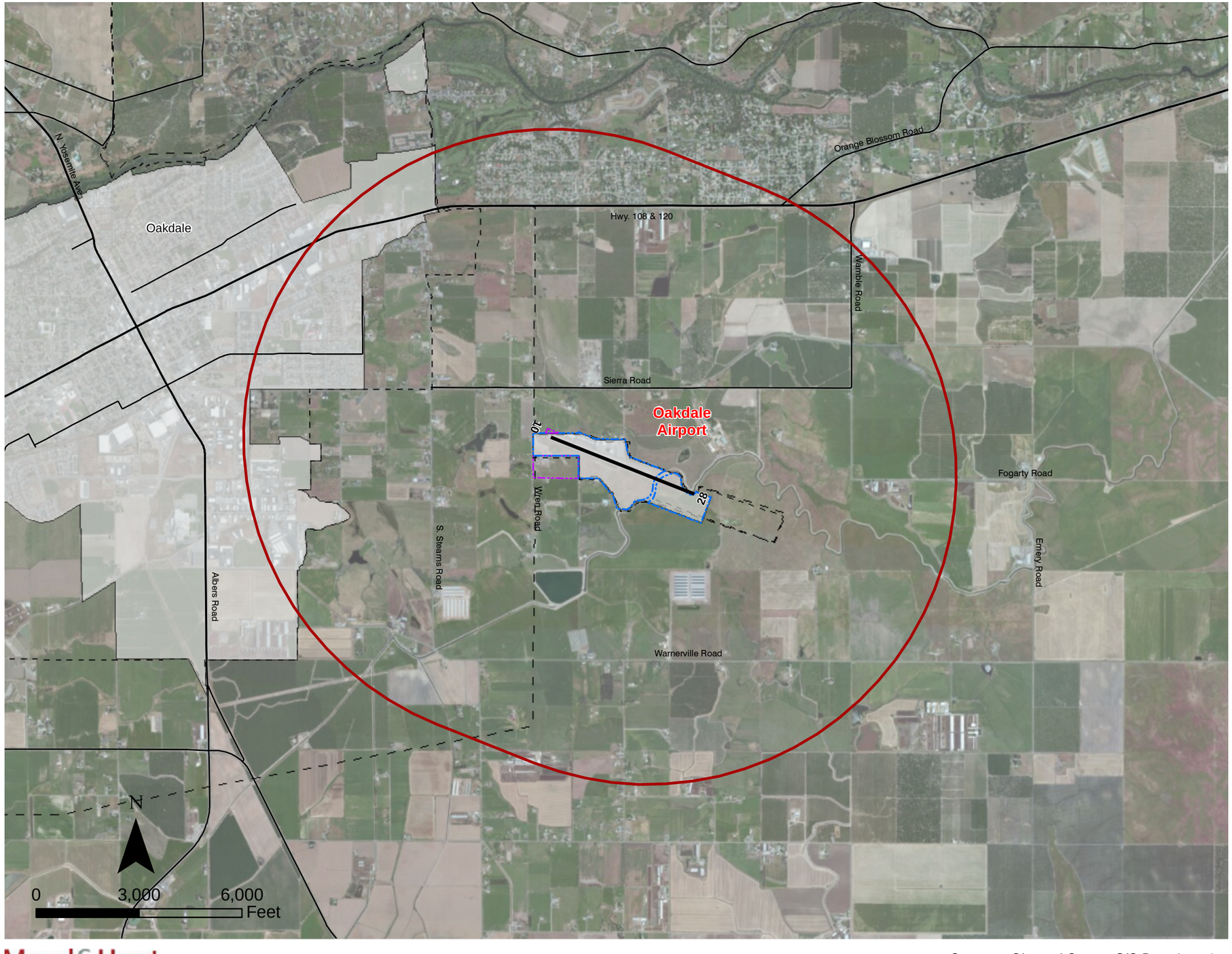
Exhibit OAK-8 provides a detailed summary of Oakdale Municipal Airport's existing and planned environs, including airport compatibility policies adopted by the local agencies. The City of Oakdale and Stanislaus County are within the airport's influence area. Planned land use designations are provided in **Exhibits OAK-9A** and **OAK-9B**.

As shown in the exhibits, unincorporated lands entirely surround the airport. Much of the airport is adjacent to large tracts of agricultural and undeveloped land. Some scattered housing is located on this agricultural land. The airport is located approximately 1 mile east of the nearest point of the urbanized areas of the City of Oakdale. Industrial uses exist 1.5 miles west of the airport. Low-density residential development is planned less than 0.5 mile northwest from the approach end of Runway 10.

BACKGROUND INFORMATION

The following exhibits present the data upon which *Compatibility Plan* policy maps are based:

- **Exhibit OAK-1**—Airport Location: Presents the location of the airport in the context of existing environment (aerial photograph).
- **Exhibit OAK-2**—Airport Features Information: Presents data pertaining to existing and proposed infrastructure (runways, taxiways, etc.), traffic patterns, and approach data.
- **Exhibit OAK-3**—Airport Layout Plan: Presents existing and proposed airport facilities as provided in the 2013 ALP and Narrative Report. FAA approval is anticipated in summer of 2014.
- **Exhibit OAK-4**—Airport Activity Data: Presents aviation forecasts for the 20-year planning period of this ALUCP based on forecast data provided in the 2013 ALP Narrative Report.
- **Exhibit OAK-5**—Noise and Overflight Factors: Presents the geographic area over which aircraft operating at the airport routinely fly, as well as the noise contours based on the planning period forecasts.
- **Exhibit OAK-6**—Safety Factors: Presents the locations of safety zones using the guidance and templates presented by the California Division of Aeronautics in its manual, *California Airport Land Use Planning Handbook*. Adjustments to the generic zones are also depicted.
- **Exhibit OAK-7**—Airspace Protection Surfaces: Depicts the Federal Aviation Regulations Part 77 airspace surfaces which should be kept free of obstructions.
- **Exhibit OAK-8**—Airport Environs: Presents site data, existing and planned land uses, affected jurisdictions, and compatible land use measures.
- **Exhibit OAK-9A**—Oakdale General Plan: Presents land uses based on City of Oakdale General Plan and GIS parcel data (adopted 2013).
- **Exhibit OAK-9B**—Stanislaus County General Plan: Presents land uses based on County of Stanislaus General Plan and GIS parcel data.



Legend

- Road
- City of Oakdale
- Existing Airport Property
- Future Airport Property
- Existing Sphere of Influence
- Future Sphere of Influence
- Airport Influence Area

Stanislaus County
Airport Land Use Compatibility Plans
(May 2014, Draft)

Exhibit OAK-1

Airport Location
Oakdale Municipal Airport

Mead&Hunt

Sources: City and County GIS Data (2012)

GENERAL INFORMATION

- Airport Ownership – City of Oakdale
- Property size
  - Fee title: 117 acres
  - Avigation easements: 21.2 acres
- Airport Classification –General aviation
- Airport Elevation — 237' feet MSL (surveyed)
- Access
  - Via Laughlin Road from Sierra Road
  - 2.5 miles from central Oakdale and Highway 108

RUNWAY SYSTEM

Runway 10-28

- Critical Aircraft — Cessna 421
- Classification — Airport Reference Code B-I (small)
- Dimensions —3,013 feet long; 75 feet wide
- Pavement Strength — 20,000 lbs for aircraft with single-wheel main landing gear
- Average Gradient — 0.48%
- Lighting — Medium intensity edge lighting, runway edge identifier lights
- Primary Taxiways — Full length parallel north of runway

APPROACH PROTECTION

- Established Runway Protection Zones
  - Runway 10: 1,000 feet long, outer width 450 feet; 14% on airport
  - Runway 28: 1,000 feet long, outer width 450 feet; 99% off airport
- Approach Obstacles
  - Runway 10: No close-in obstructions (50:1 clear)
  - Runway 28: No close-in obstructions (50:1 clear)

BUILDING AREA

- Location – North-northeast side of runway
- Aircraft Parking Capacity
  - Hangar spaces for 61 aircraft (2013 ALP)
  - 20 tiedown spaces (2013 ALP)
- Services
  - Airframe and powerplant maintenance
  - Fuel (100LL)

TRAFFIC PATTERNS AND APPROACH PROCEDURES

- Airplane Traffic Pattern
  - Left traffic
  - Pattern altitude – 1,000 feet AGL
- Instrument Approaches
  - Runway 10 RNAV (GPS): nonprecision straight-in (1-mile visibility, 519 ft. MSL [295 ft. AGL] minimum descent height); missed approach climbs to 2,000'
  - Runway 28 RNAV (GPS): nonprecision straight-in (7/8-mile visibility, 532 ft. MSL [295 ft. AGL] minimum descent height); missed approach climbs to 3,000'
- Visual Navigational Aids
  - Runway 10: REILS, 2-box VASI (2.50° glide path)
  - Runway 28: REILS, 2-light PAPI (3.00° glide path)
- Noise Abatement Procedures
  - None
- Helicopters
  - Substantial helicopter training activity
  - Typically fly pattern and hover on runway or parallel taxiway

PROPOSED FACILITY IMPROVEMENTS

- Property Acquisitions
  - 19 acres south of airport and east of Wren Road
  - 0.6 acres north of Runway 10 and east of Wren Road
- Approach Protection
  - Easements for off airport portions of RPZs for Runways 10 and 28
- Building Area
  - Construction of additional hangars

AIRPORT PLANNING

- Airport Planning Documents
  - Airport Master Plan and ALP (1998)
  - Airport Layout Plan (2006)
  - Airport Layout Plan and Narrative Report (2013 Draft)

Source: Data compiled by Mead & Hunt, Inc.

Exhibit OAK-2

Airport Features Information

Oakdale Municipal Airport

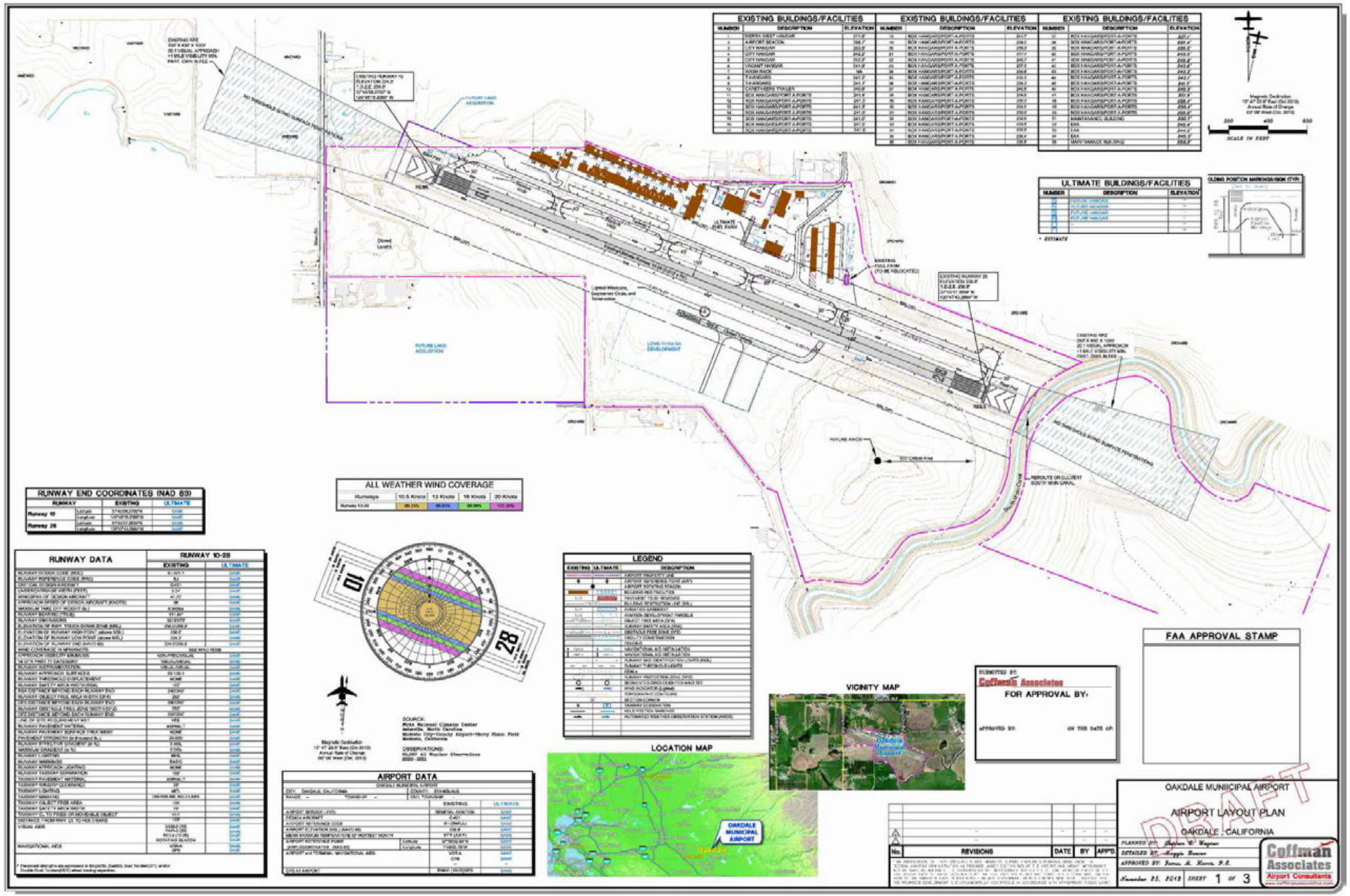


Exhibit OAK-3

Airport Layout Plan

Oakdale Municipal Airport

BASED AIRCRAFT

	Current	Future
Aircraft Type [a]		
Single Engine	73	79
Multi Engine	8	17
Jet	0	2
Helicopter	0	2
Total	81	100

AIRCRAFT OPERATIONS

	Current	Future
Total [a]		
Annual	42,200	52,200
Average Day	116	143
Peak Hour	25	31
(avg. day, peak month)		
Distribution by Aircraft Type [c]		
Single Engine	72%	
Multi-Engine	3%	No
Turboprop	3%	Change
Business Jet	1%	
Helicopter [d]	21%	
Distribution by Type of Operation [a]		
Local		
(incl. touch-and-goes)	85%	No
Itinerant	15%	Change

TIME OF DAY DISTRIBUTION [b]

	Current	Future
Fixed Wing		
Day	92%	
Evening	5%	No
Night	3%	Change
Helicopters [d]		
Day	55%	
Evening	35%	No
Night	10%	Change

RUNWAY USE DISTRIBUTION [b]

	Current	Future
All Aircraft		
Takeoffs		
Runway 10	10%	No
Runway 28	90%	Change
Landings		
Runway 10	10%	No
Runway 28	90%	Change

FLIGHT TRACK DISTRIBUTION [b]

	Current	Future
All Aircraft		
Takeoffs, Runway 10		
Straight Out	40%	No
Left Turn	60%	Change
Takeoffs, Runway 28		
Straight Out	40%	No
Left Turn	60%	Change
Landings, Runway 10		
Straight-in	5%	
45° to downwind	85%	No
Crosswind	10%	Change
Landings, Runway 28		
Straight-in	5%	
45° to downwind	85%	No
Crosswind	10%	Change

Notes:

a. Current and projected based aircraft mix and aircraft operations source: Oakdale Airport Layout Plan Narrative Report (Coffman Associates, 2013). Narrative Report uses 2012 for base year data.

b. Traffic patterns, time of day and runway use data source: Airport management and staff (October, 2010). Time of day activity, runway utilization, and flight tracks are expected to remain constant.

c. Aircraft distribution source: Mead & Hunt estimates using 1997 Master Plan. Aircraft distribution not provided in 2013 Narrative Report.

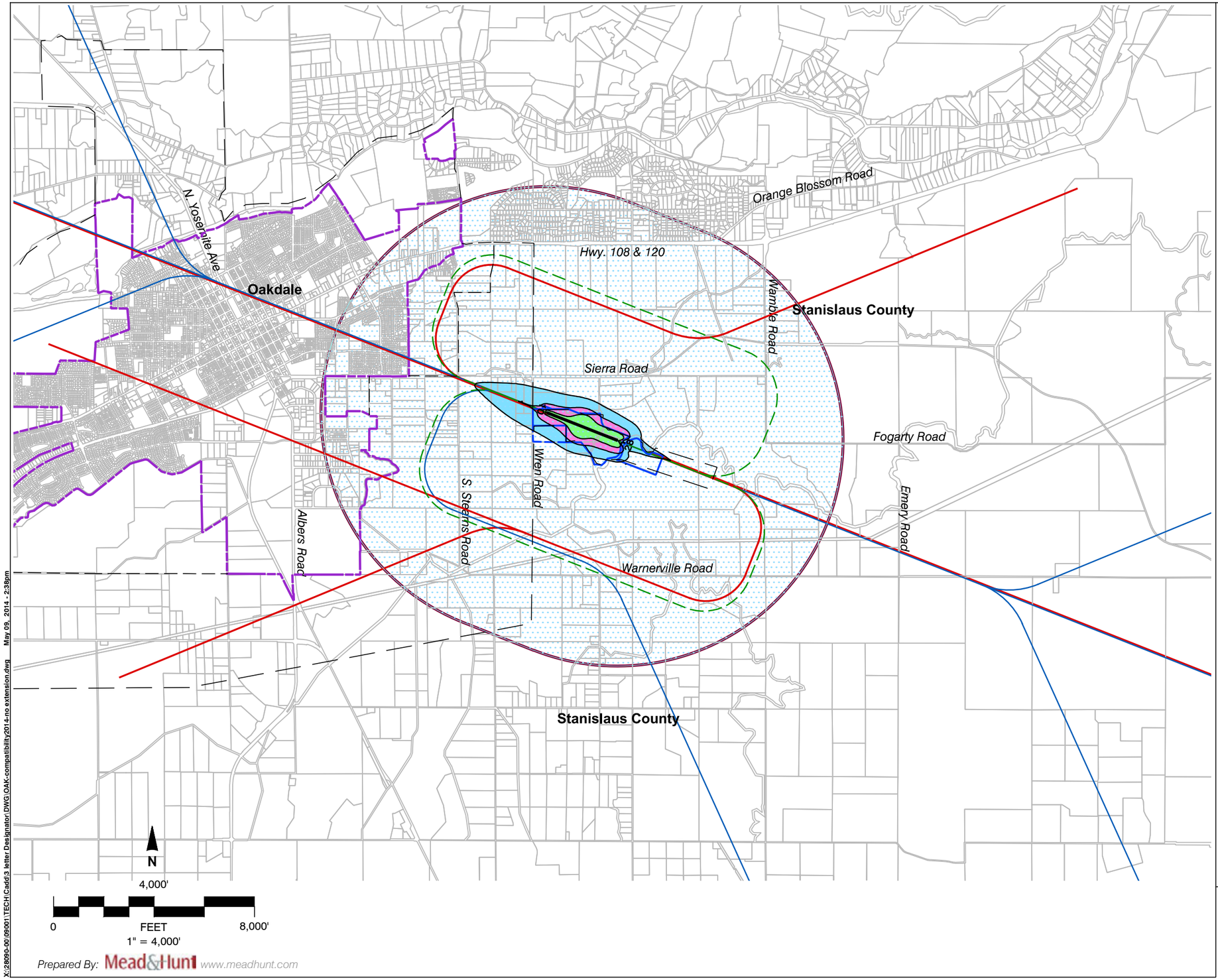
d. Helicopter training (touch-and-go) exercises are prominent at Oakdale. A dedicated helicopter flight school and some military training comprise the bulk of this activity. Helicopter training activity is expected to remain at Oakdale and growth in operations is projected.

Source: Data compiled by Mead & Hunt, Inc.

Exhibit OAK 4

Airport Activity Data

Oakdale Municipal Airport



Legend

Boundary Lines

- Existing Airport Property Line
- Future Airport Property Line
- City Limits
- Existing Sphere of Influence
- Future Sphere of Influence
- Runway
- Airport Influence Area

Noise Contours[1]

- 60 - 65 dB CNEL
- 65 - 70 dB CNEL
- 70+ dB CNEL

} 52,200 Annual Operations

Overflight Factors[2]

- Arrival
- Departure
- Touch and Go
- General Traffic Pattern Envelope[3]

Notes

1. Noise contour source: Mead & Hunt, Inc. (May 2014) based on forecast data provided in 2013 ALP Narrative Report.

2. Flight track source: Mead & Hunt, Inc. (October 2010) based on input from Airport Management.

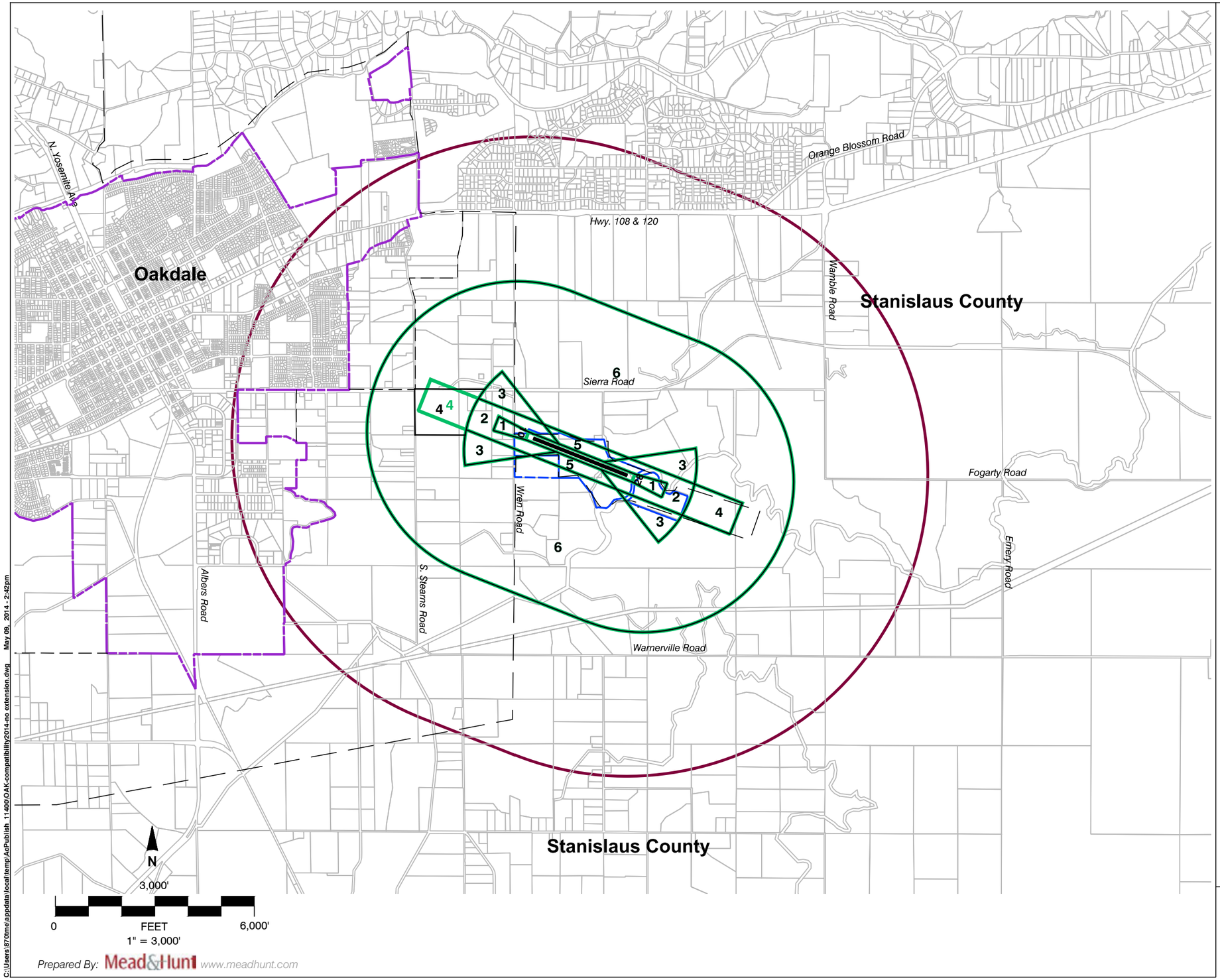
3. Approximately 80% of aircraft overflights estimated to occur within these limits at an altitude of 1,500' feet AGL or less. The traffic pattern altitude is established at 1,000' above the airport elevation.

Stanislaus County
Airport Land Use Compatibility Plans
(May 2014, Draft)

Exhibit OAK-5

Noise and Overflight Factors

Oakdale Municipal Airport



Legend

Boundary Lines

- Existing Airport Property Line
- Future Airport Property Line
- City Limits
- Existing Sphere of Influence
- Future Sphere of Influence
- Runway
- Airport Influence Area

Safety Zone Factors

- Generic Short General Aviation Runway
- Safety Policy Zones

Notes

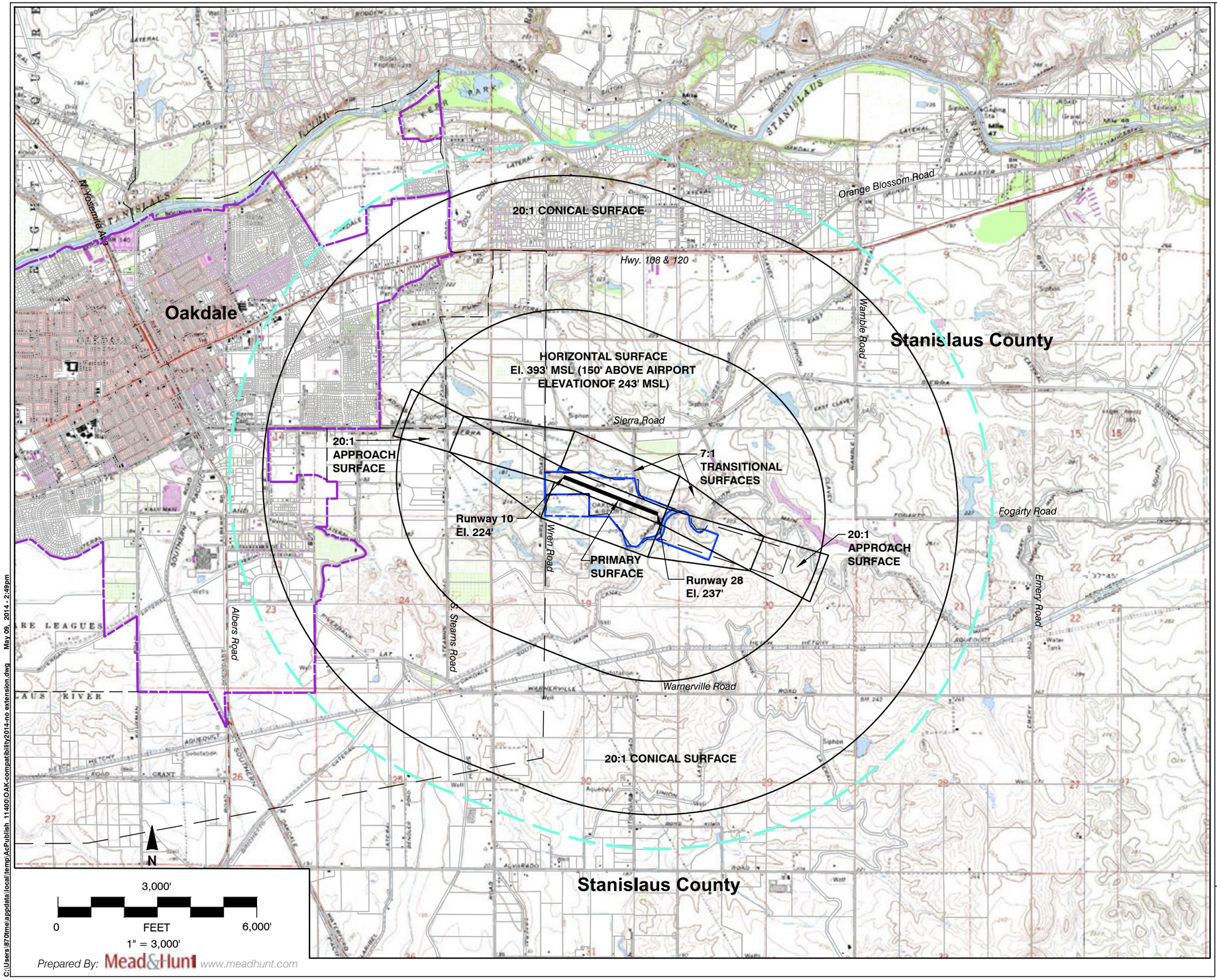
1. Generic safety zone source: California Airport Land Use Planning Handbook (October 2011).
2. Zone 1 reflects existing RPZs and Zone 4 at west end of runway reconfigured to reflect aircraft on departure typically turn left before Sierra Road when heading south or west.

Stanislaus County
Airport Land Use Compatibility Plans
(May 2014, Draft)

Exhibit OAK-6

Safety Factors

Oakdale Municipal Airport



Prepared By: Mead&Hunt www.meadhunt.com

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Legend

Boundary Lines

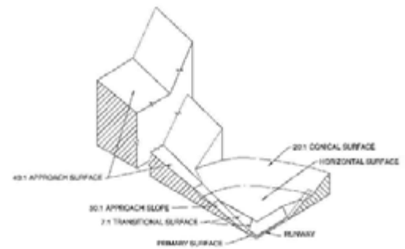
- Airport Property Line
- Future Airport Property Line
- City Limits
- Existing Sphere of Influence
- Future Sphere of Influence
- Runway
- Airport Influence Area

Airspace Protection Surfaces [1]

- FAA Height Notification Surface [2]
- FAR Part 77 Surfaces [3]

Notes

1. Airspace surfaces reflect the existing runway configuration and nonprecision approaches to Runway 10-28. Airport elevation is 237.0' above mean sea level (MSL).
2. Based on FAR Part 77, Subpart B, which requires that the FAA be notified of any proposed construction or alteration having a height greater than an imaginary surface extending 50 feet outward and 1 foot upward (slope of 50 to 1) for a distance of 10,000 feet from the nearest point of any runway. Beyond FAA Height Notification Area boundary, any object taller than 200 feet requires FAA notification.
3. FAR Part 77 Obstruction Surfaces: Based on FAR Part 77, Subpart C, which establishes standards for determining obstructions to air navigation. Source: Oakdale Municipal Airport Airspace Drawing (November 2013 Draft).



TYPICAL FAR PART 77 SURFACES

Stanislaus County
Airport Land Use Compatibility Plans
(May 2014, Draft)

Exhibit OAK-7

Airspace Protection Surfaces

Oakdale Municipal Airport

AIRPORT LOCATION AND NEARBY TOPOGRAPHY

- Location
  - 2.5 miles east of central Oakdale
  - Airport property within city limits, but not contiguous to remainder of city
  - Unincorporated lands entirely surround airport
- Topography
  - Situated on floor of San Joaquin Valley; no major high terrain in vicinity
  - Elevation: 237 feet Above Mean Sea Level (MSL)

EXISTING AIRPORT AREA LAND USES

- General Character
  - Airport surrounded by agricultural and rural residential uses
  - Nearest urban area is 1.0 mile west
- Runway Approaches
  - West (Rwy 10): agricultural uses; residential neighborhood beyond 1 mile
  - East (Rwy 28): agricultural uses
- Traffic Pattern
  - Agricultural uses surround airport

AIRPORT ENVIRONS AND LAND USE JURISDICTIONS

- City of Oakdale
  - Airport property within city limits
- County of Stanislaus
  - Portions of Runway Protection Zones (RPZs) and traffic pattern over unincorporated lands

STATUS OF LOCAL AGENCY PLANS

- City of Oakdale
  - 2030 General Plan adopted August 2013
- Stanislaus County
  - General Plan adopted December 1995
  - General Plan map dated September 2007
  - Undergoing a General Plan update; anticipated adoption early 2014

PLANNED AIRPORT AREA LAND USES

- City of Oakdale General Plan
  - Agricultural uses on all sides, except small area of commercial north of runway
  - Low Density Residential less than 1/2 mile northwest
  - Industrial uses 1.5 miles west
- Stanislaus County
  - Agricultural uses on all sides
  - Urban Transition designation along westerly city limits

ESTABLISHED COMPATIBILITY MEASURES

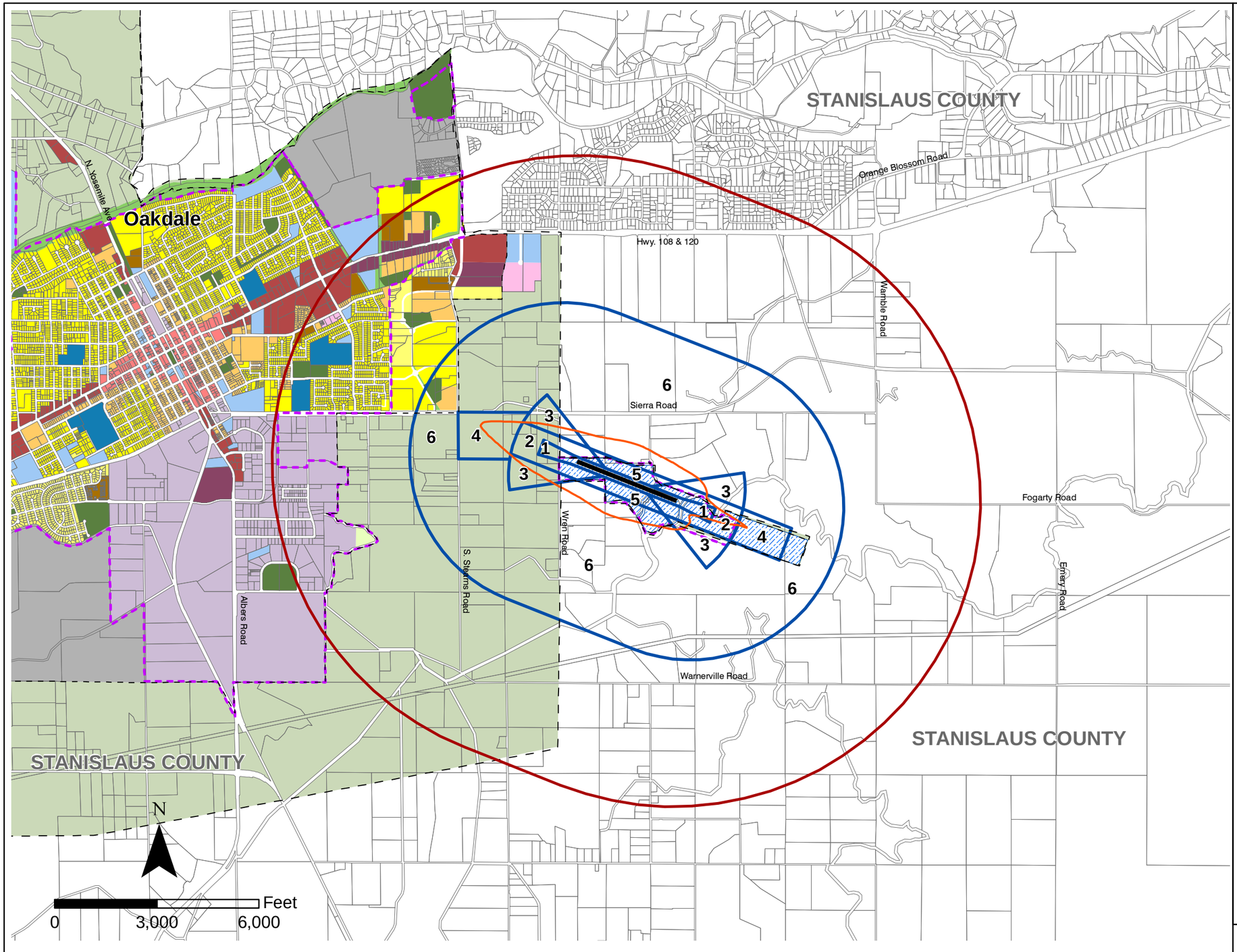
- City of Oakdale 2030 General Plan (2013)
  - LU-6.5 Airport Secondary Uses. Accommodate uses that sup-port or benefit from Oakdale Municipal Airport operations within and adjacent to the airport property when determined consistent with the City of Oakdale Municipal Airport Master Plan. (RDR, MP)
- City of Oakdale 2030 General Plan - *continued*
  - LU-6.6 Airport Operations. Protect Oakdale Municipal Airport from encroachment by ensuring that all new land uses and developments are compatible with airport operations, the adopted Oakdale Municipal Airport Master Plan and the adopted Airport Land Use Commission Plan. (RDR, MP, M-IP8). M6-1. Aviation Services. Encourage a full range of aviation services at the Oakdale Municipal Airport that meets the present and future needs of residents, businesses and the local aviation community. (MP, M-IP2)
  - M-6.2 Municipal Airport Master Plan. Update and implement the City of Oakdale Municipal Airport Master Plan to ensure that facilities keep pace with increased demand for aviation services. (MP)
  - M-6.3 Consistency with ALUC Policies. Require that all development is consistent with the policies adopted by the Stanislaus County Airport Land Use Commission. (RDR, M-IP8)
  - N-1.10 Airport Plans. Regulate development within the 65 dBA CNEL airport noise contour in accordance with plans adopted by the Airport Land Use Commission and the City. (RDR, IGC)
  - M-1P8 Participate with Stanislaus County in the update to the Airport Land Use Commission Plan.
- Stanislaus County General Plan (1995)
  - Policy LU-4. Applications for development in areas with growth-limiting factors such as airport hazards shall include measures to mitigate the problems. County will continue to enforce the height limiting ordinance near airports (p. 1-3).
  - Policy LU-5. Residential development shall not be approved at the maximum density if it does not comply with airport height limiting ordinance restrictions (p. 1-4).
  - Policy C-9. Continue to support the development of public use airports consistent with the airport master plans developed for the Oakdale Municipal Airport and Modesto City-County Airport (p. 2-35).
  - Policy N-2. New development of noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels to the following levels: 60 CNEL or less in outdoor activity areas of single family residences, 65 CNEL or less in community outdoor space for multi-family residences, and 45 CNEL or less within noise-sensitive interior spaces. Where it is not possible to reduce exterior noise due to these sources to the prescribed level using a practical application of the best available noise-reduction technology, an exterior level of up to 65 CNEL will be allowed. Under no circumstances will interior noise levels be allowed to exceed 45 CNEL with the windows and doors closed in residential uses (p. 4-15).
  - Policy S-12. Development within areas protected by the ALUC Plan shall only be approved if they meet the requirements of the Plan. All amendments to a land use designation, zoning district, or zoning regulation affecting land within the ALUC Plan boundary shall be referred to the ALUC for comment. If that commission recommends denial, the Board of Supervisors may overrule that recommendation only by a two-thirds majority vote. The height and exterior materials of new structures in the Airport Zone of the Oakdale Airport as defined in the Stanislaus County Airport Regulations shall be reviewed to determine whether they conform to those regulations (p. 5-9).

Source: Data compiled by Mead & Hunt

Exhibit OAK-8

Airport Environs Table

Oakdale Municipal Airport



Legend

- 60dB CNEL Noise Contour
- Safety Zones
- Existing Runway
- Airport Influence Area
- City Boundary
- Existing Sphere of Influence
- Future Sphere of Influence

City of Oakdale 2030 General Plan

- Rural Estate (RE)
- Very Low Density Residential (VLDR)
- Low Density Residential (LDR)
- Medium Density Residential (MDR)
- High Density Residential (HDR)
- General Commercial (GC)
- Central Business District (CBD)
- Office (OFF)
- Industrial (IND)
- Flex Use (FLEX)
- Public and Semi-Public (PSP)
- Airport (AP)
- School (SCH)
- Park (P)
- Open Space (OS)
- Agriculture (AG)

Other

- Future Specific Plan

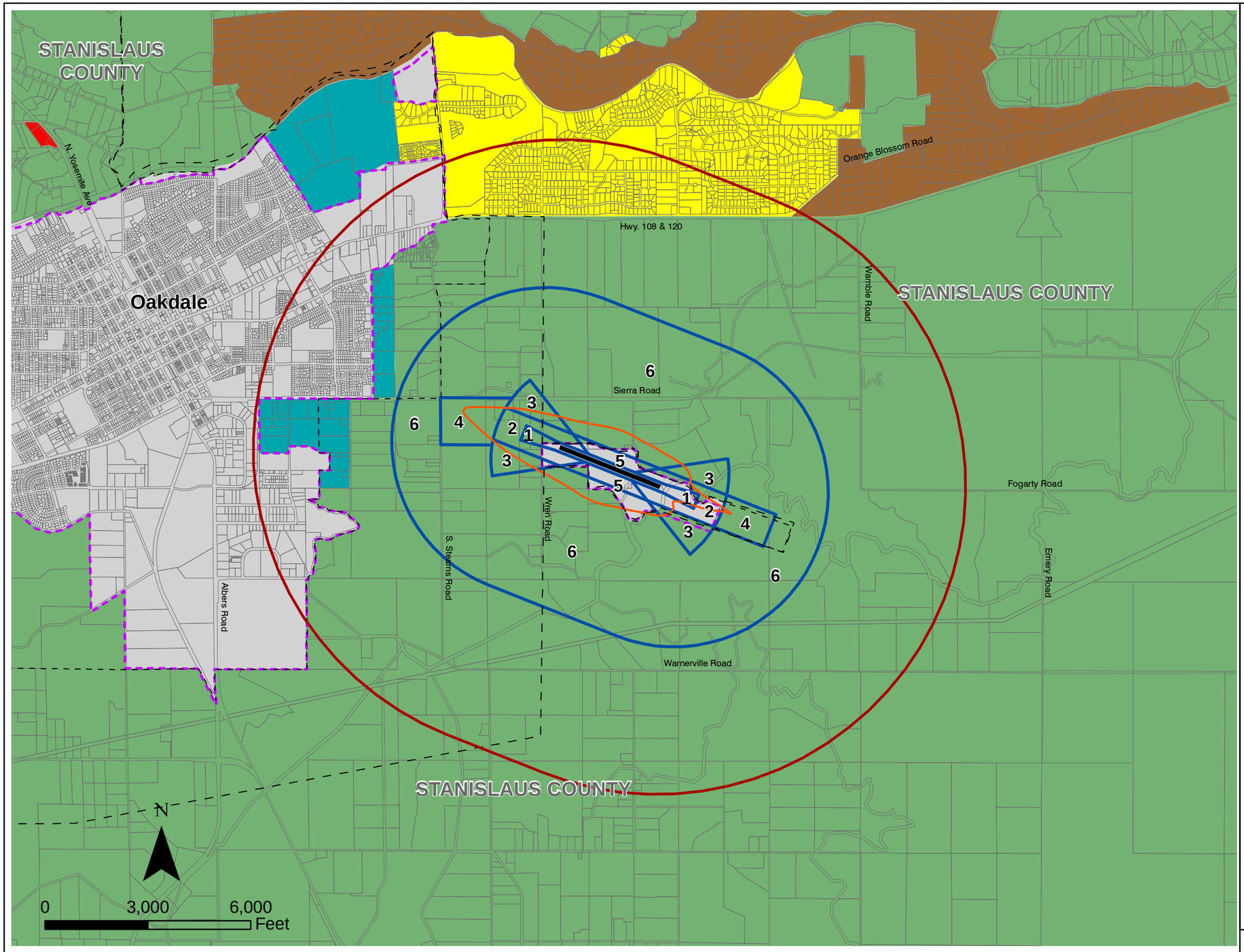
Stanislaus County
Airport Land Use Compatibility Plans
(May 2014 Draft)

Exhibit OAK-9A

Oakdale 2030 General Plan
Oakdale Municipal Airport

Sources: City and County GIS Data (2012)

Mead&Hunt



Legend

- 60dB CNEL Noise Contour
- City Boundary
- Existing Sphere of Influence
- Future Sphere of Influence
- Existing Runway
- Safety Zones
- Airport Influence Area

Stanislaus County General Plan

- Agriculture
- Commercial
- Estate Residential
- Hwy. Commercial/Planned Devpt.
- Historical
- Industrial Business Park
- Industrial
- Industrial Transition
- Low Density Residential
- Medium Density Residential
- Medium High Density Residential
- Planned Development
- Planned Industrial
- Specific Plan 1
- Urban Transition
- City

Stanislaus County
Airport Land Use Compatibility Plans
(May 2014, Draft)

Sources: City and County GIS Data (2009)

Exhibit OAK-9B

Stanislaus County General Plan
Oakdale Municipal Airport

Chapter 6

CROWS LANDING AIRPORT AND ENVIRONS BACKGROUND DATA

(FORTHCOMING)

APPENDICES

APPENDIX A

Foundations of Airport Land Use Compatibility Planning

INTRODUCTION

This appendix outlines the policy foundations upon which airport land use compatibility planning in California is based. Much of the material presented here is drawn from the October 2011 edition of the *California Airport Land Use Planning Handbook* published by the California Division of Aeronautics. (For those seeking more detail, the *Handbook* is available on-line at the Division's web site: www.dot.ca.gov/hq/planning/aeronaut/htmlfile/landuse.html.)

In beginning of this discussion, it is important to recognize that relatively little of the policy foundations for airport land use compatibility planning come directly from statutes or are otherwise regulatory in nature. The applicable California statutes deal primarily with the *process* of compatibility planning, not with *criteria* defining what land uses are or are not compatible with airports. The statutes require airport land use commissions to "be guided by" information in the state *Handbook*, but the *Handbook* does not constitute formal state policy or regulation. On the federal level, the guidance is even less regulatory in nature. The U.S. Constitution precludes federal government regulation of local land uses. Federal government direct involvement in airport land use compatibility planning occurs mostly because of the federal grant funding upon which airports rely. Beyond this type of involvement, various federal agencies have established nonregulatory guidelines that pertain to airport land use compatibility.

FEDERAL GOVERNMENT POLICIES

Federal airport land use compatibility policies are concerned mostly with noise issues. Several statutes deal specifically with aircraft noise. These statutes are implemented through regulations and policies of individual federal agencies, in particular the Federal Aviation Administration (FAA). Guidance with regard to safety is primarily limited to FAA regulations concerning airport design and protection of airport airspace.

Statutes

Three statutes are of particular relevance to airport land use compatibility planning in that they both support and limit the actions that airports can take to mitigate noise impacts.

- **Aviation Safety and Noise Abatement Act of 1979 (ASNA)**—Among the stated purposes of this act is "to provide assistance to airport operators to prepare and carry out noise compatibility programs." The law establishes funding for noise compatibility planning and sets the requirements by which airport operators can apply for funding. The law does not require any airport to develop a noise compatibility program—the decision to do so is the choice of each individual airport proprietor. Regulations implementing the act are set forth in Federal Aviation Regulations Part 150.

- **Airport and Airway Improvement Act of 1982 (AAIA)**—This act established the Airport Improvement Program (AIP) through which federal funds are made available for airport improvements and noise compatibility planning. The act has been amended several times, but remains in effect as of early 2009. Land use compatibility provisions of the act are implemented primarily by means of the assurances that airports must provide in order to receive federal airport improvement grants.

- **Airport Noise and Capacity Act of 1990 (ANCA)**—In adopting this legislation, Congress' stated intention was to try to balance local needs for airport noise abatement with national needs for an effective air transportation system. To accomplish this objective, the act did two things: (1) it directed the FAA to establish a national program to review noise and access restrictions on aircraft operations imposed by airport proprietors; and (2) it established requirements for the phase-out of older model, comparatively louder, "Stage 2" airline aircraft from the nation's airline fleet by January 2000. These two requirements are implemented by Federal Aviation Regulations Part 161 and 91, respectively.

Federal Aviation Administration

The most significant FAA policies having a bearing on airport land use compatibility are found in Federal Aviation Regulations and, secondarily, in certain Advisory Circulars.

- **Federal Aviation Regulations Part 36, *Noise Standards: Aircraft Type and Airworthiness Certification*—**This part of the Federal Aviation Regulations sets the noise limits that all newly produced aircraft must meet as part of their airworthiness certification.

- **Federal Aviation Regulations Part 91, *General Operating and Flight Rules*—**This part of the Federal Aviation Regulations sets many of the rules by which aircraft flights within the United States are to be conducted. Rules governing noise limits are set forth in Subpart I. Within this subpart is a provision which mandated that all Stage 2 civil subsonic aircraft having a maximum gross weight of more than 75,000 pounds be phased out of operation within the United States by January 1, 2000. These FAR implements the requirements set forth in the Airport Noise and Capacity Act of 1990.

- **Federal Aviation Regulations Part 150, *Airport Noise Compatibility Planning*—**As a means of implementing the Aviation Safety and Noise Abatement Act of 1979, the FAA adopted these regulations establishing a voluntary program that airports can utilize to conduct airport noise compatibility planning. "This part prescribes the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving these programs." Part 150 also prescribes a system for measuring airport noise impacts and presents guidelines for identifying incompatible land uses. Airports that choose to undertake a Part 150 study are eligible for federal funding both for the study itself and for implementation of approved components of the local program.

  The noise exposure maps are to be depicted in terms of average annual Day-Night Average Sound Level (DNL) contours around the airport. For the purposes of federal regulations, all land uses are considered compatible with noise levels of less than DNL 65 dB. At higher noise exposures, selected land uses are also deemed acceptable, depending upon the nature of the use and the degree of structural noise attenuation provided. In setting the various compatibility guidelines, however, the regulations state that the designations:

> "…do not constitute a Federal determination that any use of land covered by the [noise compatibility] program is acceptable or unacceptable under federal, state, or local law. *The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities.* FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses." [*emphasis added*]

Note that the DNL noise metric is the same as the CNEL (Community Noise Equivalent Level) metric used in California except that DNL does not include a penalty weighting for evening (7:00 to 10:00 p.m.) operations—each operation is counted as if it were three operations—as does CNEL. Both metrics apply a 10-fold weighting—each operation is counted 10 times—for nighttime activity (10:00 p.m. to 7:00 a.m.).

- **Federal Aviation Regulations Part 161, *Notice and Approval of Airport Noise and Access Restrictions***—This part of the federal regulations implements the Airport Noise and Capacity Act of 1990. It codifies the analysis and notification requirements for airport proprietors proposing aircraft noise and access restrictions on Stage 2 or Stage 3 aircraft weighing 75,000 pounds or more. Among other things, an extensive cost-benefit analysis of proposed restrictions is required. The analysis requirements are closely tied to the process set forth in FAR Part 150 and are more stringent with respect to the quieter, Stage 3 aircraft than for Stage 2.

- **Federal Aviation Regulations Part 77, *Safe, Efficient Use and Preservation of the Navigable Airspace*** —FAR Part 77 establishes standards for determining obstructions to navigable airspace and the effects of such obstructions on the safe and efficient use of that airspace. The regulations require that the FAA be notified of proposed construction or alteration of objects—whether permanent, temporary, or of natural growth—if those objects would be of a height that would exceed the FAR Part 77 criteria. The height limits are defined in terms of imaginary surfaces in the airspace extending about two to three miles around airport runways and approximately 9.5 miles from the ends of runways having a precision instrument approach. FAR Part 77 is applicable to both civilian and military airports although the specific standards differ.

  When notified of a proposed construction, the FAA conducts an aeronautical study to determine whether the object would constitute an airspace hazard. Simply because an object (or the ground) would exceed an airport's airspace surfaces established in accordance with FAR Part 77 criteria does not mean that the object would be considered a hazard. Various factors, including the extent to which an object is shielded by nearby taller objects, are taken into account. The FAA may recommend marking and lighting of obstructions.

  The FAA has no authority to remove or to prevent construction or growth of objects deemed to be obstructions. Local governments having jurisdiction over land use are typically responsible for establishing height limitation ordinances that prevent new, and enable removal of existing, obstructions to the FAR Part 77 surfaces. Federal action in response to new airspace obstructions is primarily limited to three possibilities:

  - For airports with instrument approaches, an obstruction could necessitate modification to one or more of the approach procedures (particularly greater visibility and/or cloud ceiling minimums) or even require elimination of an approach procedure.
  - Airfield changes such as displacement of a landing threshold could be required (especially at airports certificated for commercial air carrier service).

- The owner of an airport could be found in noncompliance with the conditions agreed to upon receipt of airport development or property acquisition grant funds and could become ineligible for future grants (or, in extreme cases, be required to repay part of a previous grant).

- **FAA Advisory Circular 150/5300-13, *Airport Design*—**The primary function of this Advisory Circular is to establish standards for dimensions and other features of civilian airport runways, taxiways, and other aircraft operating areas. For the most part, these airport components are all on airport property. One that is sometimes not entirely on airport is the runway protection zone (RPZ). RPZs are trapezoidal-shaped areas located at ground level beyond each end of a runway. The Advisory Circular describes their function as being "to enhance protection of people and property on the ground." The dimensions of RPZs vary depending upon:
  - The type of landing approach available at the airport (visual, nonprecision, or precision); and
  - Characteristics of the critical aircraft operating at the airport (weight and approach speed).

  Ideally, each runway protection zone should be entirely clear of all objects. The *Airport Design* Advisory Circular strongly recommends that airports own this property outright or, when this is impractical, to obtain easements sufficient to control the land use. Acquisition of this property is eligible for FAA grants (except at some small airports which are not part of the national airport system). Even on portions of the RPZs not under airport control, the FAA recommends that churches, schools, hospitals, office buildings, shopping centers, and other places of public assembly, as well as fuel storage facilities, be prohibited. Automobile parking is considered acceptable only on the outer edges of RPZs (outside the extended object free area).

Other Federal Agencies

- **U.S. Environmental Protection Agency (EPA)—**A report published in 1974 by the EPA Office of Noise Abatement and Control continues to be a source of useful background information. Entitled *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, this report is better known as the "Levels Document." The document does not constitute EPA regulations or standards. Rather, it is intended to "provide state and local governments as well as the federal government and the private sector with an informational point of departure for the purposes of decision-making." Using Yearly Day-Night Average Sound Level (DNL) as a measure of noise acceptability, the document states that "undue interference with activity and annoyance" will not occur if *outdoor* noise levels in residential areas are below DNL 55 dB and *indoor* levels are below DNL 45 dB. These thresholds include an "adequate margin of safety" as the document title indicates.

- **Department of Housing and Urban Development (HUD)—**HUD guidelines for the acceptability of residential land use are set forth in the Code of Federal Regulations Title 24, Part 51, "Environmental Criteria and Standards." The guidelines identify a noise exposure of DNL 65 dB or less as acceptable, between 65 and 75 dB as normally acceptable if appropriate sound attenuation is provided, and above DNL 75 dB as unacceptable. The goal for interior noise levels is DNL 45 dB. These guidelines apply only to new construction supported by HUD grants and are not binding upon local communities.

- **Department of Defense Air Installations Compatibility Use Zones (AICUZ) Program—**The AICUZ Program was established by the DOD in response to growing incompatible urban development around military airfields. DOD Instruction Number 4165.57 (November 8, 1977) provides the overall guidance for the program and mandates preparation of an AICUZ plan for each installa-

tion. Each of the military services has its own individual guidelines for implementing the basic instructions. The Air Force guidelines, for example, are defined in Air Force Instruction 32-7063, *Air Installation Compatible Use Zone Program* (April 17, 2002) and Air Force Handbook 32-7084, *AICUZ Program Manager's Guide* (March 1, 1999). The Air Force publications describe the two objectives of the AICUZ program as being: to assist local, regional, state, and federal agencies in protecting public health, safety, and welfare by promoting compatible development within the area of influence of military installations; and to protect Air Force operational capability from the effects of land uses which are incompatible with aircraft operations. AICUZ plans prepared for individual military airfields serve as recommendations to local land use jurisdictions, but have no regulatory function.

Each AICUZ plan delineates the installation's area of influence with respect to height limitations for airspace protection, accident potential, and noise. FAR Part 77 is used for airspace protection criteria. For safety compatibility, three accident potential zones (APZs) are defined: a clear zone (equivalent to the RPZ at civilian airports), and APZs I and II. These zones extend a total of 15,000 feet beyond the ends of runways. Noise contours using the DNL metric, or CNEL in California, indicate the extent of noise impacts. Land use compatibility guidelines are provided with respect to each of these factors. Residential development is considered incompatible within all three APZs except for low-density development in APZ II, as well as within all noise contours above 65 dB.

- **Department of Defense Joint Land Use Study (JLUS) Program**—In 1985, congress authorized the DOD to make available community planning assistance grants (Title 10 U.S.C. Section 2391) to state and local government to help better understand and incorporate the AICUZ technical data into local planning programs. The Office of Economic Adjustment (OEA) manages the JLUS program. A JLUS is a cooperative land use planning effort between the affected local government and the military installation. The JLUS presents a rationale, justification, and a policy framework to support the adoption and implementation of recommended compatible development criteria. These measures are designed to prevent urban encroachment; safeguard the military mission; and protect the public health, safety, and welfare.

STATE OF CALIFORNIA POLICIES

Unlike with federal government policies that are merely advisory as airport land use compatibility planning guidelines, some elements of state policy are regulatory in nature.

State Aeronautics Act

The California State Aeronautics Act—Division 9, Part 1 of the California Public Utilities Code—provides the policy guidance most directly relevant to compatibility planning. Three portions of the act are of particular interest. One, beginning with Section 21670, establishes requirements for airport land use compatibility planning around each public-use and military airport in the state and the creation of an airport land use commission in most counties. Another—Section 21669—requires the State Department of Transportation to adopt, to an extent not prohibited by federal law, noise standards applicable to all airports operating under a state permit. A third effectively makes FAR Part 77 a state law.

- **Airport Land Use Commission Statutes**—Although numerous changes have been made to the ALUC statutes over the years, the basic requirements for the establishment of ALUCs and the preparation of airport land use compatibility plans have been in place since the law's enactment in 1967.

The fundamental purpose of ALUCs to promote land use compatibility around airports has remained unchanged. As expressed in the present statutes, this purpose is:

> "...to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses."

As noted in the introduction to this chapter, the focus of the ALUC statutes is on the process of compatibility planning. Compatibility criteria are not defined. Rather, reference is made to other sources of compatibility criteria, specifically:

- The preamble to the law indicates that one of the purposes is "to promote the overall goals and objectives of the California airport noise standards adopted pursuant to Section 21669" i.e., the California Airport Noise Regulations.
- Section 21674.7 requires that, when adopting or amending a compatibility plan, ALUCs "be guided by" information contained in the *Airport Land Use Planning Handbook*. This section further states that "prior to granting permits for the renovation or remodeling of an existing building, structure, or facility, and before the construction of a new building, it is the intent of the Legislature that local agencies shall be guided by the height, use, noise, safety, and density criteria that are compatible with airport operations" as outlined in the *Handbook*. Highlights of the compatibility criteria set forth in the *Handbook* are included later in this chapter.
- With regard to military airports, Section 21675(b) states that ALUCs must prepare a compatibility plan for them and that such plans "shall be consistent with the safety and noise standards in the Air Installation Compatible Use Zone [plan] prepared for that military airport."

With respect to the compatibility planning process, two sections of the law are particularly significant to local land use agencies:

- ALUC authority is limited to "areas not already devoted to incompatible uses." This phrase is generally taken to mean that ALUCs have no authority over existing land uses. However, changing an incompatible land use in a manner that would make it more incompatible is considered to be within the jurisdiction of ALUCs.
- Section 21676 describes the types of land use actions that must be submitted to an ALUC for review. These actions include adoption or amendment of a general plan or zoning ordinance. Section 21676.5 indicates that until such time as a local agency's general plan has been made consistent with the ALUC's plan, the ALUC may require the local agency to submit all "actions, regulations, and permits" for review. After the agency's general plan has been deemed consistent, then these additional actions are not subject to ALUC review unless agreed upon between the agency and the ALUC.

- **California Airport Noise Regulations**—The airport noise standards promulgated in accordance with the State Aeronautics Act are set forth in Section 5000 et seq. of the California Code of Regulations (Title 21, Division 2.5, and Chapter 6). The regulations establish criteria under which a county board of supervisors can declare an airport as having a "noise problem." The specifics of the regulations are applicable only to a few, primarily major airline, airports that have been declared as having a noise problem. Nevertheless, some of the provisions are of interest in a nonregulatory manner to other airports.

  Most relevant are the criteria that define what are considered incompatible land uses with respect to noise. Section 5006 states that:

> "The level of noise acceptable to a reasonable person residing in the vicinity of an airport is established as a community noise equivalent level (CNEL) value of 65 dB for purposes of these regulations. This criterion level has been chosen for reasonable persons residing in urban residential areas where houses are of typical California construction and may have windows partially open. It has been selected with reference to speech, sleep and community reaction."

Of particular note in the above is that the CNEL 65 dB criterion has been set specifically with respect to *urban* residential areas. The regulations provide no guidance with respect to other community settings.

Four types of land uses are defined as incompatible within the CNEL 65 dB contour:

- Residences of all types;
- Public and private schools;
- Hospitals and convalescent homes; and
- Churches, synagogues, temples, and other places of worship.

However, these uses are not deemed incompatible if any of several mitigative actions has been taken as spelled out in Section 5014. Among these measures are airport acquisition of an avigation easement for aircraft noise and, except for some residential uses, acoustical insulation adequate to ensure that the interior CNEL due to aircraft noise is 45 dB or less in all habitable rooms.

- **Regulation of Obstructions**—Section 21659 gives the state authority to enforce the standards set by FAR Part 77. No structure or tree is permitted to reach a height that exceeds FAR Part 77 obstruction standards unless the FAA has determined that the object would not constitute a hazard to air navigation or create an unsafe condition for flight.

Other State Regulations

Additional state regulations having a bearing on airport land use compatibility planning include the following:

- **Government Code**—Section 65302.3 requires that local agencies must either modify their general plans and any applicable specific plans to be consistent with the compatibility plan adopted by an ALUC or take the steps indicated in Public Utilities Code Section 21676 to overrule the ALUC. The local plans are to be amended within 180 days of when the ALUC plan is adopted or amended.

- **California Building Code**—California Code of Regulations Title 24, known as the California Building Code, contains standards for allowable interior noise levels associated with exterior noise sources. The standards apply to new hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family residences.

  The standards state that:

  > "Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be either the Day- Night Average Sound Level (L_{dn}) or the Community Noise Equivalent Level (CNEL), consistent with the noise element of the local general plan. Worst-case noise levels, either existing or future, shall be used as the basis for determining compliance with [these standards]. Future noise levels shall be predicted for a period of at least 10 years from the time of building permit application."

With regard to airport noise sources, the code goes on to indicate that:

> "Residential structures to be located where the annual L_{dn} or CNEL exceeds 60 dB shall require an acoustical analysis showing that the proposed design will achieve the prescribed allowable interior level. For public use airports or heliports, the L_{dn} or CNEL shall be determined from the airport land use plan prepared by the county wherein the airport is located. For military bases, the L_{dn} shall be determined from the facility Air Installation Compatible Use Zone (AICUZ) plan. For all other airports or heliports, or public use airports or heliports for which a land use plan has not been developed, the L_{dn} or CNEL shall be determined from the noise element of the general plan of the local jurisdiction. When aircraft noise is not the only significant source, noise levels from all sources shall be added to determine the composite site noise level."

- **Real Estate Disclosure Laws**—State legislation that took effect in January 2004 (Building and Professions Code Section 11010 and Government Code Sections 1103 and 1353) requires that the presence of an airport nearby be disclosed as part of residential real estate transactions. For all new subdivisions plus those existing residences located where other hazards (flood, fire, and earthquake) are present. This requirement applies within the airport influence area as defined by the airport land use commission in the county. The law provides the following specific language to be used in the disclosure:

  > "This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you."

- **State Education Code**—Provisions of the Education Code applying to elementary and secondary schools (Section 17215) and community colleges (Section 81033) require the California Division of Aeronautics to review proposals for acquisition of a school site situated within two miles of an existing or planned airport runway. The Division must then investigate the proposed site and report back to the Department of Education its recommendations as to whether the site should be acquired for school purposes. The Division is also required to establish criteria to be used in this review process.

- **General Plan Guidelines**—Section 65302(f) of the California Government Code, requires that a noise element be included as part of local general plans. Airports and heliports are among the noise sources specifically to be analyzed. To the extent practical, both current and future noise contours (expressed in terms of either CNEL or DNL) are to be included. The noise contours are to be "used as a guide for establishing a pattern of land uses … that minimizes the exposure of community residents to excessive noise."

  Guidance on the preparation and content of general plan noise elements is provided by the Office of Planning and Research in its *General Plan Guidelines* publication (last revised in 2003). This guidance represents an updated version of guidelines originally published by the State Department of Health Services in 1976. Included in the document is a table indicating noise compatibility criteria for a variety of land use categories. Another table outlines a set of adjustment or "normalization" factors that "may be used in order to arrive at noise acceptability standards which reflect the noise control goals of the community, the particular community's sensitivity to noise…, and their assessment of the relative importance of noise pollution."

Airport Land Use Planning Handbook

Drawing from original research and a variety of other sources such as those described in this appendix, the 2011 edition of the *California Airport Land Use Planning Handbook* provides an extensive amount of information upon which local airport land use compatibility criteria can be based. Indeed, as noted earlier herein, local compatibility planning must "be guided by" the information in the *Handbook*. On most topics, the *Handbook* provides a significant degree of latitude in setting compatibility criteria to best suit the characteristics of a particular airport and its environs. Moreover, agencies can deviate from this guidance where there is strong rationale for doing so and compliance with the basic objectives of the statutes can still be demonstrated.

The *Handbook* discussion of compatibility issues is divided into chapters on noise and safety. The noise discussion includes overflight issues and safety includes airspace protection. A few highlights are worth noting.

- **Noise**—The *Handbook* notes that CNEL 65 dB is the maximum noise level normally compatible with urban residential land uses, but that this level is too high for many airports. The "normalization" process is cited as a means for adjusting this criterion to reflect community characteristics. Additional factors to be considered are listed in Table 7C.

- **Overflight**—Overflight concerns are addressed in terms of the need for buyer awareness measures and avoidance of particularly noise-sensitive land uses.

- **Safety**—Safety compatibility guidelines in the *Handbook* utilize accident location data to identify the areas of greatest risk near runways. Several sample sets of safety zones are depicted along with suggested maximum residential density and nonresidential intensity criteria. Distinctions between rural, suburban, and urban settings are taken into account in these criteria.

- **Airspace Protection**—The criteria for this topic stem directly from FAR Part 77 standards for avoidance of airspace obstructions and other FAA regulations with respect to bird strike concerns and other hazards to flight.

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APPENDIX B

State Laws Related to Airport Land Use Planning

Table of Contents

(as of January 2013)

Public Resources Code

Business and Professions Code

Civil Code

Legislative History Summary

AERONAUTICS LAW

PUBLIC UTILITIES CODE
Division 9—Aviation
Part 1—State Aeronautics Act
Chapter 4—Airports and Air Navigation Facilities
Article 3.5—Airport Land Use Commission

21670. Creation; Membership; Selection

(a) The Legislature hereby finds and declares that:

(1) It is in the public interest to provide for the orderly development of each public use airport in this state and the area surrounding these airports so as to promote the overall goals and objectives of the California airport noise standards adopted pursuant to Section 21669 and to prevent the creation of new noise and safety problems.

(2) It is the purpose of this article to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses.

(b) In order to achieve the purposes of this article, every county in which there is located an airport which is served by a scheduled airline shall establish an airport land use commission. Every county, in which there is located an airport which is not served by a scheduled airline, but is operated for the benefit of the general public, shall establish an airport land use commission, except that the board of supervisors of the county may, after consultation with the appropriate airport operators and affected local entities and after a public hearing, adopt a resolution finding that there are no noise, public safety, or land use issues affecting any airport in the county which require the creation of a commission and declaring the county exempt from that requirement. The board shall, in this event, transmit a copy of the resolution to the Director of Transportation. For purposes of this section, "commission" means an airport land use commission. Each commission shall consist of seven members to be selected as follows:

(1) Two representing the cities in the county, appointed by a city selection committee comprised of the mayors of all the cities within that county, except that if there are any cities contiguous or adjacent to the qualifying airport, at least one representative shall be appointed therefrom. If there are no cities within a county, the number of representatives provided for by paragraphs (2) and (3) shall each be increased by one.

(2) Two representing the county, appointed by the board of supervisors.

(3) Two having expertise in aviation, appointed by a selection committee comprised of the managers of all of the public airports within that county.

(4) One representing the general public, appointed by the other six members of the commission.

(c) Public officers, whether elected or appointed, may be appointed and serve as members of the commission during their terms of public office.

(d) Each member shall promptly appoint a single proxy to represent him or her in commission affairs and to vote on all matters when the member is not in attendance. The proxy shall be designated in a signed written instrument which shall be kept on file at the commission offices, and the proxy shall serve at the pleasure of the appointing member. A vacancy in the office of proxy shall be filled promptly by appointment of a new proxy.

(e) A person having an "expertise in aviation" means a person who, by way of education, training, business, experience, vocation, or avocation has acquired and possesses particular knowledge of, and familiarity with, the function, operation, and role of airports, or is an elected official of a local agency which owns or operates an airport.

(f) It is the intent of the Legislature to clarify that, for the purposes of this article that special districts, school districts and community college districts are included among the local agencies that are subject to airport land use laws and other requirements of this article.

21670.1. Action by Designated Body Instead of Commission

(a) Notwithstanding any other provision of this article, if the board of supervisors and the city selection committee of mayors in the county each makes a determination by a majority vote that proper land use planning can be accomplished through the actions of an appropriately designated body, then the body so designated shall assume the planning responsibilities of an airport land use commission as provided for in this article, and a commission need not be formed in that county.

(b) A body designated pursuant to subdivision (a) that does not include among its membership at least two members having expertise in aviation, as defined in subdivision (e) of Section 21670, shall, when acting in the capacity of an airport land use commission, be augmented so that body, as augmented, will have at least two members having that expertise. The commission shall be constituted pursuant to this section on and after March 1, 1988.

(c) (1) Notwithstanding subdivisions (a) and (b), and subdivision (b) of Section 21670, if the board of supervisors of a county and each affected city in that county each makes a determination that proper land use planning pursuant to this article can be accomplished pursuant to this subdivision, then a commission need not be formed in that county.

(2) If the board of supervisors of a county and each affected city makes a determination that proper land use planning may be accomplished and a commission is not formed pursuant to paragraph (1), that county and the appropriate affected cities having jurisdiction over an airport, subject to the review and approval by the Division of Aeronautics of the department, shall do all of the following:

(A) Adopt processes for the preparation, adoption, and amendment of the airport land use compatibility plan for each airport that is served by a scheduled airline or operated for the benefit of the general public.

(B) Adopt processes for the notification of the general public, landowners, interested groups, and other public agencies regarding the preparation, adoption, and amendment of the airport land use compatibility plans.

(C) Adopt processes for the mediation of disputes arising from the preparation, adoption, and amendment of the airport land use compatibility plans.

(D) Adopt processes for the amendment of general and specific plans to be consistent with the airport land use compatibility plans.

(E) Designate the agency that shall be responsible for the preparation, adoption, and amendment of each airport land use compatibility plan.

(3) The Division of Aeronautics of the department shall review the processes adopted pursuant to paragraph (2), and shall approve the processes if the division determines that the processes are consistent with the procedure required by this article and will do all of the following:

(A) Result in the preparation, adoption, and implementation of plans within a reasonable amount of time.

(B) Rely on the height, use, noise, safety, and density criteria that are compatible with airport operations, as established by this article, and referred to as the Airport Land Use Planning Handbook, published by the division, and any applicable federal aviation regulations, including, but not limited to, Part 77 (commencing with Section 77.1) of Title 14 of the Code of Federal Regulations.

(C) Provide adequate opportunities for notice to, review of, and comment by the general public, landowners, interested groups, and other public agencies.

(4) If the county does not comply with the requirements of paragraph (2) within 120 days, then the airport land use compatibility plan and amendments shall not be considered adopted pursuant to this article and a commission shall be established within 90 days of the determination of noncompliance by the division and an airport land use compatibility plan shall be adopted pursuant to this article within 90 days of the establishment of the commission.

(d) A commission need not be formed in a county that has contracted for the preparation of airport land use compatibility plans with the Division of Aeronautics under the California Aid to Airports Program (Chapter 4 (commencing with Section 4050) of Title 21 of the California Code of Regulations), Project Ker-VAR 90-1, and that submits all of the following information to the Division of Aeronautics for review and comment that the county and the cities affected by the airports within the county, as defined by the airport land use compatibility plans:

(1) Agree to adopt and implement the airport land use compatibility plans that have been developed under contract.

(2) Incorporated the height, use, noise, safety, and density criteria that are compatible with airport operations as established by this article, and referred to as the Airport Land Use Planning Handbook, published by the division, and any applicable federal aviation regulations, including, but not limited to, Part 77 (commencing with Section 77.1) of Title 14 of the Code of Federal Regulations as part of the general and specific plans for the county and for each affected city.

(3) If the county does not comply with this subdivision on or before May 1, 1995, then a commission shall be established in accordance with this article.

(e) (1) A commission need not be formed in a county if all of the following conditions are met:

(A) The county has only one public use airport that is owned by a city.

(B) (i) The county and the affected city adopt the elements in paragraph (2) of subdivision (d), as part of their general and specific plans for the county and the affected city.

(ii) The general and specific plans shall be submitted, upon adoption, to the Division of Aeronautics. If the county and the affected city do not submit the elements specified in paragraph (2) of subdivision (d), on or before May 1, 1996, then a commission shall be established in accordance with this article.

21670.2. Application to Counties Having over 4 Million in Population

(a) Sections 21670 and 21670.1 do not apply to the County of Los Angeles. In that county, the county regional planning commission has the responsibility for coordinating the airport planning of public agencies within the county. In instances where impasses result relative to this planning, an appeal may be made to the county regional planning commission by any public agency involved. The action taken by the county regional planning commission on an appeal may be overruled by a four-fifths vote of the governing body of a public agency whose planning led to the appeal.

(b) By January 1, 1992, the county regional planning commission shall adopt the airport land use compatibility plans required pursuant to Section 21675.

(c) Sections 21675.1, 21675.2, and 21679.5 do not apply to the County of Los Angeles until January 1, 1992. If the airport land use compatibility plans required pursuant to Section 21675 are not adopted by the county regional planning commission by January 1, 1992, Sections 21675.1 and 21675.2 shall apply to the County of Los Angeles until the airport land use compatibility plans are adopted.

21670.3 San Diego County

(a) Sections 21670 and 21670.1 do not apply to the County of San Diego. In that county, the San Diego County Regional Airport Authority, as established pursuant to Section 170002, shall be responsible for the preparation, adoption, and amendment of an airport land use compatibility plan for each airport in San Diego County.

(b) The San Diego County Regional Airport Authority shall engage in a public collaborative planning process when preparing and updating an airport land use compatibility plan.

21670.4. Intercounty Airports

(a) As used in this section, "intercounty airport" means any airport bisected by a county line through its runways, runway protection zones, inner safety zones, inner turning zones, outer safety zones, or sideline safety zones, as defined by the department's Airport Land Use Planning Handbook and referenced in the airport land use compatibility plan formulated under Section 21675.

(b) It is the purpose of this section to provide the opportunity to establish a separate airport land use commission so that an intercounty airport may be served by a single airport land use planning agency, rather than having to look separately to the airport land use commissions of the affected counties.

(c) In addition to the airport land use commissions created under Section 21670 or the alternatives established under Section 21670.1, for their respective counties, the boards of supervisors and city selection committees for the affected counties, by independent majority vote of each county's two delegations, for any intercounty airport, may do either of the following:

(1) Establish a single separate airport land use commission for that airport. That commission shall consist of seven members to be selected as follows:

(A) One representing the cities in each of the counties, appointed by that county's city selection committee.

(B) One representing each of the counties, appointed by the board of supervisors of each county.

(C) One from each county having expertise in aviation, appointed by a selection committee comprised of the managers of all the public airports within that county.

(D) One representing the general public, appointed by the other six members of the commission.

(2) In accordance with subdivision (a) or (b) of Section 21670.1, designate an existing appropriate entity as that airport's land use commission.

21670.6. Court and Mediation Proceedings

Any action brought in the superior court relating to this article may be subject to mediation proceeding conducted pursuant to Chapter 9.3 (commencing with Section 66030) of Division I of Title 7 of the Government Code.

21671. Airports Owned by a City, District or County

In any county where there is an airport operated for the general public which is owned by a city or district in another county or by another county, one of the representatives provided by paragraph (1) of subdivision (b) of Section 21670 shall be appointed by the city selection committee of mayors of the cities of the county in which the owner of that airport is located, and one of the representatives provided by paragraph (2) subdivision (b) of Section 21670 shall be appointed by the board of supervisors of the county in which the owner of that airport is located.

21671.5. Term of Office

(a) Except for the terms of office of the members of the first commission, the term of office of each member shall be four years and until the appointment and qualification of his or her successor. The members of the first commission shall classify themselves by lot so that the term of office of one member is one year, of two members is two years, of two members is three years, and of two members is four years. The body that originally appointed a member whose term has expired shall appoint his or her successor for a full term of four years. Any member may be removed at any time and without cause by the body appointing that member. The expiration date of the term of office of each member shall be the first Monday in May in the year in which that member's term is to expire. Any vacancy in the membership of the commission shall be filled for the unexpired term by appointment by the body which originally appointed the member whose office has become vacant. The chairperson of the commission shall be selected by the members thereof.

(b) Compensation, if any, shall be determined by the board of supervisors.

(c) Staff assistance, including the mailing of notices and the keeping of minutes and necessary quarters, equipment, and supplies, shall be provided by the county. The usual and necessary operating expenses of the commission shall be a county charge.

(d) Notwithstanding any other provisions of this article, the commission shall not employ any personnel either as employees or independent contractors without the prior approval of the board of supervisors.

(e) The commission shall meet at the call of the commission chairperson or at the request of the majority of the commission members. A majority of the commission members shall constitute a quorum for the transaction of business. No action shall be taken by the commission except by the recorded vote of a majority of the full membership.

(f) The commission may establish a schedule of fees necessary to comply with this article. Those fees shall be charged to the proponents of actions, regulations, or permits, shall not exceed the estimated reasonable cost of providing the service, and shall be imposed pursuant to Section 66016 of the Government Code. Except as provided in subdivision (g), after June 30, 1991, a commission that has not adopted the airport land use compatibility plan required by Section 21675 shall not charge fees pursuant to this subdivision until the commission adopts the plan.

(g) In any county that has undertaken by contract or otherwise completed airport land use compatibility plans for at least one-half of all public use airports in the county, the commission may continue to charge fees necessary to comply with this article until June 30, 1992, and, if the airport land use compatibility plans are complete by that date, may continue charging fees after June 30, 1992. If the airport land use compatibility plans are not complete by June 30, 1992, the commission shall not charge fees pursuant to subdivision (f) until the commission adopts the land use plans.

21672. Rules and Regulations

Each commission shall adopt rules and regulations with respect to the temporary disqualification of its members from participating in the review or adoption of a proposal because of conflict of interest and with respect to appointment of substitute members in such cases.

21673. Initiation of Proceedings for Creation by Owner of Airport

In any county not having a commission or a body designated to carry out the responsibilities of a commission, any owner of a public airport may initiate proceedings for the creation of a commission by presenting a request to the board of supervisors that a commission be created and showing the need therefor to the satisfaction of the board of supervisors.

21674. Powers and Duties

The commission has the following powers and duties, subject to the limitations upon its jurisdiction set forth in Section 21676:

(a) To assist local agencies in ensuring compatible land uses in the vicinity of all new airports and in the vicinity of existing airports to the extent that the land in the vicinity of those airports is not already devoted to incompatible uses.

(b) To coordinate planning at the state, regional, and local levels so as to provide for the orderly development of air transportation, while at the same time protecting the public health, safety, and welfare.

(c) To prepare and adopt an airport land use compatibility plan pursuant to Section 21675.

(d) To review the plans, regulations, and other actions of local agencies and airport operators pursuant to Section 21676.

(e) The powers of the commission shall in no way be construed to give the commission jurisdiction over the operation of any airport.

(f) In order to carry out its responsibilities, the commission may adopt rules and regulations consistent with this article.

21674.5. Training of Airport Land Use Commission's Staff

(a) The Department of Transportation shall develop and implement a program or programs to assist in the training and development of the staff of airport land use commissions, after consulting with airport land use commissions, cities, counties, and other appropriate public entities.

(b) The training and development program or programs are intended to assist the staff of airport land use commissions in addressing high priority needs, and may include, but need not be limited to, the following:

(1) The establishment of a process for the development and adoption of airport land use compatibility plans.

(2) The development of criteria for determining the airport influence area.

(3) The identification of essential elements that should be included in the airport land use compatibility plans.

(4) Appropriate criteria and procedures for reviewing proposed developments and determining whether proposed developments are compatible with the airport use.

(5) Any other organizational, operational, procedural, or technical responsibilities and functions that the department determines to be appropriate to provide to commission staff and for which it determines there is a need for staff training or development.

(c) The department may provide training and development programs for airport land use commission staff pursuant to this section by any means it deems appropriate. Those programs may be presented in any of the following ways:

(1) By offering formal courses or training programs.

(2) By sponsoring or assisting in the organization and sponsorship of conferences, seminars, or other similar events.

(3) By producing and making available written information.

(4) Any other feasible method of providing information and assisting in the training and development of airport land use commission staff.

21674.7. Airport Land Use Planning Handbook

(a) An airport land use commission that formulates, adopts or amends an airport land use compatibility plan shall be guided by information prepared and updated pursuant to Section 21674.5 and referred to as the Airport Land Use Planning Handbook published by the Division of Aeronautics of the Department of Transportation.

(b) It is the intent of the Legislature to discourage incompatible land uses near existing airports. Therefore, prior to granting permits for the renovation or remodeling of an existing building, structure, or facility, and before the construction of a new building, it is the intent of the Legislature that local agencies shall be guided by the height, use, noise, safety, and density criteria that are compatible with airport operations, as established by this article, and referred to as the Airport Land Use Planning Handbook, published by the division, and any applicable federal aviation regulations, including, but not limited to, Part 77 (commencing with Section 77.1) of Title 14 of the Code of Federal Regulations, to the extent that the criteria has been incorporated into the plan prepared by a commission pursuant to Section 21675. This subdivision does not limit the jurisdiction of a commission as established by this article. This subdivision does not limit the

authority of local agencies to overrule commission actions or recommendations pursuant to Sections 21676, 21676.5, or 21677.

21675. Land Use Plan

(a) Each commission shall formulate an airport land use compatibility plan that will provide for the orderly growth of each public airport and the area surrounding the airport within the jurisdiction of the commission, and will safeguard the general welfare of the inhabitants within the vicinity of the airport and the public in general. The commission airport land use compatibility plan shall include and shall be based on a long-range master plan or an airport layout plan, as determined by the Division of Aeronautics of the Department of Transportation that reflects the anticipated growth of the airport during at least the next 20 years. In formulating an airport land use compatibility plan, the commission may develop height restrictions on buildings, specify use of land, and determine building standards, including soundproofing adjacent to airports, within the airport influence area. The airport land use compatibility plan shall be reviewed as often as necessary in order to accomplish its purposes, but shall not be amended more than once in any calendar year.

(b) The commission shall include, within its airport land use compatibility plan formulated pursuant to subdivision (a), the area within the jurisdiction of the commission surrounding any military airport for all of the purposes specified in subdivision (a). The airport land use compatibility plan shall be consistent with the safety and noise standards in the Air Installation Compatible Use Zone prepared for that military airport. This subdivision does not give the commission any jurisdiction or authority over the territory or operations of any military airport.

(c) The airport influence area shall be established by the commission after hearing and consultation with the involved agencies.

(d) The commission shall submit to the Division of Aeronautics of the department one copy of the airport land use compatibility plan and each amendment to the plan.

(e) If an airport land use compatibility plan does not include the matters required to be included pursuant to this article, the Division of Aeronautics of the department shall notify the commission responsible for the plan.

21675.1. Adoption of Land Use Plan

(a) By June 30, 1991, each commission shall adopt the airport land use compatibility plan required pursuant to Section 21675, except that any county that has undertaken by contract or otherwise completed airport land use compatibility plans for at least one-half of all public use airports in the county, shall adopt that airport land use compatibility plan on or before June 30, 1992.

(b) Until a commission adopts an airport land use compatibility plan, a city or county shall first submit all actions, regulations, and permits within the vicinity of a public airport to the commission for review and approval. Before the commission approves or disapproves any actions, regulations, or permits, the commission shall give public notice in the same manner as the city or county is required to give for those actions, regulations, or permits. As used in this section, "vicinity" means land that will be included or reasonably could be included within the airport land use compatibility plan. If the commission has not designated an airport influence area for the airport land use compatibility plan, then "vicinity" means land within two miles of the boundary of a public airport.

(c) The commission may approve an action, regulation, or permit if it finds, based on substantial evidence in the record, all of the following:

(1) The commission is making substantial progress toward the completion of the airport land use compatibility plan.

(2) There is a reasonable probability that the action, regulation, or permit will be consistent with the airport land use compatibility plan being prepared by the commission.

(3) There is little or no probability of substantial detriment to or interference with the future adopted airport land use compatibility plan if the action, regulation, or permit is ultimately inconsistent with the airport land use compatibility plan.

(d) If the commission disapproves an action, regulation, or permit, the commission shall notify the city or county. The city or county may overrule the commission, by a two-thirds vote of its governing body, if it makes specific findings that the proposed action, regulation, or permit is consistent with the purposes of this article, as stated in Section 21670.

(e) If a city or county overrules the commission pursuant to subdivision (d), that action shall not relieve the city or county from further compliance with this article after the commission adopts the airport land use compatibility plan.

(f) If a city or county overrules the commission pursuant to subdivision (d) with respect to a publicly owned airport that the city or county does not operate, the operator of the airport is not liable for damages to property or personal injury resulting from the city's or county's decision to proceed with the action, regulation, or permit.

(g) A commission may adopt rules and regulations that exempt any ministerial permit for single-family dwellings from the requirements of subdivision (b) if it makes the findings required pursuant to subdivision (c) for the proposed rules and regulations, except that the rules and regulations may not exempt either of the following:

(1) More than two single-family dwellings by the same applicant within a subdivision prior to June 30, 1991.

(2) Single-family dwellings in a subdivision where 25 percent or more of the parcels are undeveloped.

21675.2. Approval or Disapproval of Actions, Regulations, or Permits

(a) If a commission fails to act to approve or disapprove any actions, regulations, or permits within 60 days of receiving the request pursuant to Section 21675.1, the applicant or his or her representative may file an action pursuant to Section 1094.5 of the Code of Civil Procedure to compel the commission to act, and the court shall give the proceedings preference over all other actions or proceedings, except previously filed pending matters of the same character.

(b) The action, regulation, or permit shall be deemed approved only if the public notice required by this subdivision has occurred. If the applicant has provided seven days advance notice to the commission of the intent to provide public notice pursuant to this subdivision, then, not earlier than the date of the expiration of the time limit established by Section 21675.1, an applicant may provide the required public notice. If the applicant chooses to provide public notice, that notice shall include a description of the proposed action, regulation, or permit substantially similar to the descriptions which are commonly used in public notices by the commission, the location of any proposed development, the application number, the name and address of the commission, and a statement that the action, regulation, or permit shall be deemed approved if the commission has not acted within 60 days. If the applicant has provided the public notice specified in this subdivision, the time limit for action by the commission shall be extended to 60 days after the

public notice is provided. If the applicant provides notice pursuant to this section, the commission shall refund to the applicant any fees which were collected for providing notice and which were not used for that purpose.

(c) Failure of an applicant to submit complete or adequate information pursuant to Sections 65943 to 65946, inclusive, of the Government Code, may constitute grounds for disapproval of actions, regulations, or permits.

(d) Nothing in this section diminishes the commission's legal responsibility to provide, where applicable, public notice and hearing before acting on an action, regulation, or permit.

21676. Review of Local General Plans

(a) Each local agency whose general plan includes areas covered by an airport land use compatibility plan shall, by July 1, 1983, submit a copy of its plan or specific plans to the airport land use commission. The commission shall determine by August 31, 1983, whether the plan or plans are consistent or inconsistent with the airport land use compatibility plan. If the plan or plans are inconsistent with the airport land use compatibility plan, the local agency shall be notified and that local agency shall have another hearing to reconsider its airport land use compatibility plans. The local agency may propose to overrule the commission after the hearing by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes of this article stated in Section 21670. At least 45 days prior to the decision to overrule the commission, the local agency governing body shall provide the commission and the division a copy of the proposed decision and findings. The commission and the division may provide comments to the local agency governing body within 30 days of receiving the proposed decision and findings. If the commission or the division's comments are not available within this time limit, the local agency governing body may act without them. The comments by the division or the commission are advisory to the local agency governing body. The local agency governing body shall include comments from the commission and the division in the final record of any final decision to overrule the commission, which may only be adopted by a two-thirds vote of the governing body.

(b) Prior to the amendment of a general plan or specific plan, or the adoption or approval of a zoning ordinance or building regulation within the planning boundary established by the airport land use commission pursuant to Section 21675, the local agency shall first refer the proposed action to the commission. If the commission determines that the proposed action is inconsistent with the commission's plan, the referring agency shall be notified. The local agency may, after a public hearing, propose to overrule the commission by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes of this article stated in Section 21670. At least 45 days prior to the decision to overrule the commission, the local agency governing body shall provide the commission and the division a copy of the proposed decision and findings. The commission and the division may provide comments to the local agency governing body within 30 days of receiving the proposed decision and findings. If the commission or the division's comments are not available within this time limit, the local agency governing body may act without them. The comments by the division or the commission are advisory to the local agency governing body. The local agency governing body shall include comments from the commission and the division in the public record of any final decision to overrule the commission, which may only be adopted by a two-thirds vote of the governing body.

(c) Each public agency owning any airport within the boundaries of an airport land use compatibility plan shall, prior to modification of its airport master plan, refer any proposed change to the airport

land use commission. If the commission determines that the proposed action is inconsistent with the commission's plan, the referring agency shall be notified. The public agency may, after a public hearing, propose to overrule the commission by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes of this article stated in Section 21670. At least 45 days prior to the decision to overrule the commission, the public agency governing body shall provide the commission and the division a copy of the proposed decision and findings. The commission and the division may provide comments to the public agency governing body within 30 days of receiving the proposed decision and findings. If the commission or the division's comments are not available within this time limit, the public agency governing body may act without them. The comments by the division or the commission are advisory to the public agency governing body. The public agency governing body shall include comments from the commission and the division in the final decision to overrule the commission, which may only be adopted by a two-thirds vote of the governing body.

(d) Each commission determination pursuant to subdivision (b) or (c) shall be made within 60 days from the date of referral of the proposed action. If a commission fails to make the determination within that period, the proposed action shall be deemed consistent with the airport land use compatibility plan.

21676.5. Review of Local Plans

(a) If the commission finds that a local agency has not revised its general plan or specific plan or overruled the commission by a two-thirds vote of its governing body after making specific findings that the proposed action is consistent with the purposes of this article as stated in Section 21670, the commission may require that the local agency submit all subsequent actions, regulations, and permits to the commission for review until its general plan or specific plan is revised or the specific findings are made. If, in the determination of the commission, an action, regulation, or permit of the local agency is inconsistent with the airport land use compatibility plan, the local agency shall be notified and that local agency shall hold a hearing to reconsider its plan. The local agency may propose to overrule the commission after the hearing by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes of this article as stated in Section 21670. At least 45 days prior to the decision to overrule the commission, the local agency governing body shall provide the commission and the division a copy of the proposed decision and findings. The commission and the division may provide comments to the local agency governing body within 30 days of receiving the proposed decision and findings. If the commission or the division's comments are not available within this time limit, the local agency governing body may act without them. The comments by the division or the commission are advisory to the local agency governing body. The local agency governing body shall include comments from the commission and the division in the final decision to overrule the commission, which may only be adopted by a two-thirds vote of the governing body.

(b) Whenever the local agency has revised its general plan or specific plan or has overruled the commission pursuant to subdivision (a), the proposed action of the local agency shall not be subject to further commission review, unless the commission and the local agency agree that individual projects shall be reviewed by the commission.

21677. Marin County Override Provisions

Notwithstanding the two-thirds vote required by Section 21676, any public agency in the County of Marin may overrule the Marin County Airport Land Use Commission by a majority vote of its

governing body. At least 45 days prior to the decision to overrule the commission, the public agency governing body shall provide the commission and the division a copy of the proposed decision and findings. The commission and the division may provide comments to the public agency governing body within 30 days of receiving the proposed decision and findings. If the commission or the division's comments are not available within this time limit, the public agency governing body may act without them. The comments by the division or the commission are advisory to the public agency governing body. The public agency governing body shall include comments from the commission and the division in the public record of the final decision to overrule the commission, which may be adopted by a majority vote of the governing body.

21678. Airport Owner's Immunity

With respect to a publicly owned airport that a public agency does not operate, if the public agency pursuant to Section 21676, 21676.5, or 21677 overrules a commission's action or recommendation, the operator of the airport shall be immune from liability for damages to property or personal injury caused by or resulting directly or indirectly from the public agency's decision to overrule the commission's action or recommendation.

21679. Court Review

(a) In any county in which there is no airport land use commission or other body designated to assume the responsibilities of an airport land use commission, or in which the commission or other designated body has not adopted an airport land use compatibility plan, an interested party may initiate proceedings in a court of competent jurisdiction to postpone the effective date of a zoning change, a zoning variance, the issuance of a permit, or the adoption of a regulation by a local agency, that directly affects the use of land within one mile of the boundary of a public airport within the county.

(b) The court may issue an injunction that postpones the effective date of the zoning change, zoning variance, permit, or regulation until the governing body of the local agency that took the action does one of the following:

  (1) In the case of an action that is a legislative act, adopts a resolution declaring that the proposed action is consistent with the purposes of this article stated in Section 21670.

  (2) In the case of an action that is not a legislative act, adopts a resolution making findings based on substantial evidence in the record that the proposed action is consistent with the purposes of this article stated in Section 21670.

  (3) Rescinds the action.

  (4) Amends its action to make it consistent with the purposes of this article stated in Section 21670, and complies with either paragraph (1) or (2), whichever is applicable.

(c) The court shall not issue an injunction pursuant to subdivision (b) if the local agency that took the action demonstrates that the general plan and any applicable specific plan of the agency accomplishes the purposes of an airport land use compatibility plan as provided in Section 21675.

(d) An action brought pursuant to subdivision (a) shall be commenced within 30 days of the decision or within the appropriate time periods set by Section 21167 of the Public Resources Code, whichever is longer.

(e) If the governing body of the local agency adopts a resolution pursuant to subdivision (b) with respect to a publicly owned airport that the local agency does not operate, the operator of the airport shall be immune from liability for damages to property or personal injury from the local agency's decision to proceed with the zoning change, zoning variance, permit, or regulation.

(f) As used in this section, "interested party" means any owner of land within two miles of the boundary of the airport or any organization with a demonstrated interest in airport safety and efficiency.

21679.5. Deferral of Court Review

(a) Until June 30, 1991, no action pursuant to Section 21679 to postpone the effective date of a zoning change, a zoning variance, the issuance of a permit, or the adoption of a regulation by a local agency, directly affecting the use of land within one mile of the boundary of a public airport, shall be commenced in any county in which the commission or other designated body has not adopted an airport land use compatibility plan, but is making substantial progress toward the completion of the airport land use compatibility plan.

(b) If a commission has been prevented from adopting the airport land use compatibility plan by June 30, 1991, or if the adopted airport land use compatibility plan could not become effective, because of a lawsuit involving the adoption of the airport land use compatibility plan, the June 30, 1991 date in subdivision (a) shall be extended by the period of time during which the lawsuit was pending in a court of competent jurisdiction.

(c) Any action pursuant to Section 21679 commenced prior to January 1, 1990, in a county in which the commission or other designated body has not adopted an airport land use compatibility plan, but is making substantial progress toward the completion of the airport land use compatibility plan, which has not proceeded to final judgment, shall be held in abeyance until June 30, 1991. If the commission or other designated body adopts an airport land use compatibility plan on or before June 30, 1991, the action shall be dismissed. If the commission or other designated body does not adopt an airport land use compatibility plan on or before June 30, 1991, the plaintiff or plaintiffs may proceed with the action.

(d) An action to postpone the effective date of a zoning change, a zoning variance, the issuance of a permit, or the adoption of a regulation by a local agency, directly affecting the use of land within one mile of the boundary of a public airport for which an airport land use compatibility plan has not been adopted by June 30, 1991, shall be commenced within 30 days of June 30, 1991, or within 30 days of the decision by the local agency, or within the appropriate time periods set by Section 21167 of the Public Resources Code, whichever date is later.

AERONAUTICS LAW

PUBLIC UTILITIES CODE
Division 9, Part 1
Chapter 3—Regulation of Aeronautics
(excerpts)

21402. Ownership; Prohibited Use of Airspace

The ownership of the space above the land and waters of this State is vested in the several owners of the surface beneath, subject to the right of flight described in Section 21403. No use shall be made of such airspace which would interfere with such right of flight; provided that any use of property in conformity with an original zone of approach of an airport shall not be rendered unlawful by reason of a change in such zone of approach.

21403. Lawful Flight; Flight Within Airport Approach Zone

(a) Flight in aircraft over the land and waters of this state is lawful, unless at altitudes below those prescribed by federal authority, or unless conducted so as to be imminently dangerous to persons or property lawfully on the land or water beneath. The landing of an aircraft on the land or waters of another, without his or her consent, is unlawful except in the case of a forced landing or pursuant to Section 21662.1. The owner, lessee, or operator of the aircraft is liable, as provided by law, for damages caused by a forced landing.

(b) The landing, takeoff, or taxiing of an aircraft on a public freeway, highway, road, or street is unlawful except in the following cases:

(1) A forced landing.

(2) A landing during a natural disaster or other public emergency if the landing has received prior approval from the public agency having primary jurisdiction over traffic upon the freeway, highway, road, or street.

(3) When the landing, takeoff, or taxiing has received prior approval from the public agency having primary jurisdiction over traffic upon the freeway, highway, road or street.

The prosecution bears the burden of proving that none of the exceptions apply to the act which is alleged to be unlawful.

(c) The right of flight in aircraft includes the right of safe access to public airports, which includes the right of flight within the zone of approach of any public airport without restriction or hazard. The zone of approach of an airport shall conform to the specifications of Part 77 of the Federal Aviation Regulations of the Federal Aviation Administration, Department of Transportation.

AERONAUTICS LAW

PUBLIC UTILITIES CODE
Division 9, Part 1
Chapter 4—Airports and Air Navigation Facilities
Article 2.7—Regulation of Obstructions
(excerpts)

21655. Proposed Site for Construction of State Building Within Two Miles of Airport Boundary

Notwithstanding any other provision of law, if the proposed site of any state building or other enclosure is within two miles, measured by air line, of that point on an airport runway, or runway proposed by an airport master plan, which is nearest the site, the state agency or office which proposes to construct the building or other enclosure shall, before acquiring title to property for the new state building or other enclosure site or for an addition to a present site, notify the Department of Transportation, in writing, of the proposed acquisition. The department shall investigate the proposed site and, within 30 working days after receipt of the notice, shall submit to the state agency or office which proposes to construct the building or other enclosure a written report of the investigation and its recommendations concerning acquisition of the site.

If the report of the department does not favor acquisition of the site, no state funds shall be expended for the acquisition of the new state building or other enclosure site, or the expansion of the present site, or for the construction of the state building or other enclosure, provided that the provisions of this section shall not affect title to real property once it is acquired.

21658. Construction of Utility Pole or Line in Vicinity of Aircraft Landing Area

No public utility shall construct any pole, pole line, distribution or transmission tower, or tower line, or substation structure in the vicinity of the exterior boundary of an aircraft landing area of any airport open to public use, in a location with respect to the airport and at a height so as to constitute an obstruction to air navigation, as an obstruction is defined in accordance with Part 77 of the Federal Aviation Regulations, Federal Aviation Administration, or any corresponding rules or regulations of the Federal Aviation Administration, unless the Federal Aviation Administration has determined that the pole, line, tower, or structure does not constitute a hazard to air navigation. This section shall not apply to existing poles, lines, towers, or structures or to the repair, replacement, or reconstruction thereof if the original height is not materially exceeded and this section shall not apply unless just compensation shall have first been paid to the public utility by the owner of any airport for any property or property rights which would be taken or damaged hereby.

21659. Hazards Near Airports Prohibited

(a) No person shall construct or alter any structure or permit any natural growth to grow at a height which exceeds the obstruction standards set forth in the regulations of the Federal Aviation Administration relating to objects affecting navigable airspace contained in Title 14 of the Code of Federal Regulations, Part 77, Subpart C, unless a permit allowing the construction, alteration, or growth is issued by the department.

(b) The permit is not required if the Federal Aviation Administration has determined that the construction, alteration, or growth does not constitute a hazard to air navigation or would not create an unsafe condition for air navigation. Subdivision (a) does not apply to a pole, pole line, distribution or transmission tower, or tower line or substation of a public utility.

(c) Section 21658 is applicable to subdivision (b).

AERONAUTICS LAW

PUBLIC UTILITIES CODE
Division 9, Part 1, Chapter 4
Article 3—Regulation of Airports
(excerpts)

21661.5. City Council or Board of Supervisors and ALUC Approvals

(a) No political subdivision, any of its officers or employees, or any person may submit any application for the construction of a new airport to any local, regional, state, or federal agency unless the plan for such construction is first approved by the board of supervisors of the county, or the city council of the city, in which the airport is to be located and unless the plan is submitted to the appropriate commission exercising powers pursuant to Article 3.5 (commencing with Section 21670) of Chapter 4 of Part 1 of Division 9, and acted upon by such commission in accordance with the provisions of such article.

(b) A county board of supervisors or a city council may, pursuant to Section 65100 of the Government Code, delegate its responsibility under this section for the approval of a plan for construction of new helicopter landing and takeoff areas, to the county or city planning agency.

21664.5. Amended Airport Permits; Airport Expansion Defined

(a) An amended airport permit shall be required for every expansion of an existing airport. An applicant for an amended airport permit shall comply with each requirement of this article pertaining to permits for new airports. The department may by regulation provide for exemptions from the operation of this section pursuant to Section 21661, except that no exemption shall be made limiting the applicability of subdivision (e) of Section 21666, pertaining to environmental considerations, including the requirement for public hearings in connection therewith.

(b) As used in this section, "airport expansion" includes any of the following:

(1) The acquisition of runway protection zones, as defined in Federal Aviation Administration Advisory Circular 150/1500-13 [*sic.* – should be 150/5300-13], or of any interest in land for the purpose of any other expansion as set forth in this section.

(2) The construction of a new runway.

(3) The extension or realignment of an existing runway.

(4) Any other expansion of the airport's physical facilities for the purpose of accomplishing or which are related to the purpose of paragraph (1), (2), or (3).

(c) This section does not apply to any expansion of an existing airport if the expansion commenced on or prior to the effective date of this section and the expansion met the approval, on or prior to that effective date, of each governmental agency that required the approval by law.

PLANNING AND ZONING LAW

GOVERNMENT CODE
Title 7—Planning and Land Use
Division 1—Planning and Zoning
Chapter 3—Local Planning
Article 5—Authority for and Scope of General Plans
(excerpts)

65302.3. General and Applicable Specific Plans; Consistency with Airport Land Use Plans; Amendment; Nonconcurrence Findings

(a) The general plan, and any applicable specific plan prepared pursuant to Article 8 (commencing with Section 65450), shall be consistent with the plan adopted or amended pursuant to Section 21675 of the Public Utilities Code.

(b) The general plan, and any applicable specific plan, shall be amended, as necessary, within 180 days of any amendment to the plan required under Section 21675 of the Public Utilities Code.

(c) If the legislative body does not concur with any of the provisions of the plan required under Section 21675 of the Public Utilities Code, it may satisfy the provisions of this section by adopting findings pursuant to Section 21676 of the Public Utilities Code.

(d) In each county where an airport land use commission does not exist, but where there is a military airport, the general plan, and any applicable specific plan prepared pursuant to Article 8 (commencing with Section 65450), shall be consistent with the safety and noise standards in the Air Installation Compatible Use Zone prepared for that military airport.

PLANNING AND ZONING LAW

GOVERNMENT CODE
Title 7, Division 1
Chapter 4.5—Review and Approval of Development Projects
Article 3—Application for Development Projects
(excerpts)

Note: The following government code sections are referenced in Section 21675.2(c) of the ALUC statutes.

65943. Completeness of Application; Determination; Time; Specification of Parts not Complete and Manner of Completion

(a) Not later than 30 calendar days after any public agency has received an application for a development project, the agency shall determine in writing whether the application is complete and shall immediately transmit the determination to the applicant for the development project. If the written determination is not made within 30 days after receipt of the application, and the application includes a statement that it is an application for a development permit, the application shall be deemed complete for purposes of this chapter. Upon receipt of any resubmittal of the application, a new 30-day period shall begin, during which the public agency shall determine the completeness of the application. If the application is determined not to be complete, the agency's determination shall specify those parts of the application which are incomplete and shall indicate the manner in which they can be made complete, including a list and thorough description of the specific information needed to complete the application. The applicant shall submit materials to the public agency in response to the list and description.

(b) Not later than 30 calendar days after receipt of the submitted materials, the public agency shall determine in writing whether they are complete and shall immediately transmit that determination to the applicant. If the written determination is not made within that 30-day period, the application together with the submitted materials shall be deemed complete for the purposes of this chapter.

(c) If the application together with the submitted materials are determined not to be complete pursuant to subdivision (b), the public agency shall provide a process for the applicant to appeal that decision in writing to the governing body of the agency or, if there is no governing body, to the director of the agency, as provided by that agency. A city or county shall provide that the right of appeal is to the governing body or, at their option, the planning commission, or both.

There shall be a final written determination by the agency of the appeal not later than 60 calendar days after receipt of the applicant's written appeal. The fact that an appeal is permitted to both the planning commission and to the governing body does not extend the 60-day period. Notwithstanding a decision pursuant to subdivision (b) that the application and submitted materials are not complete, if the final written determination on the appeal is not made within that 60-day period, the application with the submitted materials shall be deemed complete for the purposes of this chapter.

(d) Nothing in this section precludes an applicant and a public agency from mutually agreeing to an extension of any time limit provided by this section.

(e) A public agency may charge applicants a fee not to exceed the amount reasonably necessary to provide the service required by this section. If a fee is charged pursuant to this section, the fee shall be collected as part of the application fee charged for the development permit.

65943.5.

(a) Notwithstanding any other provision of this chapter, any appeal pursuant to subdivision (c) of Section 65943 involving a permit application to a board, office, or department within the California Environmental Protection Agency shall be made to the Secretary for Environmental Protection.

(b) Notwithstanding any other provision of this chapter, any appeal pursuant to subdivision (c) of Section 65943 involving an application for the issuance of an environmental permit from an environmental agency shall be made to the Secretary for Environmental Protection under either of the following circumstances:

(1) The environmental agency has not adopted an appeals process pursuant to subdivision (c) of Section 65943.

(2) The environmental agency declines to accept an appeal for a decision pursuant to subdivision (c) of Section 65943.

(c) For purposes of subdivision (b), "environmental permit" has the same meaning as defined in Section 72012 of the Public Resources Code, and "environmental agency" has the same meaning as defined in Section 71011 of the Public Resources Code, except that "environmental agency" does not include the agencies described in subdivisions (c) and (h) of Section 71011 of the Public Resources Code.

65944. Acceptance of Application as Complete; Requests for Additional Information; Restrictions; Clarification, Amplification, Correction, etc; Prior to Notice of Necessary Information

(a) After a public agency accepts an application as complete, the agency shall not subsequently request of an applicant any new or additional information which was not specified in the list prepared pursuant to Section 65940. The agency may, in the course of processing the application, request the applicant to clarify, amplify, correct, or otherwise supplement the information required for the application.

(b) The provisions of subdivision (a) shall not be construed as requiring an applicant to submit with his or her initial application the entirety of the information which a public agency may require in order to take final action on the application. Prior to accepting an application, each public agency shall inform the applicant of any information included in the list prepared pursuant to Section 65940 which will subsequently be required from the applicant in order to complete final action on the application.

(c) This section shall not be construed as limiting the ability of a public agency to request and obtain information which may be needed in order to comply with the provisions of Division 13 (commencing with Section 21000) of the Public Resources Code.

(d) (1) After a public agency accepts an application as complete, and if the project applicant has identified that the proposed project is located within 1,000 feet of a military installation or within special use airspace or beneath a low-level flight path in accordance with Section 65940, the public agency shall provide a copy of the complete application to any branch of the United States Armed Forces that has provided the Office of Planning and Research with a

single California mailing address within the state for the delivery of a copy of these applications. This subdivision shall apply only to development applications submitted to a public agency 30 days after the Office of Planning and Research has notified cities, counties, and cities and counties of the availability of Department of Defense information on the Internet pursuant to subdivision (d) of Section 65940.

(2) Except for a project within 1,000 feet of a military installation, the public agency is not required to provide a copy of the application if the project is located entirely in an "urbanized area." An urbanized area is any urban location that meets the definition used by the United State Department of Commerce's Bureau of Census for "urban" and includes locations with core census block groups containing at least 1,000 people per square mile and surrounding census block groups containing at least 500 people per square mile.

(e) Upon receipt of a copy of the application as required in subdivision (d), any branch of the United States Armed Forces may request consultation with the public agency and the project applicant to discuss the effects of the proposed project on military installations, low-level flight paths, or special use airspace, and potential alternatives and mitigation measures.

(f) (1) Subdivisions (d), (e), and (f) as these relate to low-level flight paths, special use airspace, and urbanized areas shall not be operative until the United States Department of Defense provides electronic maps of low-level flight paths, special use airspace, and military installations, at a scale and in an electronic format that is acceptable to the Office of Planning and Research.

(2) Within 30 days of a determination by the Office of Planning and Research that the information provided by the Department of Defense is sufficient and in an acceptable scale and format, the office shall notify cities, counties, and cities and counties of the availability of the information on the Internet. Cities, counties, and cities and counties shall comply with subdivision (d) within 30 days of receiving this notice from the office.

65945. Notice of Proposal to Adopt or Amend Certain Plans or Ordinances by City or County, Fee; Subscription to Periodically Updated Notice as Alternative, Fee

(a) At the time of filing an application for a development permit with a city or county, the city or county shall inform the applicant that he or she may make a written request to retrieve notice from the city or county of a proposal to adopt or amend any of the following plans or ordinances:

(1) A general plan.

(2) A specific plan.

(3) A zoning ordinance.

(4) An ordinance affecting building permits or grading permits.

The applicant shall specify, in the written request, the types of proposed action for which notice is requested. Prior to taking any of those actions, the city or county shall give notice to any applicant who has requested notice of the type of action proposed and whose development project is pending before the city or county if the city or county determines that the proposal is reasonably related to the applicant's request for the development permit. Notice shall be given only for those types of actions which the applicant specifies in the request for notification.

The city or county may charge the applicant for a development permit, to whom notice is provided pursuant to this subdivision, a reasonable fee not to exceed the actual cost of providing that notice.

If a fee is charged pursuant to this subdivision, the fee shall be collected as part of the application fee charged for the development permit.

(b) As an alternative to the notification procedure prescribed by subdivision (a), a city or county may inform the applicant at the time of filing an application for a development permit that he or she may subscribe to a periodically updated notice or set of notices from the city or county which lists pending proposals to adopt or amend any of the plans or ordinances specified in subdivision (a), together with the status of the proposal and the date of any hearings thereon which have been set.

Only those proposals which are general, as opposed to parcel-specific in nature, and which the city or county determines are reasonably related to requests for development permits, need be listed in the notice. No proposals shall be required to be listed until such time as the first public hearing thereon has been set. The notice shall be updated and mailed at least once every six weeks; except that a notice need not be updated and mailed until a change in its contents is required.

The city or county may charge the applicant for a development permit, to whom notice is provided pursuant to this subdivision, a reasonable fee not to exceed the actual cost of providing that notice, including the costs of updating the notice, for the length of time the applicant requests to be sent the notice or notices.

65945.3. Notice of Proposal to Adopt or Amend Rules or Regulations Affecting Issuance of Permits by Local Agency other than City or County; Fee

At the time of filing an application for a development permit with a local agency, other than a city or county, the local agency shall inform the applicant that he or she may make a written request to receive notice of any proposal to adopt or amend a rule or regulation affecting the issuance of development permits.

Prior to adopting or amending any such rule or regulation, the local agency shall give notice to any applicant who has requested such notice and whose development project is pending before the agency if the local agency determines that the proposal is reasonably related to the applicant's request for the development permit.

The local agency may charge the applicant for a development permit, to whom notice is provided pursuant to this section, a reasonable fee not to exceed the actual cost of providing that notice. If a fee is charged pursuant to this section, the fee shall be collected as part of the application fee charged for the development permit.

65945.5. Notice of Proposal to Adopt or Amend Regulation Affecting Issuance of Permits and Which Implements Statutory Provision by State Agency

At the time of filing an application for a development permit with a state agency, the state agency shall inform the applicant that he or she may make a written request to receive notice of any proposal to adopt or amend a regulation affecting the issuance of development permits and which implements a statutory provision.

Prior to adopting or amending any such regulation, the state agency shall give notice to any applicant who has requested such notice and whose development project is pending before the state agency if the state agency determines that the proposal is reasonably related to the applicant's request for the development permit.

65945.7. Actions, Inactions, or Recommendations Regarding Ordinances, Rules or Regulations; Invalidity or Setting Aside Ground of Error Only if Prejudicial

No action, inaction, or recommendation regarding any ordinance, rule, or regulation subject to this Section 65945, 65945.3, or 65945.5 by any legislative body, administrative body, or the officials of any state or local agency shall be held void or invalid or be set aside by any court on the ground of any error, irregularity, informality, neglect or omission (hereinafter called "error") as to any matter pertaining to notices, records, determinations, publications, or any matters of procedure whatever, unless after an examination of the entire case, including evidence, the court shall be of the opinion that the error complained of was prejudicial, and that by reason of such error the party complaining or appealing sustained and suffered substantial injury, and that a different result would have been probable if such error had not occurred or existed. There shall be no presumption that error is prejudicial or that injury was done if error is shown.

65946. [Replaced by AB2351 Statutes of 1993]

PLANNING AND ZONING LAW

GOVERNMENT CODE

Title 7, Division 1

Chapter 9.3—Mediation and Resolution of Land Use Disputes

(excerpts)

66030.

(a) The Legislature finds and declares all of the following:

(1) Current law provides that aggrieved agencies, project proponents, and affected residents may bring suit against the land use decisions of state and local governmental agencies. In practical terms, nearly anyone can sue once a project has been approved.

(2) Contention often arises over projects involving local general plans and zoning, redevelopment plans, the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code), development impact fees, annexations and incorporations, and the Permit Streamlining Act (Chapter 4.5 (commencing with Section 65920)).

(3) When a public agency approves a development project that is not in accordance with the law, or when the prerogative to bring suit is abused, lawsuits can delay development, add uncertainty and cost to the development process, make housing more expensive, and damage California's competitiveness. This litigation begins in the superior court, and often progresses on appeal to the Court of Appeal and the Supreme Court, adding to the workload of the state's already overburdened judicial system.

(b) It is, therefore, the intent of the Legislature to help litigants resolve their differences by establishing formal mediation processes for land use disputes. In establishing these mediation processes, it is not the intent of the Legislature to interfere with the ability of litigants to pursue remedies through the courts.

66031.

(a) Notwithstanding any other provision of law, any action brought in the superior court relating to any of the following subjects may be subject to a mediation proceeding conducted pursuant to this chapter:

(1) The approval or denial by a public agency of any development project.

(2) Any act or decision of a public agency made pursuant to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code).

(3) The failure of a public agency to meet the time limits specified in Chapter 4.5 (commencing with Section 65920), commonly known as the Permit Streamlining Act, or in the Subdivision Map Act (Division 2 (commencing with Section 66410)).

(4) Fees determined pursuant to Sections 53080 to 53082, inclusive, or Chapter 4.9 (commencing with Section 65995).

(5) Fees determined pursuant to Chapter 5 (commencing with Section 66000).

(6) The adequacy of a general plan or specific plan adopted pursuant to Chapter 3 (commencing with Section 65100).

(7) The validity of any sphere of influence, urban service area, change of organization or reorganization, or any other decision made pursuant to the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Division 3 (commencing with Section 56000) of Title 5).

(8) The adoption or amendment of a redevelopment plan pursuant to the Community Redevelopment Law (Part 1 (commencing with Section 33000) of Division 24 of the Health and Safety Code).

(9) The validity of any zoning decision made pursuant to Chapter 4 (commencing with Section 65800).

(10) The validity of any decision made pursuant to Article 3.5 (commencing with Section 21670) of Chapter 4 of Part 1 of Division 9 of the Public Utilities Code.

(b) Within five days after the deadline for the respondent or defendant to file its reply to an action, the court may invite the parties to consider resolving their dispute by selecting a mutually acceptable person to serve as a mediator, or an organization or agency to provide a mediator.

(c) In selecting a person to serve as a mediator, or an organization or agency to provide a mediator, the parties shall consider the following:

(1) The council of governments having jurisdiction in the county where the dispute arose.

(2) Any subregional or countywide council of governments in the county where the dispute arose.

(3) Any other person with experience or training in mediation including those with experience in land use issues, or any other organization or agency which can provide a person with experience or training in mediation, including those with experience in land use issues.

(d) If the court invites the parties to consider mediation, the parties shall notify the court within 30 days if they have selected a mutually acceptable person to serve as a mediator. If the parties have not selected a mediator within 30 days, the action shall proceed. The court shall not draw any implication, favorable or otherwise, from the refusal by a party to accept the invitation by the court to consider mediation. Nothing in this section shall preclude the parties from using mediation at any other time while the action is pending.

PLANNING AND ZONING LAW

GOVERNMENT CODE
Title 7—Planning and Land Use
Division 2—Subdivisions
Chapter 3—Procedure
Article 3—Review of Tentative Map by Other Agencies
(excerpts)

66455.9.

Whenever there is consideration of an area within a development for a public school site, the advisory agency shall give the affected districts and the State Department of Education written notice of the proposed site. The written notice shall include the identification of any existing or proposed runways within the distance specified in Section 17215 of the Education Code. If the site is within the distance of an existing or proposed airport runway as described in Section 17215 of the Education Code, the department shall notify the State Department of Transportation as required by the section and the site shall be investigated by the State Department of Transportation required by Section 17215.

EDUCATION CODE
Title 1—General Education Code Provisions
Division 1—General Education Code Provisions
Part 10.5—School Facilities
Chapter 1—School Sites
Article 1—General Provisions
(excerpts)

17215.

(a) In order to promote the safety of pupils, comprehensive community planning, and greater educational usefulness of school sites, before acquiring title to or leasing property for a new school site, the governing board of each school district, including any district governed by a city board of education or a charter school, shall give the State Department of Education written notice of the proposed acquisition or lease and shall submit any information required by the State Department of Education if the site is within two miles, measured by air line, of that point on an airport runway or a potential runway included in an airport master plan that is nearest to the site.

(b) Upon receipt of the notice required pursuant to subdivision (a), the State Department of Education shall notify the Department of Transportation in writing of the proposed acquisition or lease. If the Department of Transportation is no longer in operation, the State Department of Education shall, in lieu of notifying the Department of Transportation, notify the United States Department of Transportation or any other appropriate agency, in writing, of the proposed acquisition for the purpose of obtaining from the department or other agency any information or assistance that it may desire to give.

(c) The Department of Transportation shall investigate the proposed site and, within 30 working days after receipt of the notice, shall submit to the State Department of Education a written report of its findings including recommendations concerning acquisition or lease of the site. As part of the investigation, the Department of Transportation shall give notice thereof to the owner and operator of the airport who shall be granted the opportunity to comment upon the site. The Department of Transportation shall adopt regulations setting forth the criteria by which a site will be evaluated pursuant to this section.

(d) The State Department of Education shall, within 10 days of receiving the Department of Transportation's report, forward the report to the governing board of the school district or charter school. The governing board or charter school may not acquire title to or lease the property until the report of the Department of Transportation has been received. If the report does not favor the acquisition or lease of the property for a school site or an addition to a present school site, the governing board or charter school may not acquire title to or lease the property. If the report does favor the acquisition or lease of the property for a school site or an addition to a present school site, the governing board or charter school shall hold a public hearing on the matter prior to acquiring or leasing the site.

(e) If the Department of Transportation's recommendation does not favor acquisition or lease of the proposed site, state funds or local funds may not be apportioned or expended for the acquisition of that site, construction of any school building on that site, or for the expansion of any existing site to include that site.

(f) This section does not apply to sites acquired prior to January 1, 1966, nor to any additions or extensions to those sites.

EDUCATION CODE
Title 3—Postsecondary Education
Division 7—Community Colleges
Part 49—Community Colleges, Education Facilities
Chapter 1—School Sites
Article 2—School Sites
(excerpts)

81033. Investigation: Geologic and Soil Engineering Studies; Airport in Proximity

(c) To promote the safety of students, comprehensive community planning, and greater educational usefulness of community college sites, the governing board of each community college district, if the proposed site is within two miles, measured by air line, of that point on an airport runway, or a runway proposed by an airport master plan, which is nearest the site and excluding them if the property is not so located, before acquiring title to property for a new community college site or for an addition to a present site, shall give the board of governors notice in writing of the proposed acquisition and shall submit any information required by the board of governors.

Immediately after receiving notice of the proposed acquisition of property which is within two miles, measured by air line, of that point on an airport runway, or a runway proposed by an airport master plan, which is nearest the site, the board of governors shall notify the Division of Aeronautics of the Department of Transportation, in writing, of the proposed acquisition. The Division of Aeronautics shall make an investigation and report to the board of governors within 30 working days after receipt of the notice. If the Division of Aeronautics is no longer in operation, the board of governors shall, in lieu of notifying the Division of Aeronautics, notify the Federal Aviation Administration or any other appropriate agency, in writing, of the proposed acquisition for the purpose of obtaining from the authority or other agency such information or assistance as it may desire to give.

The board of governors shall investigate the proposed site and within 35 working days after receipt of the notice shall submit to the governing board a written report and its recommendations concerning acquisition of the site. The governing board shall not acquire title to the property until the report of the board of governors has been received. If the report does not favor the acquisition of the property for a community college site or an addition to a present community college site, the governing board shall not acquire title to the property until 30 days after the department's report is received and until the board of governors' report has been read at a public hearing duly called after 10 days' notice published once in a newspaper of general circulation within the community college district, or if there is no such newspaper, then in a newspaper of general circulation within the county in which the property is located.

(d) If, with respect to a proposed site located within two miles of an operative airport runway, the report of the board of governors submitted to a community college district governing board under subdivision (c) does not favor the acquisition of the site on the sole or partial basis of the unfavorable recommendation of the Division of Aeronautics of the Department of Transportation, no state agency or officer shall grant, apportion, or allow to such community college district for expenditure in connection with that site, any state funds otherwise made available under any state law whatever for a community college site acquisition or college building

construction, or for expansion of existing sites and buildings, and no funds of the community college district or of the county in which the district lies shall be expended for such purposes; provided that provisions of this section shall not be applicable to sites acquired prior to January 1, 1966, nor any additions or extensions to such sites.

If the recommendations of the Division of Aeronautics are unfavorable, such recommendations shall not be overruled without the express approval of the board of governors and the State Allocation Board.

CALIFORNIA ENVIRONMENTAL QUALITY ACT STATUTES

PUBLIC RESOURCES CODE
Division 13—Environmental Quality
Chapter 2.6—General
(excerpts)

21096. Airport Planning

(a) If a lead agency prepares an environmental impact report for a project situated within airport land use compatibility plan boundaries, or, if an airport land use compatibility plan has not been adopted, for a project within two nautical miles of a public airport or public use airport, the Airport Land Use Planning Handbook published by the Division of Aeronautics of the Department of Transportation, in compliance with Section 21674.5 of the Public Utilities Code and other documents, shall be utilized as technical resources to assist in the preparation of the environmental impact report as the report relates to airport-related safety hazards and noise problems.

(b) A lead agency shall not adopt a negative declaration for a project described in subdivision (a) unless the lead agency considers whether the project will result in a safety hazard or noise problem for persons using the airport or for persons residing or working in the project area.

BUSINESS AND PROFESSIONS CODE
Division 4—Real Estate
Part 2—Regulation of Transactions
Chapter 1—Subdivided Lands
Article 2—Investigation, Regulation and Report
(excerpts)

11010.

(a) Except as otherwise provided pursuant to subdivision (c) or elsewhere in this chapter, any person who intends to offer subdivided lands within this state for sale or lease shall file with the Department of Real Estate an application for a public report consisting of a notice of intention and a completed questionnaire on a form prepared by the department.

(b) The notice of intention shall contain the following information about the subdivided lands and the proposed offering:

[Sub-Sections (1) through (12) omitted]

(13) (A) The location of all existing airports, and of all proposed airports shown on the general plan of any city or county, located within two statute miles of the subdivision. If the property is located within an airport influence area, the following statement shall be included in the notice of intention:

NOTICE OF AIRPORT IN VICINITY

This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you.

(B) For purposes of this section, an "airport influence area," also known as an "airport referral area," is the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses as determined by an airport land use commission.

CIVIL CODE
Division 2—Property
Part 4—Acquisition of Property
Title 4—Transfer
Chapter 2—Transfer of Real Property
Article 1.7—Disclosure of Natural Hazards Upon Transfer of Residential Property
(excerpts)

1103.

(a) Except as provided in Section 1103.1, this article applies to any transfer by sale, exchange, installment land sale contract, as defined in Section 2985, lease with an option to purchase, any other option to purchase, or ground lease coupled with improvements, of any real property described in subdivision (c), or residential stock cooperative, improved with or consisting of not less than one nor more than four dwelling units.

(b) Except as provided in Section 1103.1, this article shall apply to a resale transaction entered into on or after January 1, 2000, for a manufactured home, as defined in Section 18007 of the Health and Safety Code, that is classified as personal property intended for use as a residence, or a mobilehome, as defined in Section 18008 of the Health and Safety Code, that is classified as personal property intended for use as a residence, if the real property on which the manufactured home or mobilehome is located is real property described in subdivision (c).

(c) This article shall apply to the transactions described in subdivisions (a) and (b) only if the transferor or his or her agent are required by one or more of the following to disclose the property's location within a hazard zone:

(1) A person who is acting as an agent for a transferor of real property that is located within a special flood hazard area (any type Zone "A" or "V") designated by the Federal Emergency Management Agency, or the transferor if he or she is acting without an agent, shall disclose to any prospective transferee the fact that the property is located within a special flood hazard area if either:

(A) The transferor, or the transferor's agent, has actual knowledge that the property is within a special flood hazard area.

(B) The local jurisdiction has compiled a list, by parcel, of properties that are within the special flood hazard area and a notice has been posted at the offices of the county recorder, county assessor, and county planning agency that identifies the location of the parcel list.

(2) … is located within an area of potential flooding … shall disclose to any prospective transferee the fact that the property is located within an area of potential flooding …

(3) … is located within a very high fire hazard severity zone, designated pursuant to Section 51178 of the Public Resources Code … shall disclose to any prospective transferee the fact that the property is located within a very high fire hazard severity zone and is subject to the requirements of Section 51182 …

(4) … is located within an earthquake fault zone, designated pursuant to Section 2622 of the Public Resources Code … shall disclose to any prospective transferee the fact that the property is located within a delineated earthquake fault zone …

(5) … is located within a seismic hazard zone, designated pursuant to Section 2696 of the Public Resources Code … shall disclose to any prospective transferee the fact that the property is located within a seismic hazard zone …

(6) … is located within a state responsibility area determined by the board, pursuant to Section 4125 of the Public Resources Code, shall disclose to any prospective transferee the fact that the property is located within a wildland area that may contain substantial forest fire risks and hazards and is subject to the requirements of Section 4291 …

(d) Any waiver of the requirements of this article is void as against public policy.

1103.1.

(a) This article does not apply to the following transfers:

(1) Transfers pursuant to court order, including, but not limited to, transfers ordered by a probate court in administration of an estate, transfers pursuant to a writ of execution, transfers by any foreclosure sale, transfers by a trustee in bankruptcy, transfers by eminent domain, and transfers resulting from a decree for specific performance.

(2) Transfers to a mortgagee by a mortgagor or successor in interest who is in default, transfers to a beneficiary of a deed of trust by a trustor or successor in interest who is in default, transfers by any foreclosure sale after default, transfers by any foreclosure sale after default in an obligation secured by a mortgage, transfers by a sale under a power of sale or any foreclosure sale under a decree of foreclosure after default in an obligation secured by a deed of trust or secured by any other instrument containing a power of sale, or transfers by a mortgagee or a beneficiary under a deed of trust who has acquired the real property at a sale conducted pursuant to a power of sale under a mortgage or deed of trust or a sale pursuant to a decree of foreclosure or has acquired the real property by a deed in lieu of foreclosure.

(3) Transfers by a fiduciary in the course of the administration of a decedent's estate, guardianship, conservatorship, or trust.

(4) Transfers from one coowner to one or more other coowners.

(5) Transfers made to a spouse, or to a person or persons in the lineal line of consanguinity of one or more of the transferors.

(6) Transfers between spouses resulting from a judgment of dissolution of marriage or of legal separation of the parties or from a property settlement agreement incidental to that judgment.

(7) Transfers by the Controller in the course of administering Chapter 7 (commencing with Section 1500) of Title 10 of Part 3 of the Code of Civil Procedure.

(8) Transfers under Chapter 7 (commencing with Section 3691) or Chapter 8 (commencing with Section 3771) of Part 6 of Division 1 of the Revenue and Taxation Code.

(9) Transfers or exchanges to or from any governmental entity.

(b) Transfers not subject to this article may be subject to other disclosure requirements, including those under Sections 8589.3, 8589.4, and 51183.5 of the Government Code and Sections 2621.9,

2694, and 4136 of the Public Resources Code. In transfers not subject to this article, agents may make required disclosures in a separate writing.

1103.2.

(a) The disclosures required by this article are set forth in, and shall be made on a copy of, the following Natural Hazard Disclosure Statement: [content omitted].

(b) If an earthquake fault zone, seismic hazard zone, very high fire hazard severity zone, or wildland fire area map or accompanying information is not of sufficient accuracy or scale that a reasonable person can determine if the subject real property is included in a natural hazard area, the transferor or transferor's agent shall mark "Yes" on the Natural Hazard Disclosure Statement. The transferor or transferor's agent may mark "No" on the Natural Hazard Disclosure Statement if he or she attaches a report prepared pursuant to subdivision (c) of Section 1103.4 that verifies the property is not in the hazard zone. Nothing in this subdivision is intended to limit or abridge any existing duty of the transferor or the transferor's agents to exercise reasonable care in making a determination under this subdivision.

[Sub-Sections (c) through (h) omitted]

[Section 1103.3 omitted]

1103.4.

(a) Neither the transferor nor any listing or selling agent shall be liable for any error, inaccuracy, or omission of any information delivered pursuant to this article if the error, inaccuracy, or omission was not within the personal knowledge of the transferor or the listing or selling agent, and was based on information timely provided by public agencies or by other persons providing information as specified in subdivision (c) that is required to be disclosed pursuant to this article, and ordinary care was exercised in obtaining and transmitting the information.

(b) The delivery of any information required to be disclosed by this article to a prospective transferee by a public agency or other person providing information required to be disclosed pursuant to this article shall be deemed to comply with the requirements of this article and shall relieve the transferor or any listing or selling agent of any further duty under this article with respect to that item of information.

(c) The delivery of a report or opinion prepared by a licensed engineer, land surveyor, geologist, or expert in natural hazard discovery dealing with matters within the scope of the professional's license or expertise, shall be sufficient compliance for application of the exemption provided by subdivision (a) if the information is provided to the prospective transferee pursuant to a request therefor, whether written or oral. In responding to that request, an expert may indicate, in writing, an understanding that the information provided will be used in fulfilling the requirements of Section 1103.2 and, if so, shall indicate the required disclosures, or parts thereof, to which the information being furnished is applicable. Where that statement is furnished, the expert shall not be responsible for any items of information, or parts thereof, other than those expressly set forth in the statement.

(1) In responding to the request, the expert shall determine whether the property is within an airport influence area as defined in subdivision (b) of Section 11010 of the Business and Professions Code. If the property is within an airport influence area, the report shall contain the following statement:

NOTICE OF AIRPORT IN VICINITY

This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you.

[Remainder of Article 1.7 omitted]

CIVIL CODE
Division 2, Part 4
Title 6—Common Interest Developments
Chapter 2—County Documents
Article 1—Creation
(excerpts)

1353.

(a) (1) A declaration, recorded on or after January 1, 1986, shall contain a legal description of the common interest development, and a statement that the common interest development is a community apartment project, condominium project, planned development, stock cooperative, or combination thereof. The declaration shall additionally set forth the name of the association and the restrictions on the use or enjoyment of any portion of the common interest development that are intended to be enforceable equitable servitudes. If the property is located within an airport influence area, a declaration, recorded after January 1, 2004, shall contain the following statement:

> NOTICE OF AIRPORT IN VICINITY
>
> This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you.

(2) For purposes of this section, an "airport influence area," also known as an "airport referral area," is the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses as determined by an airport land use commission.

(3) [Omitted]

(4) The statement in a declaration acknowledging that a property is located in an airport influence area does not constitute a title defect, lien, or encumbrance.

(b) The declaration may contain any other matters the original signator of the declaration or the owners consider appropriate.

LEGISLATIVE HISTORY SUMMARY

PUBLIC UTILITIES CODE
Sections 21670 et seq.
Airport Land Use Commission Statutes
And Related Statutes

1967 Original ALUC statute enacted.

- Establishment of ALUCs required in each county containing a public airport served by a certificated air carrier.
- The purpose of ALUCs is indicated as being to make recommendations regarding height restrictions on buildings and the use of land surrounding airports.

1970 Assembly Bill 1856 (Badham) Chapter 1182, Statutes of 1970—Adds provisions which:

- Require ALUCs to prepare comprehensive land use plans.
- Require such plans to include a long-range plan and to reflect the airport's forecast growth during the next 20 years.
- Require ALUC review of airport construction plans (Section 21661.5).
- Exempt Los Angeles County from the requirement of establishing an ALUC.

1971 The function of ALUCs is restated as being to require new construction to conform to Department of Aeronautics standards.

1973 ALUCs are permitted to establish compatibility plans for military airports.

1982 Assembly Bill 2920 (Rogers) Chapter 1041, Statutes of 1982—Adds major changes which:

- More clearly articulate the purpose of ALUCs.
- Eliminate reference to "achieve by zoning."
- Require consistency between local general and specific plans and airport land use commission plans; the requirements define the process for attaining consistency, they do not establish standards for consistency.
- Eliminate the requirement for proposed individual development projects to be referred to an ALUC for review once local general/specific plans are consistent with the ALUC's plan.
- Require that local agencies make findings of fact before overriding an ALUC decision.
- Change the vote required for an override from 4/5 to 2/3.

1984 Assembly Bill 3551 (Mountjoy) Chapter 1117, Statutes of 1984—Amends the law to:

- Require ALUCs in all counties having an airport which serves the general public unless a county and its cities determine an ALUC is not needed.
- Limit amendments to compatibility plans to once per year.
- Allow individual projects to continue to be referred to the ALUC by agreement.
- Extend immunity to airports if an ALUC action is overridden by a local agency not owning the airport.

- Provide state funding eligibility for preparation of compatibility plans through the Regional Transportation Improvement Program process.

1987 Senate Bill 633 (Rogers) Chapter 1018, Statutes of 1987—Makes revisions which:

- Require that a designated body serving as an ALUC include two members having "expertise in aviation."
- Allows an interested party to initiate court proceedings to postpone the effective date of a local land use action if a compatibility plan has not been adopted.
- Delete *sunset* provisions contained in certain clauses of the law. Allows reimbursement for ALUC costs in accordance with the Commission on State Mandates.

1989 Senate Bill 255 (Bergeson) Chapter 54, Statutes of 1989—

- Sets a requirement that comprehensive land use plans be completed by June 1991.
- Establishes a method for compelling ALUCs to act on matters submitted for review.
- Allows ALUCs to charge fees for review of projects.
- Suspends any lawsuits that would stop development until the ALUC adopts its plan or until June 1, 1991.

1989 Senate Bill 235 (Alquist) Chapter 788, Statutes of 1989—Appropriates $3,672,000 for the payment of claims to counties seeking reimbursement of costs incurred during fiscal years 1985-86 through 1989-90 pursuant to state-mandated requirement (Chapter 1117, Statutes of 1984) for creation of ALUCs in most counties. This statute was repealed in 1993.

1990 Assembly Bill 4164 (Mountjoy) Chapter 1008, Statutes of 1990—Adds section 21674.5 requiring the Division of Aeronautics to develop and implement a training program for ALUC staffs.

1990 Assembly Bill 4265 (Clute) Chapter 563, Statutes of 1990—With the concurrence of the Division of Aeronautics, allows ALUCs to use an airport layout plan, rather than a long-range airport master plan, as the basis for preparation of a compatibility plan.

1990 Senate Bill 1288 (Beverly) Chapter 54, Statutes of 1990—Amends Section 21670.2 to give Los Angeles County additional time to prepare compatibility plans and meet other provisions of the ALUC statutes.

1991 Senate Bill 532 (Bergeson) Chapter 140, Statutes of 1991—

- Allows counties having half of their compatibility plans completed or under preparation by June 30, 1991, an additional year to complete the remainder.
- Allows ALUCs to continue to charge fees under these circumstances.
- Fees may be charged only until June 30, 1992, if plans are not completed by then.

1993 Senate Bill 443 (Committee on Budget and Fiscal Review) Chapter 59, Statutes of 1993—Amends Section 21670(b) to make the formation of ALUCs permissive rather than mandatory as of June 30, 1993. (Note: Section 21670.2 which assigns responsibility for coordinating the airport planning of public agencies in Los Angeles County is not affected by this amendment.)

1994 Assembly Bill 2831 (Mountjoy) Chapter 644, Statutes of 1994 —Reinstates the language in Section 21670(b) mandating establishment of ALUCs, but also provides for an alternative airport land use planning process. Lists specific actions which a county and affected cities must take in order for such alternative process to receive Caltrans approval. Requires that

ALUCs be guided by information in the Caltrans *Airport Land Use Planning Handbook* when formulating airport land use plans.

1994 Senate Bill 1453 (Rogers) Chapter 438, Statutes of 1994—Amends California Environmental Quality Act (CEQA) statutes as applied to preparation of environmental documents affecting projects in the vicinity of airports. Requires lead agencies to use the *Airport Land Use Planning Handbook* as a technical resource when assessing the airport-related noise and safety impacts of such projects.

1997 Assembly Bill 1130 (Oller) Chapter 81, Statutes of 1997—Added Section 21670.4 concerning airports whose planning boundary straddles a county line.

2000 Senate Bill 1350 (Rainey) Chapter 506, Statutes of 2000—Added Section 21670(f) clarifying that special districts are among the local agencies to which airport land use planning laws are intended to apply.

2001 Assembly Bill 93 (Wayne) Chapter 946, Statutes of 2001—Added Section 21670.3 regarding San Diego County Regional Airport Authority's responsibility for airport planning within San Diego County.

2002 Assembly Bill 3026 (Committee on Transportation) Chapter 438, Statutes of 2002—Changes the term "comprehensive land use plan" to "airport land use compatibility plan."

2002 Assembly Bill 2776 (Simitian) Chapter 496, Statutes of 2002—Requires information regarding the location of a property within an airport influence area be disclosed as part of certain real estate transactions effective January 1, 2004.

2002 Senate Bill 1468 (Knight) Chapter 971, Statutes of 2002—Changes ALUC preparation of airport land use compatibility plans for military airports from optional to required. Requires that the plans be consistent with the safety and noise standards in the Air Installation Compatible Use Zone for that airport. Requires that the general plan and any specific plans be consistent with these standards where there is military airport, but an airport land use commission does not exist.

2003 Assembly Bill 332 (Mullin) Chapter 351, Statutes of 2003—Clarifies that school districts and community college districts are subject to compatibility plans. Requires local public agencies to notify ALUC and Division of Aeronautics at least 45 days prior to deciding to overrule the ALUC.

Adds that prior to granting building construction permits, local agencies shall be guided by the criteria established in the Airport Land Use Planning Handbook and any related federal aviation regulations to the extent that the criteria has been incorporated into their airport land use compatibility plan.

2004 Senate Bill 1223 (Committee on Transportation) Chapter 615, Statutes of 2004—Technical revisions eliminating most remaining references to the term "comprehensive land use plan" and replacing it with "airport land use compatibility plan." Also replaces the terms "planning area" and "study area" with "airport influence area."

2005 Assembly Bill 1358 (Mullin) Chapter 29, Statutes of 2005—Requires a school district to notify the Department of Transportation before leasing property for a new school site. Also makes these provisions applicable to charter schools.

2007 Senate Bill 10 (Kehoe) Chapter 287, Statutes of 2007—The San Diego County Regional Airport Authority Reform Act of 2007. Restructures the airport authority established in 2001 by AB 93 (Wayne), with a set of goals related to governance, accountability, planning and operations at San Diego International Airport.

APPENDIX C

Federal Aviation Regulations Part 77

Safe, Efficient Use and Preservation of the Navigable Airspace

Amdt. 77-13, Effective January 18, 2011

Subpart A

GENERAL

77.1 Purpose.

This part establishes:

(a) The requirements to provide notice to the FAA of certain proposed construction, or the alteration of existing structures;

(b) The standards used to determine obstructions to air navigation, and navigational and communication facilities;

(c) The process for aeronautical studies of obstructions to air navigation or navigational facilities to determine the effect on the safe and efficient use of navigable airspace, air navigation facilities or equipment; and

(d) The process to petition the FAA for discretionary review of determinations, revisions, and extensions of determinations.

77.3 Definitions.

For the purpose of this part:

"Non-precision instrument runway" means a runway having an existing instrument approach procedure utilizing air navigation facilities with only horizontal guidance, or area type navigation equipment, for which a straight-in non-precision instrument approach procedure has been approved, or planned, and for which no precision approach facilities are planned, or indicated on an FAA planning document or military service military airport planning document.

Planned or proposed airport is an airport that is the subject of at least one of the following documents received by the FAA:

(1) Airport proposals submitted under 14 CFR Part 157.

(2) Airport Improvement Program requests for aid.

(3) Notices of existing airports where prior notice of the airport construction or alteration was not provided as required by 14 CFR Part 157.

(4) Airport layout plans.

(5) DOD proposals for airports used only by the U.S. Armed Forces.

(6) DOD proposals on joint-use (civil-military) airports.

(7) Completed airport site selection feasibility study.

"Precision instrument runway" means a runway having an existing instrument approach procedure utilizing an Instrument Landing System (ILS), or a Precision Approach Radar (PAR). It also means a runway for which a precision approach system is planned and is so indicated by an FAA-approved airport layout plan; a military service approved military airport layout plan; any other FAA planning document, or military service military airport planning document.

"Public use airport" is an airport available for use by the general public without a requirement for prior approval of the airport owner or operator.

"Seaplane base" is considered to be an airport only if its sea lanes are outlined by visual markers.

"Utility runway" means a runway that is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds maximum gross weight and less.

"Visual runway" means a runway intended solely for the operation of aircraft using visual approach procedures, with no straight-in instrument approach procedure and no instrument designation indicated on an FAA-approved airport layout plan, a military service approved military airport layout plan, or by any planning document submitted to the FAA by competent authority.

Subpart B
NOTICE REQUIREMENTS

77.5 Applicability.

(a) If you propose any construction or alteration described in §77.9, you must provide adequate notice to the FAA of that construction or alteration.

(b) If requested by the FAA, you must also file supplemental notice before the start date and upon completion of certain construction or alterations that are described in §77.9.

(c) Notice received by the FAA under this subpart is used to:

(1) Evaluate the effect of the proposed construction or alteration on safety in air commerce and the efficient use and preservation of the navigable airspace and of airport traffic capacity at public use airports;

(2) Determine whether the effect of proposed construction or alteration is a hazard to air navigation;

(3) Determine appropriate marking and lighting recommendations, using FAA Advisory Circular 70/7460–1, Obstruction Marking and Lighting;

(4) Determine other appropriate measures to be applied for continued safety of air navigation; and

(5) Notify the aviation community of the construction or alteration of objects that affect the navigable airspace, including the revision of charts, when necessary.

77.7 Form and time of notice.

(a) If you are required to file notice under §77.9, you must submit to the FAA a completed FAA Form 7460–1, Notice of Proposed Construction or Alteration. FAA Form 7460–1 is available at FAA regional offices and on the Internet.

(b) You must submit this form at least 45 days before the start date of the proposed construction or alteration or the date an application for a construction permit is filed, whichever is earliest.

(c) If you propose construction or alteration that is also subject to the licensing requirements of the Federal Communications Commission (FCC), you must submit notice to the FAA on or before the date that the application is filed with the FCC.

(d) If you propose construction or alteration to an existing structure that exceeds 2,000 ft. in height above ground level (AGL), the FAA presumes it to be a hazard to air navigation that results in an inefficient use of airspace. You must include details explaining both why the proposal would not constitute a hazard to air navigation and why it would not cause an inefficient use of airspace.

(e) The 45-day advance notice requirement is waived if immediate construction or alteration is required because of an emergency involving essential public services, public health, or public safety. You may provide notice to the FAA by any available, expeditious means. You must file a completed FAA Form 7460–1 within 5 days of the initial notice to the FAA. Outside normal business hours, the nearest flight service station will accept emergency notices.

77.9 Construction or alteration requiring notice.

If requested by the FAA, or if you propose any of the following types of construction or alteration, you must file notice with the FAA of:

(a) Any construction or alteration that is more than 200 ft. AGL at its site.

(b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:

(1) 100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 ft. in actual length, excluding heliports.

(2) 50 to 1 for a horizontal distance of 10,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 ft. in actual length, excluding heliports.

(3) 25 to 1 for a horizontal distance of 5,000 ft. from the nearest point of the nearest landing and takeoff area of each heliport described in paragraph (d) of this section.

(c) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) or (b) of this section.

(d) Any construction or alteration on any of the following airports and heliports:

(1) A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications.

(2) A military airport under construction, or an airport under construction that will be available for public use.

(3) An airport operated by a Federal agency or the DOD.

(4) An airport or heliport with at least one FAA-approved instrument approach procedure.

(e) You do not need to file notice for construction or alteration of:

(1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation.

(2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose.

(3) Any construction or alteration for which notice is required by any other FAA regulation.

(4) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure.

77.11 Supplemental notice requirements.

(a) You must file supplemental notice with the FAA when:

(1) The construction or alteration is more than 200 feet in height AGL at its site; or

(2) Requested by the FAA.

(b) You must file supplemental notice on a prescribed FAA form to be received within the time limits specified in the FAA determination. If no time limit has been specified, you must submit supplemental notice of construction to the FAA within 5 days after the structure reaches its greatest height.

(c) If you abandon a construction or alteration proposal that requires supplemental notice, you must submit notice to the FAA within 5 days after the project is abandoned.

(d) If the construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

Subpart C
STANDARDS FOR DETERMINING OBSTRUCTIONS TO AIR NAVIGATION OR NAVIGATIONAL AIDS OR FACILITIES

77.13 Applicability.

This subpart describes the standards used for determining obstructions to air navigation, navigational aids, or navigational facilities. These standards apply to the following:

(a) Any object of natural growth, terrain, or permanent or temporary construction or alteration, including equipment or materials used and any permanent or temporary apparatus.

(b) The alteration of any permanent or temporary existing structure by a change in its height, including appurtenances, or lateral dimensions, including equipment or material used therein.

77.15 Scope.

(a) This subpart describes standards used to determine obstructions to air navigation that may affect the safe and efficient use of navigable airspace and the operation of planned or existing air navigation and communication facilities. Such facilities include air navigation aids, communication equipment, airports, Federal airways, instrument approach or departure procedures, and approved off-airway routes.

(b) Objects that are considered obstructions under the standards described in this subpart are presumed hazards to air navigation unless further aeronautical study concludes that the object is not a hazard. Once further aeronautical study has been initiated, the FAA will use the standards in this subpart, along with FAA policy and guidance material, to determine if the object is a hazard to air navigation.

(c) The FAA will apply these standards with reference to an existing airport facility, and airport proposals received by the FAA, or the appropriate military service, before it issues a final determination.

(d) For airports having defined runways with specially prepared hard surfaces, the primary surface for each runway extends 200 feet beyond each end of the runway. For airports having defined strips or pathways used regularly for aircraft takeoffs and landings, and designated runways, without specially prepared hard surfaces, each end of the primary surface for each such runway shall coincide with the corresponding end of the runway. At airports, excluding seaplane bases, having a defined landing and takeoff area with no defined pathways for aircraft takeoffs and landings, a determination must be made as to which portions of the landing and takeoff area are regularly used as landing and takeoff pathways. Those determined pathways must be considered runways, and an appropriate primary surface as defined in §77.19 will be considered as longitudinally centered on each such runway. Each end of that primary surface must coincide with the corresponding end of that runway.

(e) The standards in this subpart apply to construction or alteration proposals on an airport (including heliports and seaplane bases with marked lanes) if that airport is one of the following before the issuance of the final determination:

(1) Available for public use and is listed in the Airport/Facility Directory, Supplement Alaska, or Supplement Pacific of the U.S. Government Flight Information Publications; or

(2) A planned or proposed airport or an airport under construction of which the FAA has received actual notice, except DOD airports, where there is a clear indication the airport will be available for public use; or,

(3) An airport operated by a Federal agency or the DOD; or,

(4) An airport that has at least one FAA-approved instrument approach.

77.17 Obstruction standards.

(a) An existing object, including a mobile object, is, and a future object would be an obstruction to air navigation if it is of greater height than any of the following heights or surfaces:

(1) A height of 499 feet AGL at the site of the object.

(2) A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest runway more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

(3) A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.

(4) A height within an en route obstacle clearance area, including turn and termination areas, of a Federal Airway or approved off-airway route, that would increase the minimum obstacle clearance altitude.

(5) The surface of a takeoff and landing area of an airport or any imaginary surface established under §77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

(b) Except for traverse ways on or near an airport with an operative ground traffic control service furnished by an airport traffic control tower or by the airport management and coordinated with the air traffic control service, the standards of paragraph (a) of this section apply to traverse ways used or to be used for the passage of mobile objects only after the heights of these traverse ways are increased by:

(1) 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance.

(2) 15 feet for any other public roadway.

(3) 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road.

(4) 23 feet for a railroad.

(5) For a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it.

77.19 Civil airport imaginary surfaces.

The following civil airport imaginary surfaces are established with relation to the airport and to each runway. The size of each such imaginary surface is based on the category of each runway according to the type of approach available or planned for that runway. The slope and dimensions of the approach surface applied to each end of a runway are determined by the most precise approach procedure existing or planned for that runway end.

(a) Horizontal surface. A horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by Swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The radius of each arc is:

(1) 5,000 feet for all runways designated as utility or visual;

(2) 10,000 feet for all other runways. The radius of the arc specified for each end of a runway will have the same arithmetical value. That value will be the highest determined for either end of the runway. When a 5,000-foot arc is encompassed by tangents connecting two adjacent 10,000-foot arcs, the 5,000-foot arc shall be disregarded on the construction of the perimeter of the horizontal surface.

(b) Conical surface. A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

(c) Primary surface. A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway; but when the runway has no specially prepared hard surface, the primary surface ends at each end of that runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline. The width of the primary surface is:

(1) 250 feet for utility runways having only visual approaches.

(2) 500 feet for utility runways having non-precision instrument approaches.

(3) For other than utility runways, the width is:

(i) 500 feet for visual runways having only visual approaches.

(ii) 500 feet for non-precision instrument runways having visibility minimums greater than three-fourths statue mile.

(iii) 1,000 feet for a non-precision instrument runway having a non-precision instrument approach with visibility minimums as low as three-fourths of a statute mile, and for precision instrument runways.

(iv) The width of the primary surface of a runway will be that width prescribed in this section for the most precise approach existing or planned for either end of that runway.

(d) Approach surface. A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is

applied to each end of each runway based upon the type of approach available or planned for that runway end.

(1) The inner edge of the approach surface is the same width as the primary surface and it expands uniformly to a width of:

(i) 1,250 feet for that end of a utility runway with only visual approaches;

(ii) 1,500 feet for that end of a runway other than a utility runway with only visual approaches;

(iii) 2,000 feet for that end of a utility runway with a non-precision instrument approach;

(iv) 3,500 feet for that end of a non-precision instrument runway other than utility, having visibility minimums greater that three-fourths of a statute mile;

(v) 4,000 feet for that end of a non-precision instrument runway, other than utility, having a non-precision instrument approach with visibility minimums as low as three-fourths statute mile; and

(vi) 16,000 feet for precision instrument runways.

(2) The approach surface extends for a horizontal distance of:

(i) 5,000 feet at a slope of 20 to 1 for all utility and visual runways;

(ii) 10,000 feet at a slope of 34 to 1 for all non-precision instrument runways other than utility; and

(iii) 10,000 feet at a slope of 50 to 1 with an additional 40,000 feet at a slope of 40 to 1 for all precision instrument runways.

(3) The outer width of an approach surface to an end of a runway will be that width prescribed in this subsection for the most precise approach existing or planned for that runway end.

(e) Transitional surface. These surfaces extend outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surfaces. Transitional surfaces for those portions of the precision approach surface which project through and beyond the limits of the conical surface, extend a distance of 5,000 feet measured horizontally from the edge of the approach surface and at right angles to the runway centerline.

77.21 Department of Defense (DoD) airport imaginary surfaces.

(a) Related to airport reference points. These surfaces apply to all military airports. For the purposes of this section, a military airport is any airport operated by the DOD.

(1) Inner horizontal surface. A plane that is oval in shape at a height of 150 feet above the established airfield elevation. The plane is constructed by scribing an arc with a radius of 7,500 feet about the centerline at the end of each runway and interconnecting these arcs with tangents.

(2) Conical surface. A surface extending from the periphery of the inner horizontal surface outward and upward at a slope of 20 to 1 for a horizontal distance of 7,000 feet to a height of 500 feet above the established airfield elevation.

(3) Outer horizontal surface. A plane, located 500 feet above the established airfield elevation, extending outward from the outer periphery of the conical surface for a horizontal distance of 30,000 feet.

(b) Related to runways. These surfaces apply to all military airports.

(1) Primary surface. A surface located on the ground or water longitudinally centered on each runway with the same length as the runway. The width of the primary surface for runways is 2,000 feet. However, at established bases where substantial construction has taken place in accordance with a previous lateral clearance criteria, the 2,000-foot width may be reduced to the former criteria.

(2) Clear zone surface. A surface located on the ground or water at each end of the primary surface, with a length of 1,000 feet and the same width as the primary surface.

(3) Approach clearance surface. An inclined plane, symmetrical about the runway centerline extended, beginning 200 feet beyond each end of the primary surface at the centerline elevation of the runway end and extending for 50,000 feet. The slope of the approach clearance surface is 50 to 1 along the runway centerline extended until it reaches an elevation of 500 feet above the established airport elevation. It then continues horizontally at this elevation to a point 50,000 feet from the point of beginning. The width of this surface at the runway end is the same as the primary surface, it flares uniformly, and the width at 50,000 is 16,000 feet.

(4) Transitional surfaces. These surfaces connect the primary surfaces, the first 200 feet of the clear zone surfaces, and the approach clearance surfaces to the inner horizontal surface, conical surface, outer horizontal surface or other transitional surfaces. The slope of the transitional surface is 7 to 1 outward and upward at right angles to the runway centerline.

77.23 Heliport imaginary surfaces.

(a) Primary surface. The area of the primary surface coincides in size and shape with the designated take-off and landing area. This surface is a horizontal plane at the elevation of the established heliport elevation.

(b) Approach surface. The approach surface begins at each end of the heliport primary surface with the same width as the primary surface, and extends outward and upward for a horizontal distance of 4,000 feet where its width is 500 feet. The slope of the approach surface is 8 to 1 for civil heliports and 10 to 1 for military heliports.

(c) Transitional surfaces. These surfaces extend outward and upward from the lateral boundaries of the primary surface and from the approach surfaces at a slope of 2 to 1 for a distance of 250 feet measured horizontally from the centerline of the primary and approach surfaces.

Subpart D

AERONAUTICAL STUDIES AND DETERMINATIONS

77.25 Applicability.

(a) This subpart applies to any aeronautical study of a proposed construction or alteration for which notice to the FAA is required under 77.9.

(b) The purpose of an aeronautical study is to determine whether the aeronautical effects of the specific proposal and, where appropriate, the cumulative impact resulting from the proposed construction or alteration when combined with the effects of other existing or proposed structures, would constitute a hazard to air navigation.

(c) The obstruction standards in subpart C of this part are supplemented by other manuals and directives used in determining the effect on the navigable airspace of a proposed construction or alteration. When the FAA needs additional information, it may circulate a study to interested parties for comment.

77.27 Initiation of studies.

The FAA will conduct an aeronautical study when:

(a) Requested by the sponsor of any proposed construction or alteration for which a notice is submitted; or

(b) The FAA determines a study is necessary.

77.29 Evaluating aeronautical effect.

(a) The FAA conducts an aeronautical study to determine the impact of a proposed structure, an existing structure that has not yet been studied by the FAA, or an alteration of an existing structure on aeronautical operations, procedures, and the safety of flight. These studies include evaluating:

(1) The impact on arrival, departure, and en route procedures for aircraft operating under visual flight rules;

(2) The impact on arrival, departure, and en route procedures for aircraft operating under instrument flight rules;

(3) The impact on existing and planned public use airports;

(4) Airport traffic capacity of existing public use airports and public use airport development plans received before the issuance of the final determination;

(5) Minimum obstacle clearance altitudes, minimum instrument flight rules altitudes, approved or planned instrument approach procedures, and departure procedures;

(6) The potential effect on ATC radar, direction finders, ATC tower line-of-sight visibility, and physical or electromagnetic effects on air navigation, communication facilities, and other surveillance systems;

(7) The aeronautical effects resulting from the cumulative impact of a proposed construction or alteration of a structure when combined with the effects of other existing or proposed structures.

(b) If you withdraw the proposed construction or alteration or revise it so that it is no longer identified as an obstruction, or if no further aeronautical study is necessary, the FAA may terminate the study.

77.31 Determinations.

(a) The FAA will issue a determination stating whether the proposed construction or alteration would be a hazard to air navigation, and will advise all known interested persons.

(b) The FAA will make determinations based on the aeronautical study findings and will identify the following:

(1) The effects on VFR/IFR aeronautical departure/arrival operations, air traffic procedures, minimum flight altitudes, and existing, planned, or proposed airports listed in §77.15(e) of which the FAA has received actual notice prior to issuance of a final determination.

(2) The extent of the physical and/or electromagnetic effect on the operation of existing or proposed air navigation facilities, communication aids, or surveillance systems.

(c) The FAA will issue a Determination of Hazard to Air Navigation when the aeronautical study concludes that the proposed construction or alteration will exceed an obstruction standard and would have a substantial aeronautical impact.

(d) A Determination of No Hazard to Air Navigation will be issued when the aeronautical study concludes that the proposed construction or alteration will exceed an obstruction standard but would not have a substantial aeronautical impact to air navigation. A Determination of No Hazard to Air Navigation may include the following:

(1) Conditional provisions of a determination.

(2) Limitations necessary to minimize potential problems, such as the use of temporary construction equipment.

(3) Supplemental notice requirements, when required.

(4) Marking and lighting recommendations, as appropriate.

(e) The FAA will issue a Determination of No Hazard to Air Navigation when a proposed structure does not exceed any of the obstruction standards and would not be a hazard to air navigation.

77.33 Effective period of determinations.

(a) A determination issued under this subpart is effective 40 days after the date of issuance, unless a petition for discretionary review is received by the FAA within 30 days after issuance. The determination will not become final pending disposition of a petition for discretionary review.

(b) Unless extended, revised, or terminated, each Determination of No Hazard to Air Navigation issued under this subpart expires 18 months after the effective date of the determination, or on the date the proposed construction or alteration is abandoned, whichever is earlier.

(c) A Determination of Hazard to Air Navigation has no expiration date.

77.35 Extensions, terminations, revisions and corrections.

(a) You may petition the FAA official that issued the Determination of No Hazard to Air Navigation to revise or reconsider the determination based on new facts or to extend the effective period of the determination, provided that:

(1) Actual structural work of the proposed construction or alteration, such as the laying of a foundation, but not including excavation, has not been started; and

(2) The petition is submitted at least 15 days before the expiration date of the Determination of No Hazard to Air Navigation.

(b) A Determination of No Hazard to Air Navigation issued for those construction or alteration proposals not requiring an FCC construction permit may be extended by the FAA one time for a period not to exceed 18 months.

(c) A Determination of No Hazard to Air Navigation issued for a proposal requiring an FCC construction permit may be granted extensions for up to 18 months, provided that:

(1) You submit evidence that an application for a construction permit/license was filed with the FCC for the associated site within 6 months of issuance of the determination; and

(2) You submit evidence that additional time is warranted because of FCC requirements; and

(3) Where the FCC issues a construction permit, a final Determination of No Hazard to Air Navigation is effective until the date prescribed by the FCC for completion of the construction. If an extension of the original FCC completion date is needed, an extension of the FAA determination must be requested from the Obstruction Evaluation Service (OES).

(4) If the Commission refuses to issue a construction permit, the final determination expires on the date of its refusal.

Subpart E
PETITIONS FOR DISCRETIONARY REVIEW

77.37 General.

(a) If you are the sponsor, provided a substantive aeronautical comment on a proposal in an aeronautical study, or have a substantive aeronautical comment on the proposal but were not given an opportunity to state it, you may petition the FAA for a discretionary review of a determination, revision, or extension of a determination issued by the FAA.

(b) You may not file a petition for discretionary review for a Determination of No Hazard that is issued for a temporary structure, marking and lighting recommendation, or when a proposed structure or alteration does not exceed obstruction standards contained in subpart C of this part.

77.39 Contents of a petition.

(a) You must file a petition for discretionary review in writing and it must be received by the FAA within 30 days after the issuance of a determination under 77.31, or a revision or extension of the determination under 77.35.

(b) The petition must contain a full statement of the aeronautical basis on which the petition is made, and must include new information or facts not previously considered or presented during the aeronautical study, including valid aeronautical reasons why the determination, revisions, or extension made by the FAA should be reviewed.

(c) In the event that the last day of the 30-day filing period falls on a weekend or a day the Federal government is closed, the last day of the filing period is the next day that the government is open.

(d) The FAA will inform the petitioner or sponsor (if other than the petitioner) and the FCC (whenever an FCC-related proposal is involved) of the filing of the petition and that the determination is not final pending disposition of the petition.

77.41 Discretionary review results.

(a) If discretionary review is granted, the FAA will inform the petitioner and the sponsor (if other than the petitioner) of the issues to be studied and reviewed. The review may include a request for comments and a review of all records from the initial aeronautical study.

(b) If discretionary review is denied, the FAA will notify the petitioner and the sponsor (if other than the petitioner), and the FCC, whenever a FCC-related proposal is involved, of the basis for the denial along with a statement that the determination is final.

(c) After concluding the discretionary review process, the FAA will revise, affirm, or reverse the determination.

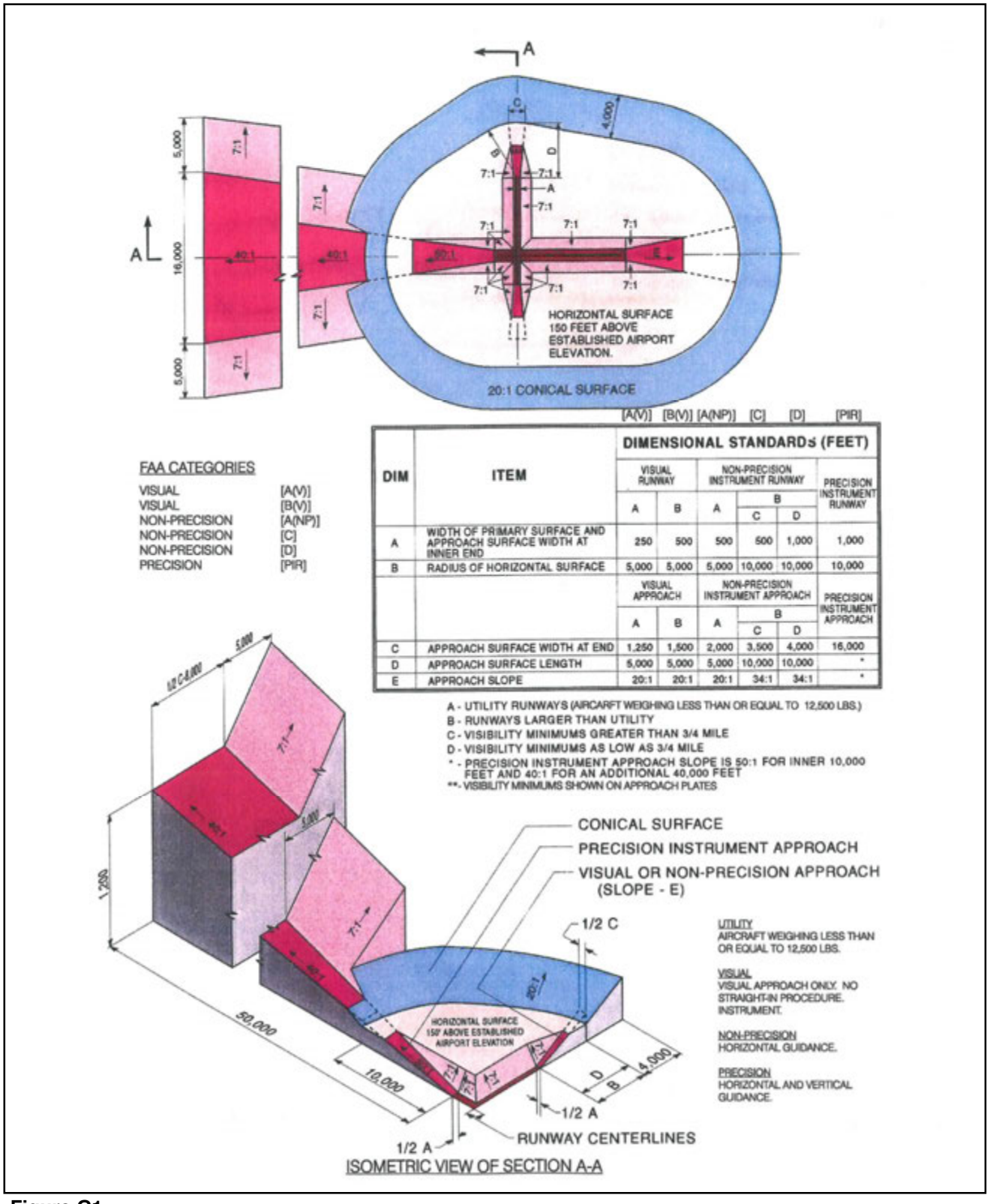
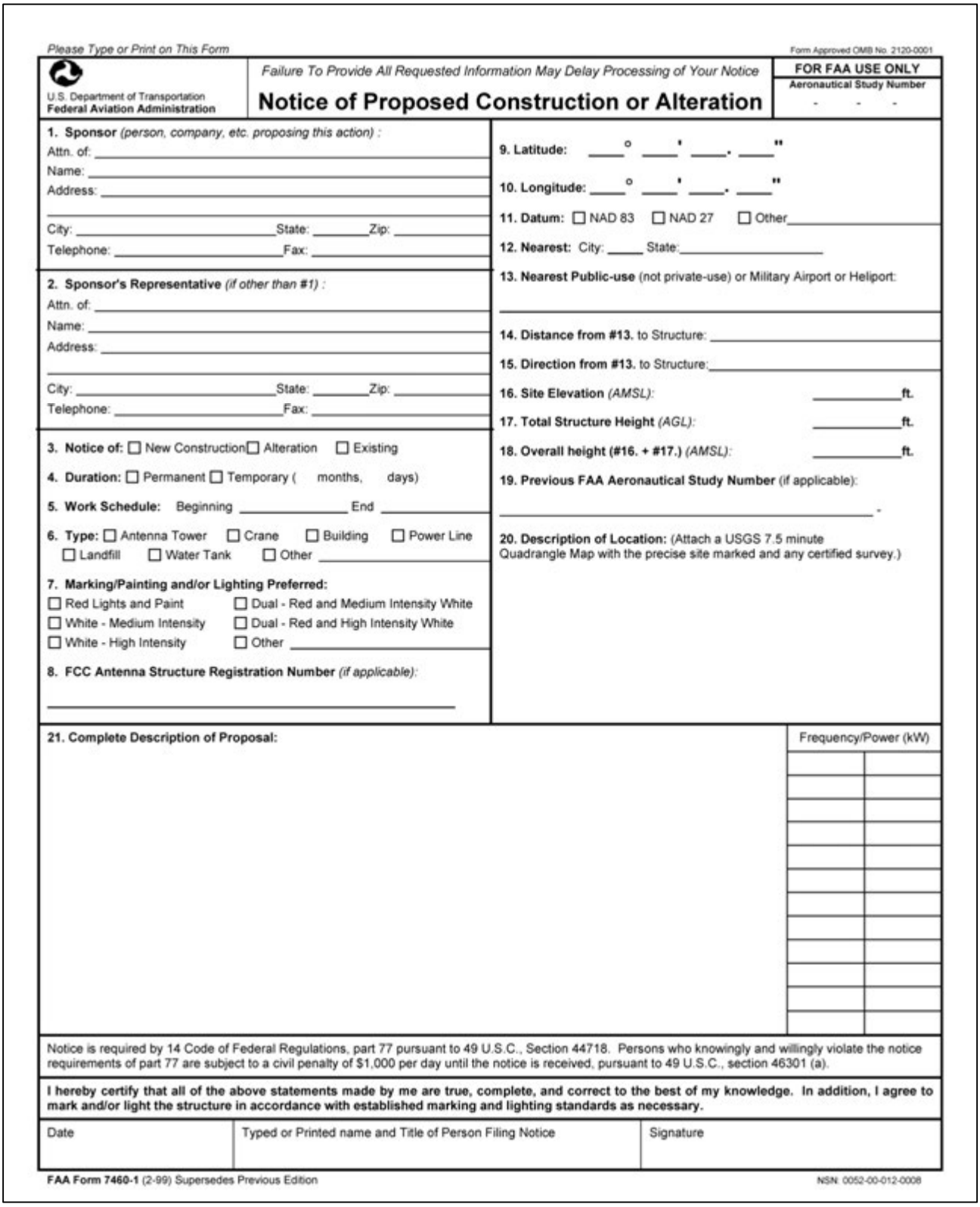


Figure C1

FAR Part 77 Imaginary Surfaces



Please Type or Print on This Form

Form Approved OMB No. 2120-0001

U.S. Department of Transportation
Federal Aviation Administration

Failure To Provide All Requested Information May Delay Processing of Your Notice

Notice of Proposed Construction or Alteration

FOR FAA USE ONLY
Aeronautical Study Number
- - -

1. Sponsor *(person, company, etc. proposing this action) :*
Attn. of: _____
Name: _____
Address: _____
_____
City: _____ State: _____ Zip: _____
Telephone: _____ Fax: _____

2. Sponsor's Representative *(if other than #1) :*
Attn. of: _____
Name: _____
Address: _____
_____
City: _____ State: _____ Zip: _____
Telephone: _____ Fax: _____

3. Notice of: ☐ New Construction ☐ Alteration ☐ Existing

4. Duration: ☐ Permanent ☐ Temporary (months, days)

5. Work Schedule: Beginning _____ End _____

6. Type: ☐ Antenna Tower ☐ Crane ☐ Building ☐ Power Line
☐ Landfill ☐ Water Tank ☐ Other _____

7. Marking/Painting and/or Lighting Preferred:
☐ Red Lights and Paint ☐ Dual - Red and Medium Intensity White
☐ White - Medium Intensity ☐ Dual - Red and High Intensity White
☐ White - High Intensity ☐ Other _____

8. FCC Antenna Structure Registration Number *(if applicable):*
_____

9. Latitude: ____° ____' ____.____"

10. Longitude: ____° ____' ____.____"

11. Datum: ☐ NAD 83 ☐ NAD 27 ☐ Other _____

12. Nearest: City: ____ State: _____

13. Nearest Public-use (not private-use) or Military Airport or Heliport:
_____

14. Distance from #13. to Structure: _____

15. Direction from #13. to Structure: _____

16. Site Elevation *(AMSL):* _____ ft.

17. Total Structure Height *(AGL):* _____ ft.

18. Overall height (#16. + #17.) *(AMSL):* _____ ft.

19. Previous FAA Aeronautical Study Number (if applicable):
_____ -

20. Description of Location: (Attach a USGS 7.5 minute Quadrangle Map with the precise site marked and any certified survey.)

21. Complete Description of Proposal:

Frequency/Power (kW)	

Notice is required by 14 Code of Federal Regulations, part 77 pursuant to 49 U.S.C., Section 44718. Persons who knowingly and willingly violate the notice requirements of part 77 are subject to a civil penalty of $1,000 per day until the notice is received, pursuant to 49 U.S.C., section 46301 (a).

I hereby certify that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to mark and/or light the structure in accordance with established marking and lighting standards as necessary.

Date	Typed or Printed name and Title of Person Filing Notice	Signature

FAA Form 7460-1 (2-99) Supersedes Previous Edition

NSN: 0052-00-012-0008

Figure C2

FAR Part 77 Notification

FAA Form 7460-1

Figure C-3

Online Submittal of Form 7460-1: Notice of Proposed Construction or Alteration

Historically a paper form called a "7460-1" was required to be submitted to the FAA for any project proposed on airport property and certain projects near airports. Recently, the FAA has moved from paper forms to an on-line system of evaluating the effects of a proposed project on the national airspace system.

- The on-line system can be accessed at https://oeaaa.faa.gov.

This new system allows project proponents to submit and track their proposal as it progresses through the FAA evaluation process.
The purpose of this guidance is to supplement and clarify the FAA user guide for the 7460 website.

- available at: https://oeaaa.faa.gov/oeaaa/external/content/OEexternal_Guide_v3.1.pdf

We recommend that the user first read the entire guide provided by the FAA, and then use this document to clarify some of the more complicated aspects of the online 7460 system.

When a project must be submitted to the FAA

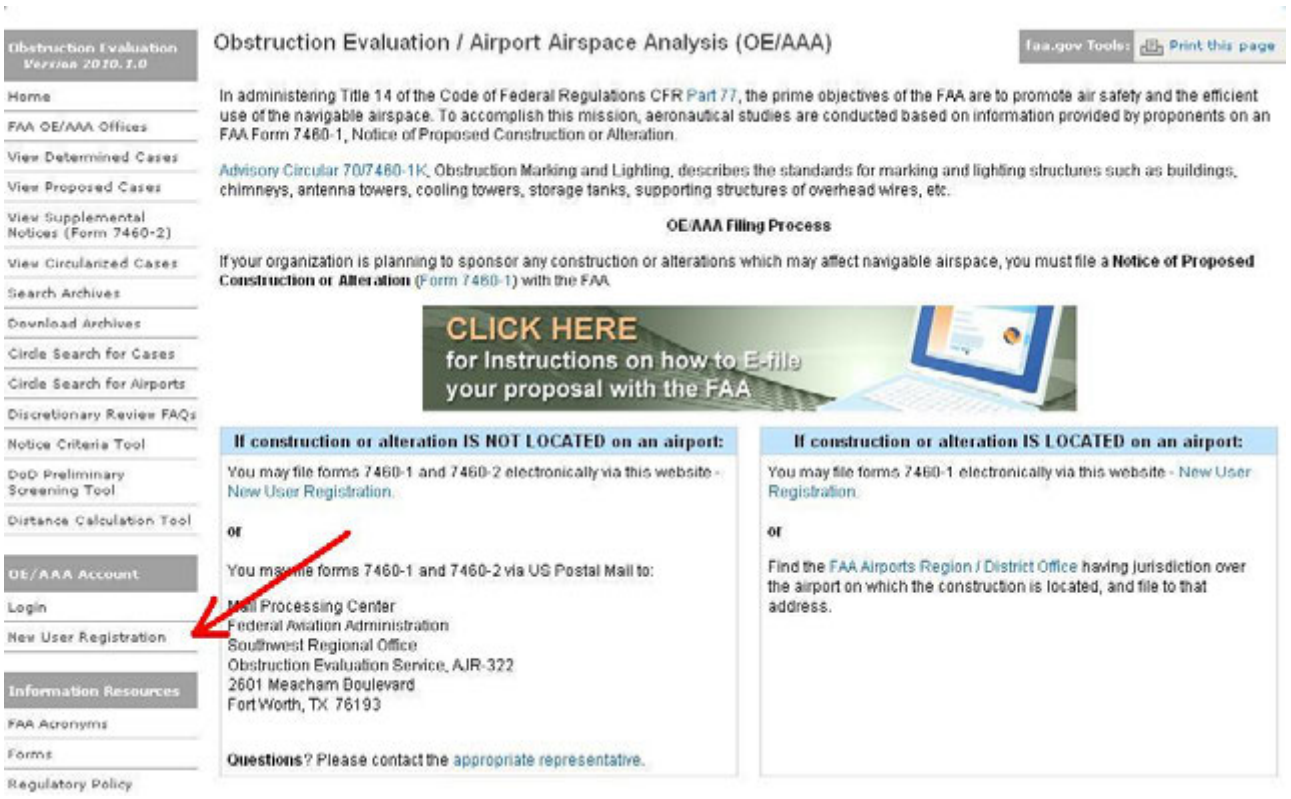
CFR Title 14 Part 77.13 states that any person/organization who intends to sponsor any of the following construction or alterations must notify the Administrator of the FAA:

- Any construction or alteration exceeding 200 ft. above ground level
- Any construction or alteration:
  - within 20,000 ft. of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 ft.
  - within 10,000 ft. of a public use or military airport which exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 ft.
  - within 5,000 ft. of a public use heliport which exceeds a 25:1 surface
- Any highway, railroad or other traverse way whose prescribed adjusted height would exceed the above noted standards
- When requested by the FAA
- Any construction or alteration located on a public use airport or heliport regardless of height or location.

The FAA has been continuously improving the oe/aaa website to be more user friendly and increase the on-line functionality. The look and feel of the website may change in the future, but the majority of the content should remain as is.

Create an account

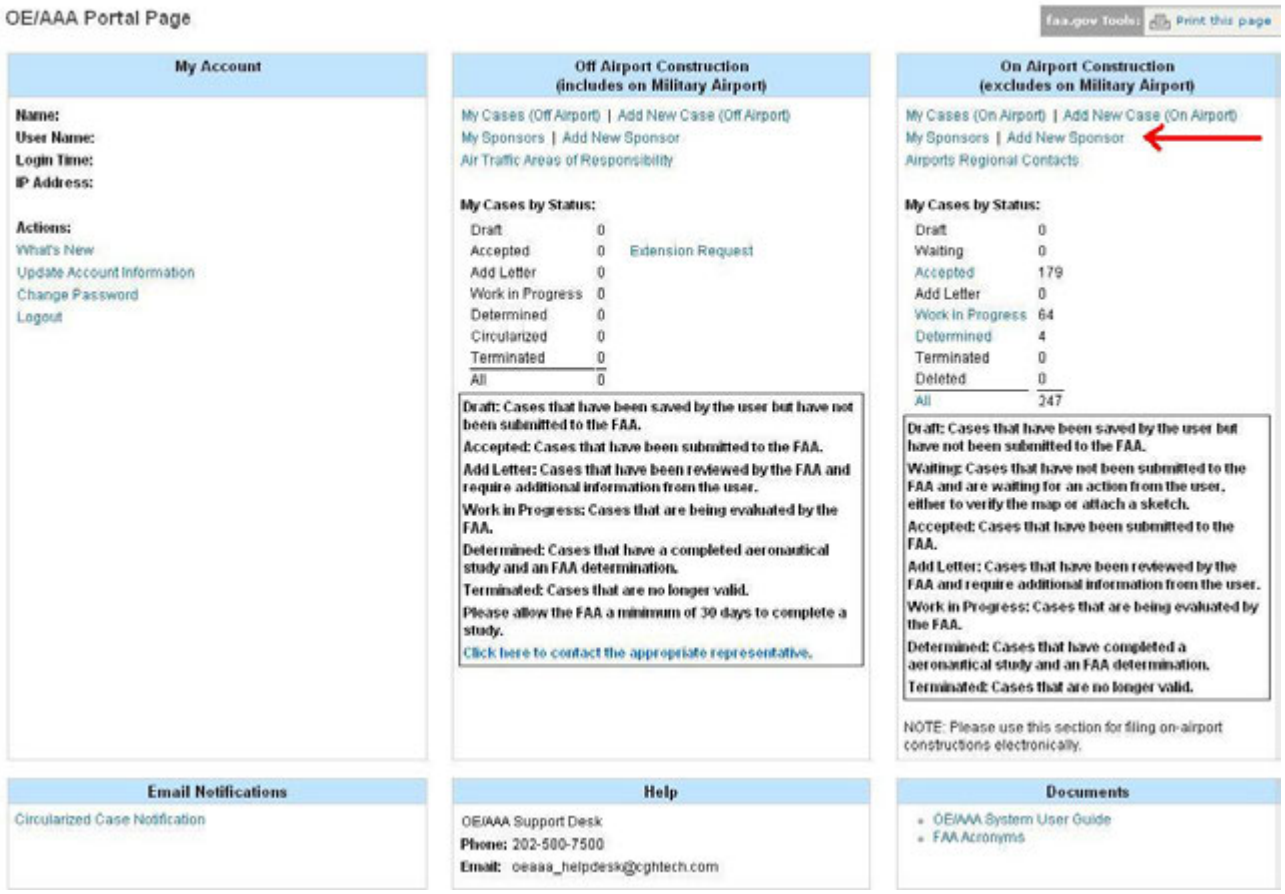
Before accessing the features of the website, the user will be required to create a username and password to access the website.



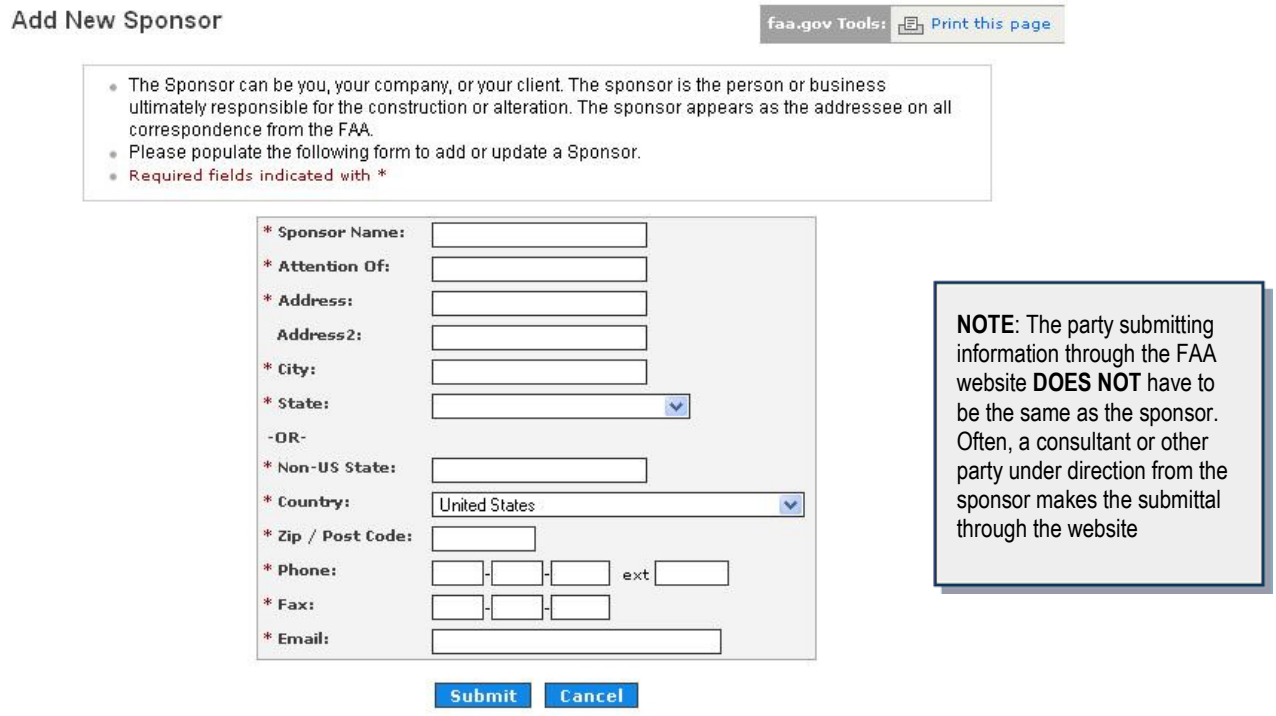
Once a user has created an account, they will be able to log in and will be directed to the OE/AAA Portal Page. This page displays a summary of any projects which have been entered into the website, categorized by off-airport and on-airport projects.

Adding a Sponsor

Before a user can enter project specific information, a project sponsor must be created. A sponsor is the person who is ultimately responsible for the construction or alteration. All FAA correspondence will be addressed to the sponsor. The sponsor could be the airport manager for projects proposed by the airport, or the developer proposing off airport construction. To create a sponsor contact, click "Add New Sponsor" on the "portal" page. From there the user can add sponsors for various projects.



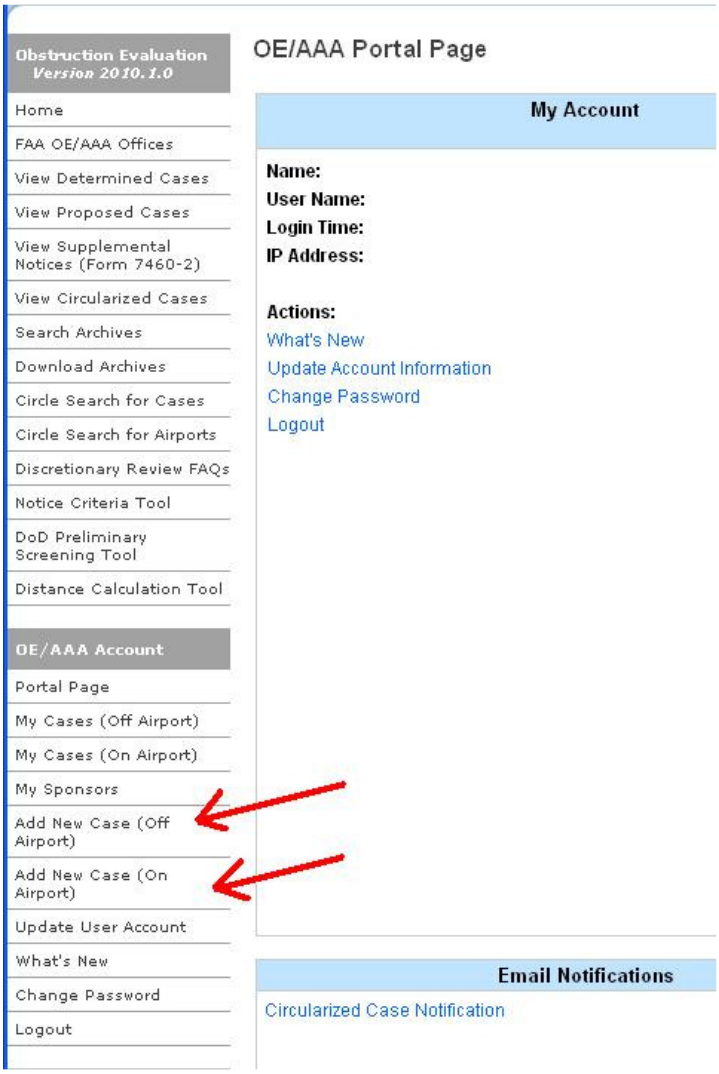
When the user selects "Add New Sponsor", they will be presented with the following screen:



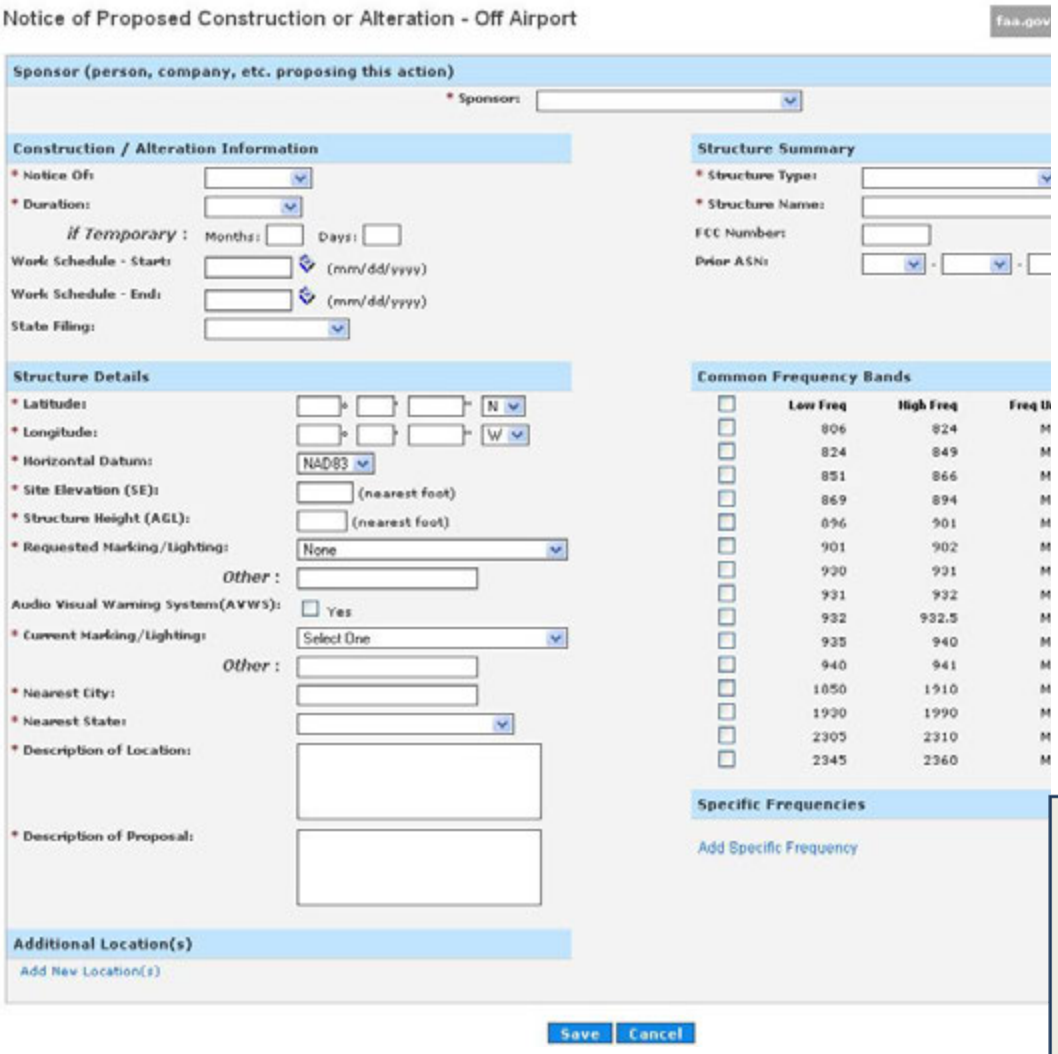
NOTE: The party submitting information through the FAA website **DOES NOT** have to be the same as the sponsor. Often, a consultant or other party under direction from the sponsor makes the submittal through the website

Creating a New Submittal

There are two options for creating a new 7460 submittal. Again on the left side, either click "Add New Case (off airport)" or "Add New Case (on airport)"



There are some differences in the required fields for "on airport" vs. "off airport" but the differences are minor and self-explanatory. One tip: for off airport submittals there is a field for "requested marking/lighting". If the user does not have a preference, select other from the pull down menu and in the "other field" state "no preference".

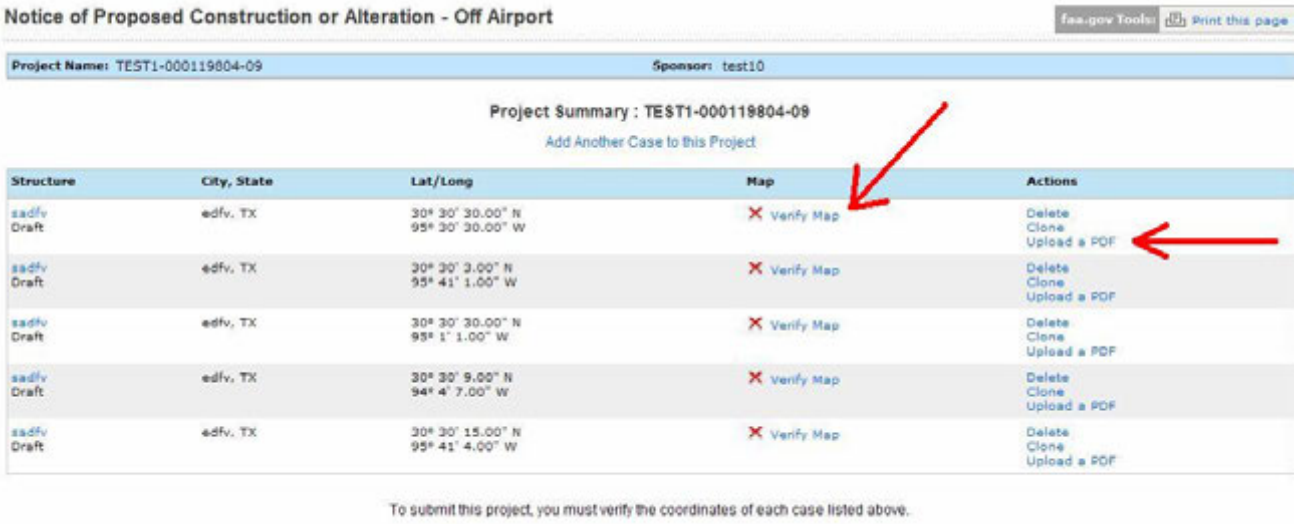


Accurate lat/long and site elevation is critical for an accurate airspace determination.

It is recommended that survey quality data be obtained from a recent survey, a GPS unit, or worst case, scaled from a topo quad.

- The most common "notice of" is construction. Select from pull down menu.
- Latitude and longitude must be entered for the structure/construction activity.
- Most 7460 submittals will require multiple points with lat/long unless the 7460 is for a pole/tower/ or other single point object. Buildings and construction areas all require points indicating the extents of the building or area. More information is provided below on how to add additional points to a submittal.
- There is a field to describe the activity taking place. In some complex activities the field does not provide enough room for the required text. An additional explanatory letter can be attached. Additional information is provided in this section on how to add a letter or document to the submittal.
- Red asterisks indicate the required fields.
- Unless there has been a previous aeronautical study for this submittal leave the "prior study" fields blank.
- Only select "common frequency bands" if the proposed structure will transmit a signal.

If the submittal is a building or construction area that is more than a single lat/long point the user must save the data first. Click save at the bottom of the page. This will bring up a summary screen of the case. To add more points click "clone" under the heading "actions".

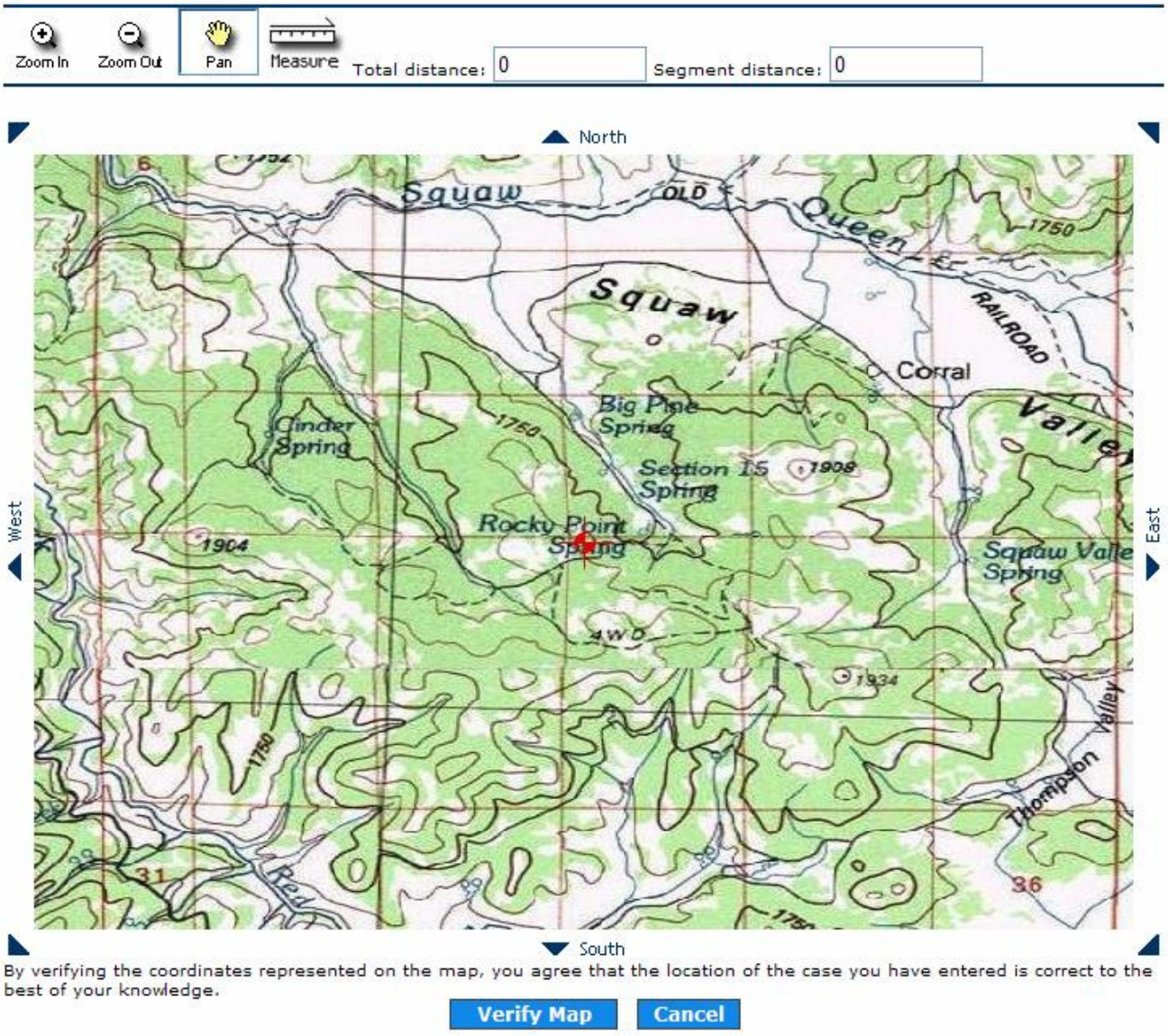


The clone tool copies all the relevant information to a new page where an additional lat/long and elevation can be entered. However, the clone process does not number the various points of a proposed project. When entering the details for a point (see Image 5) it is helpful if the user assigns a number to the point and references the total number of points for the project (e.g. point 2 of 20). The numbering can be included in the project "description/remarks" field for each point.

It should be noted that each individual point associated with a project (e.g. each corner of a building) is evaluated individually, thus the importance of including a numbering system (2 of 20) in the text/description box.

Once done, click "save" again. Now the user will see two records under the "project summary" heading. Continue this process of cloning for all the remaining points.

Once all the points have been entered, each point must be verified. There is a red X with the words "verify map" indicating the user has not verified the location. Click Verify Map, a popup will display the lat/long point on a topo map and the user must verify that it is in the correct location. After clicking "verify map" on the popup, the red X will become a blue checkmark. It seems to be more efficient to enter all of the points associated with a project and then return to verify each point on the map at one time.



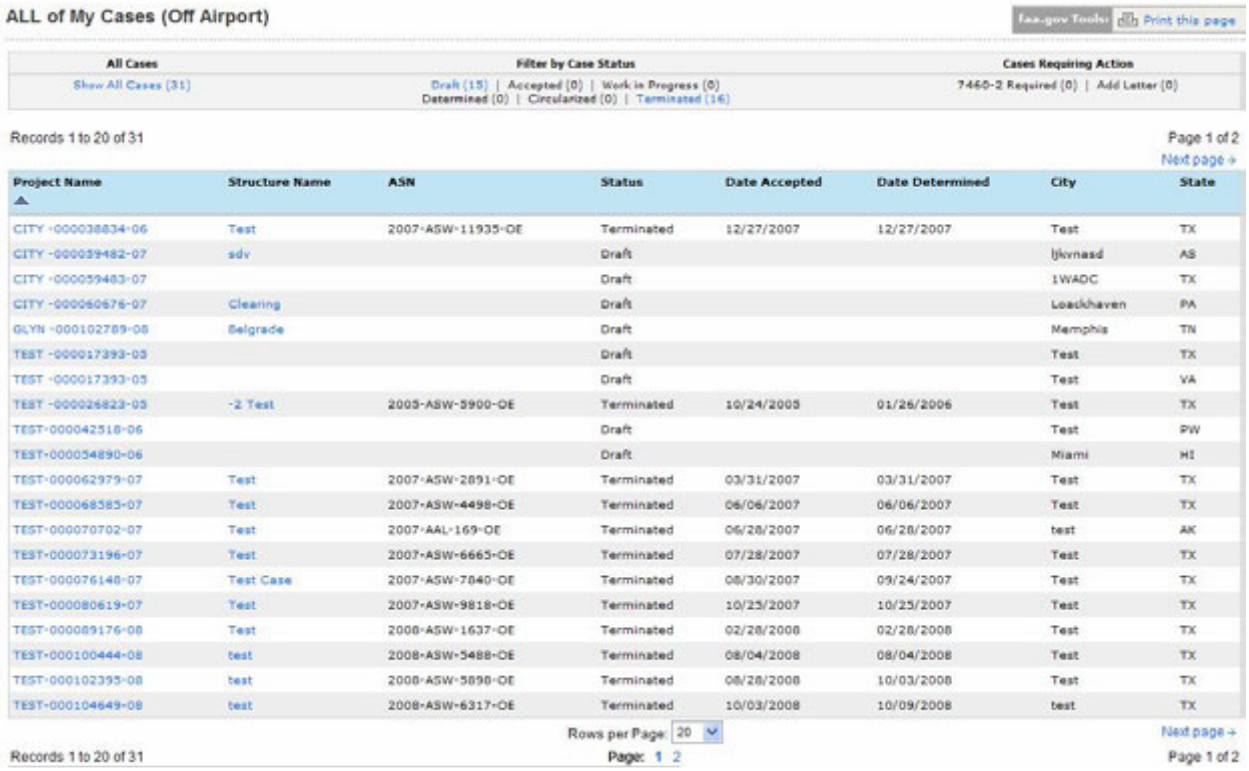
All on-airport project submittals must have a "project sketch" included. Under the "actions" column select "upload a PDF". Once you have uploaded a sketch for all the points associated with the project the red X under "sketch" will turn to a green check mark. Off-airport projects do not require a "project sketch", but the user can still upload one for informational purposes.

If the user needs to add any other information such as an explanatory letter, clicking on "upload a PDF" will allow the user to upload more documents, although only one at a time. Keep in mind that if additional PDFs or information are being provided, like the project sketch it must be uploaded to every point associated with the project.

Once the maps have been verified and sketches uploaded for all points associated with the case, the user will be able to submit the 7460 to the FAA for review.

Status of Submitted Projects

To check the status of a submittal, click on either "my cases (off airport)" or "my cases (on airport)" to see a list of what has been submitted. Each of the multiple points associated with one project will be listed as if they are separate, although still associated. The points will have a status:



ALL of My Cases (Off Airport)

faa.gov Tools | Print this page

All Cases	Filter by Case Status	Cases Requiring Action
Show All Cases (31)	Draft (15) | Accepted (0) | Work in Progress (0) Determined (0) | Circularized (0) | Terminated (16)	7460-2 Required (0) | Add Letter (0)

Records 1 to 20 of 31 — Page 1 of 2 — Next page »

Project Name	Structure Name	ASN	Status	Date Accepted	Date Determined	City	State
CITY -000038834-06	Test	2007-ASW-11935-OE	Terminated	12/27/2007	12/27/2007	Test	TX
CITY -000039482-07	sdv		Draft			ljkvnasd	AS
CITY -000059483-07			Draft			1WADC	TX
CITY -000060676-07	Clearing		Draft			Leadkhaven	PA
GLYN -000102789-08	Belgrade		Draft			Memphis	TN
TEST -000017393-03			Draft			Test	TX
TEST -000017393-03			Draft			Test	VA
TEST -000026823-03	-2 Test	2005-ASW-5900-OE	Terminated	10/24/2005	01/26/2006	Test	TX
TEST-000042518-06			Draft			Test	PW
TEST-000054890-06			Draft			Miami	HI
TEST-000062979-07	Test	2007-ASW-2891-OE	Terminated	03/31/2007	03/31/2007	Test	TX
TEST-000068585-07	Test	2007-ASW-4498-OE	Terminated	06/06/2007	06/06/2007	Test	TX
TEST-000070702-07	Test	2007-AAL-169-OE	Terminated	06/28/2007	06/28/2007	test	AK
TEST-000073196-07	Test	2007-ASW-6665-OE	Terminated	07/28/2007	07/28/2007	Test	TX
TEST-000076148-07	Test Case	2007-ASW-7040-OE	Terminated	08/30/2007	09/24/2007	Test	TX
TEST-000080619-07	Test	2007-ASW-9818-OE	Terminated	10/25/2007	10/25/2007	Test	TX
TEST-000089176-08	Test	2008-ASW-1637-OE	Terminated	02/28/2008	02/28/2008	Test	TX
TEST-000100444-08	test	2008-ASW-5488-OE	Terminated	08/04/2008	08/04/2008	Test	TX
TEST-000102395-08	test	2008-ASW-5898-OE	Terminated	08/28/2008	10/03/2008	Test	TX
TEST-000104649-08	test	2008-ASW-6317-OE	Terminated	10/03/2008	10/09/2008	test	TX

Rows per Page: 20 — Next page »

Records 1 to 20 of 31 — Page: 1 2 — Page 1 of 2

Project Status Definitions:

Draft: Cases that have been saved by the user but have not been submitted to the FAA.

Waiting: Cases that have not been submitted to the FAA and are waiting for an action from the user, either to verify the map or attach a sketch.

Accepted: Cases that have been submitted to the FAA.

Add Letter: Cases that have been reviewed by the FAA and require additional information from the user.

Work in Progress: Cases that are being evaluated by the FAA.

Determined: Cases that have a completed aeronautical study and an FAA determination.

Terminated: Cases that are no longer valid.

These definitions are also shown at the bottom of the summary screen.

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APPENDIX D

Airport Land Use Compatibility Concepts

INTRODUCTION

This appendix provides basic information regarding the concepts and rationale used to develop the compatibility policies and maps set forth in Chapter 2 of this *Stanislaus County Airport Land Use Compatibility Plan*. Some of the material is excerpted directly from the *California Airport Land Use Planning Handbook* published by the California Division of Aeronautics in October 2011. Other portions are based upon concepts that evolved from technical input obtained during review and discussion of preliminary drafts of key policies.

State law requires that airport land use commissions "be guided by" the information presented in the *Handbook*. Despite the statutory reference to it, though, the *Handbook* does not constitute formal state policy or regulation. Indeed, adjustment of the guidelines to fit the circumstances of individual airports is suggested by the *Handbook*. The *Handbook* guidance does not supersede or otherwise take precedence over the policies adopted by the Stanislaus County Airport Land Use Commission (ALUC) in this *Compatibility Plan*. Furthermore, this appendix itself does not constitute ALUC policy. If the material herein conflicts in any manner with the actual policy language or maps, the policies and maps prevail.

As outlined in the *Handbook*, the noise and safety compatibility concerns of ALUCs fall into four categories. This *Compatibility Plan* refers to these categories as "layers:"

- *Noise:* As defined by cumulative noise exposure contours describing noise from aircraft operations near an airport.
- *Overflight:* The impacts of routine aircraft flight over a community.
- *Safety:* From the perspective of minimizing the risks of aircraft accidents beyond the runway environment.
- *Airspace Protection:* Accomplished by limits on the height of structures and other objects in the airport vicinity and restrictions on other uses that potentially pose hazards to flight.

The documentation in the remainder of this appendix is organized under these four categories. Under each of the four compatibility category headings, the discussion is organized around four topics:

- *Compatibility Objective:* The objective to be sought by establishment and implementation of the compatibility policies;
- *Measurement:* The scale on which attainment of the objectives can be measured;
- *Compatibility Strategies:* The types of strategies which, when formulated as compatibility policies, can be used to accomplish the objectives; and
- *Basis for Setting Criteria:* The factors which should be considered in setting the respective compatibility criteria.

NOISE

Noise is perhaps the most basic airport land use compatibility concern. Certainly, it is the most noticeable form of airport impact.

Compatibility Objective

The purpose of noise compatibility policies is to avoid establishment of new noise-sensitive land uses in the portions of an airport environs that are exposed to significant levels of aircraft noise, taking into account the characteristics of the airport and the community surrounding the airport.

Measurement

For the purposes of airport land use compatibility planning, noise generated by the operation of aircraft to, from, and around an airport is primarily measured in terms of the cumulative noise levels of all aircraft operations. In California, the cumulative noise level metric established by state regulations, including for measurement of airport noise, is the Community Noise Equivalent Level (CNEL). Cumulative noise level metrics measure the noise levels of all aircraft operating at an airport on an average day (1/365) of the year. The calculations take into account not only the number of operations of each aircraft type and the noise levels they produce, but also their distribution geographically (the runways and flight tracks used) and by time of day. To reflect an assumed greater community sensitivity to nighttime and evening noise, the CNEL metric counts events during these periods as being louder than actually measured.

Cumulative noise level metrics provide a single measure of the average sound level in decibels (dB) to which any point near an airport is exposed over the course of a day. Although the maximum noise levels produced by individual aircraft are a major component of the calculations, cumulative noise level metrics do not explicitly measure these peak values. Cumulative noise levels are usually illustrated on airport area maps as contour lines connecting points of equal noise exposure. Mapped noise contours primarily show areas of significant noise exposures—ones affected by high concentrations of aircraft takeoffs and landings.

For civilian airports, noise contours are typically calculated using the Federal Aviation Administration's Integrated Noise Model (INM) computer program. For military airports, the similar Department of Defense NOISEMAP model is used. Inputs to these models are of two basic types: standardized data regarding aircraft performance and noise levels generated (this data can be adjusted for a particular airport if necessary); and airport-specific data including aircraft types and number of operations, time of day of aircraft operations, runway usage distribution, and the location and usage of flight tracks. Airport elevation and surrounding topographic data can also be entered. For airports with airport traffic control towers, some of these inputs can be obtained from recorded data. Noise monitoring and radar flight tracking data available for airports in metropolitan areas are other sources of valuable information. At most airports, though, the individual input variables must be estimated.

Compatibility Strategies

The basic strategy for achieving noise compatibility in an airport's vicinity is to limit development of land uses that are particularly sensitive to noise. The most acceptable land uses are ones that either involve few people (especially people engaged in noise-sensitive activities) or generate significant noise levels themselves (such as other transportation facilities or some industrial uses).

California state law regards any residential land uses as normally incompatible where the noise exposure exceeds 65 dB CNEL (although the state airport noise regulations explicitly apply only to identified "noise problem airports" in the context of providing the ability of these airports to operate under a noise variance from the State, the *Handbook* and other state guidelines extend this criterion to all airports as discussed below). This standard, however, is set with respect to high-activity airports, particularly major air carrier airports, in urban locations, where ambient noise levels are generally higher than in suburban and rural areas. As also discussed below and as provided in the *Handbook,* a lower threshold of incompatibility is often appropriate at certain airports, particularly around airports in suburban or rural locations where the ambient noise levels are lower than those found in more urban areas.

In places where the noise exposure is not so severe as to warrant exclusion of new residential development, the ideal strategy is to have very low densities—that is, parcels large enough that the dwelling can be placed in a less impacted part of the property. In urban areas, however, this strategy is seldom viable. The alternative for such locations is to encourage high-density, multi-family residential development with little, if any, outdoor areas, provided that the 65 dB CNEL standard and limitations based upon safety are not exceeded. Compared to single-family subdivisions, ambient noise levels are typically higher in multi-family developments, outdoor living space is less, and sound insulation features can be more easily added to the buildings. All of these factors tend to make aircraft noise less intrusive.

Sound insulation is an important requirement for residential and other noise-sensitive indoor uses in high noise areas. The California Building Code requires that sufficient acoustic insulation be provided in any habitable rooms of new hotels, motels, dormitories, dwellings other than detached single-family residences to assure that aircraft noise is reduced to an interior noise level of 45 dB CNEL or less. To demonstrate compliance with this standard, an acoustical analysis must be done for any residential structure proposed to be located where the annual CNEL exceeds 60 dB. This *Compatibility Plan* extends the 45 dB CNEL interior noise limit standard to single-family dwellings. The *Compatibility Plan* further requires dedication of an avigation easement (see later discussion in this appendix) as a condition for development approval in locations where these standards come into play.

Basis for Setting Criteria

Compatibility criteria related to cumulative noise levels are well-established in federal and state laws and regulations. The California Airport Noise Regulations (California Code of Regulations Section 5000 *et seq.*) states that:

> "The level of noise acceptable to a reasonable person residing in the vicinity of an airport is established as a community noise equivalent level (CNEL) value of 65 dB for purposes of these regulations. This criterion level has been chosen for reasonable persons residing in urban residential areas where houses are of typical California construction and may have windows partially open. It has been selected with reference to speech, sleep and community reaction."

No airport declared by a county's board of supervisors as having a "noise problem" is to operate in a manner that result in incompatible uses being located within the 65 dB CNEL contour. Incompatible uses are defined as being: residences of all types; public and private schools; hospitals and convalescent homes; and places of worship. However, these uses are not regarded as incompatible where acoustical insulation necessary to reduce the interior noise level to 45 dB CNEL has been installed or the airport proprietor has acquired an avigation easement for aircraft noise.

As noted in the regulations, the 65 dB CNEL standard is set with respect to urban areas. For many airports and many communities, 65 dB CNEL is too high to be considered acceptable to "reasonable per-

sons." Through a process called "normalization," adjustments can be made to take into account such factors as the background noise levels of the community and previous exposure to particular noise sources. This process suggests, for example, that 60 dB CNEL may be a more suitable criterion for suburban communities not exposed to significant industrial noise and 55 dB CNEL may be appropriate for quiet suburban or rural communities remote from industrial noise and truck traffic. On the other hand, even though exceeding state standards, 70 dB CNEL may be regarded as an acceptable noise exposure in noisy urban residential communities near industrial areas and busy roads.

Industrial activity and transportation noise are undoubtedly two of the most prominent contributors to background noise levels in a community. According to a U.S. Environmental Protection Agency (EPA) study however, the variable that correlates best with ambient noise levels across a broad range of communities is population density (*Population Distribution of the United States as a Function of Outdoor Noise Level*, EPA Report No. 550/9-74-009, June 1974). This study established the following formula as a means of estimating the typical background noise level of a community:

$$DNL_{EPA} = 22 + 10 * \log(p)$$

where "p" is the population density measured in people per square statute mile.

These factors are reflected in the policies of this *Compatibility Plan*. The ALUC considers 60 dB CNEL to be the maximum normally acceptable noise exposure for new residential development near Nevada County Airport. Based upon the above EPA equation, these criteria are a minimum of 5 dB above the predicted ambient noise levels in the respective communities.

Similar considerations come into play with respect to establishing maximum acceptable noise exposure for nonresidential land uses, particularly those that are noise sensitive. For schools, lodging, and other such uses, a higher noise exposure may be tolerated in noisy urban communities than in quieter suburban and rural areas. For uses that are not noise sensitive or which generate their own noise, the maximum acceptable noise exposure levels tend to be the same regardless of ambient noise conditions. The criteria listed in Chapter 2 of this *Compatibility Plan* are set with these various factors in mind.

OVERFLIGHT

Experience at many airports has shown that noise-related concerns do not stop at the boundary of the outermost mapped CNEL contours. Many people are sensitive to the frequent presence of aircraft overhead even at low levels of noise. These reactions can mostly be expressed in the form of *annoyance*.

The *Handbook* notes that at many airports, particularly air carrier airports, complaints often come from locations beyond any of the defined noise contours. Indeed, heavily used flight corridors to and from metropolitan areas are known to generate noise complaints 50 miles or more from the associated airport. The basis for such complaints may be a desire and expectation that outside noise sources not be intrusive—or, in some circumstances, even distinctly audible—above the quiet, natural background noise level. Elsewhere, especially in locations beneath the traffic patterns of general aviation airports, a fear factor also contributes to some individuals' sensitivity to aircraft overflights.

While these impacts may be important community concerns, the question of importance here is whether any land use planning actions can be taken to avoid or mitigate the impacts or otherwise address the concerns. Commonly, when overflight impacts are under discussion in a community, the focus is on modification of the flight routes. Indeed, some might argue that overflight impacts should be addressed solely through the aviation side of the equation—not only flight route changes, but other modifications

to where, when, and how aircraft are operated. Such changes are not always possible because of terrain, aircraft performance capabilities, FAA regulations, and other factors. In any case, though, ALUCs are particularly limited in their ability to deal with overflight concerns. Most significantly, they have no authority over aircraft operations. The most they can do to bring about changes is to make requests or recommendations. Even with regard to land use, the authority of ALUCs extends only to proposed new development and the delineation of an airport's overall influence area. The authority and responsibility for implementing the *Compatibility Plan*'s policies and criteria rests with the local governments.

These limitations notwithstanding, there are steps which ALUCs can and should take to help minimize overflight impacts.

Compatibility Objective

In an idealistic sense, the compatibility objective with respect to overflight is the same as for noise: avoid new land use development that can disrupt activities and lead to annoyance and complaints. However, given the extensive geographic area over which the impacts occur, this objective is unrealistic except relatively close to the airport. A more realistic objective of overflight compatibility policies therefore is to help notify people about the presence of overflights near airports so that they can make more informed decisions regarding acquisition or lease of property in the affected areas.

Measurement

Cumulative noise metrics such as CNEL are well-suited for use in establishing land use compatibility policy criteria and are the only noise metrics for which widely accepted standards have been adopted. However, these metrics are not very helpful in determining the extent of overflight impact areas. Locations where overflight concerns may be significant are typically well beyond where noise contours can be drawn with precision. Flight tracks tend to be quite divergent and noise monitoring data is seldom available. Moreover, even if the contours could be drawn precisely, the noise levels they would indicate may not be much above the ambient noise levels.

For the purposes of airport land use compatibility planning, two other forms of noise exposure information are more useful. One measure is the momentary, maximum sound level (L_{max}) experienced on the ground as the aircraft flies over while landing at and taking off from a runway. These noise levels can be depicted in the form of a noise "footprint" as shown in Figure D1 for a variety of airline and general aviation aircraft. Each of these footprints is broadly representative of those produced by other aircraft similar to the ones shown. The actual sound level produced by any single aircraft takeoff or landing will vary not only among specific makes and models of aircraft, but also from one operation to another of identical aircraft.

In examining the footprints, two additional points are important to note. One is the importance of the outermost contour. This noise level (65 dBA L_{max}) is the level at which interference with speech begins to be significant. Land uses anywhere within the noise footprint of a given aircraft would experience a noise level, even if only briefly, that could be disruptive to outdoor conversation. Indoors, with windows closed, the aircraft noise level would have to be at least 20 dBA louder to present similar impacts. A second point to note concerns the differences among various aircraft, particularly business jets. As the data shows, business jets manufactured in the 1990s are much quieter than those of 10 and 20 years earlier. The impacts of the 1990s era jets are similar to those of twin-engine piston aircraft and jets being made in the 2000s are quieter yet. At many general aviation airports, the size of the CNEL contours is driven by a relatively small number of operations by the older, noisier business jets. These aircraft are

gradually disappearing from the nationwide aircraft fleet and will likely be mostly gone within 20 years, but at this point in time it is uncertain when they will be completely eliminated.

Another useful form of overflight information is a mapping of the common flight tracks used by aircraft when approaching and departing an airport. Where available, recorded radar data is an ideal source for flight track mapping. Even more revealing is to refine the simple flight track mapping with data such as the frequency of use and/or aircraft altitudes. Chapter 3 includes maps showing areas frequently overflown by aircraft and the resulting noise contours.

Compatibility Strategies

As noted above, the ideal land use compatibility strategy with respect to overflight annoyance is to avoid development of new residential and other noise-sensitive uses in the affected locations. To the extent that this approach is not practical, other strategies need to be explored.

The strategy emphasized in this *Compatibility Plan* is to help people with above-average sensitivity to aircraft overflights—people who are highly *annoyed* by overflights—to avoid living in locations where frequent overflights occur. This strategy involves making people more aware of an airport's proximity and its current and potential aircraft noise impacts on the community before they move to the area. This can be accomplished through buyer awareness measures such as dedication of avigation or overflight easements, recorded deed notices, and/or real estate disclosure statements. In new residential developments, posting of signs in the real estate sales office and/or at key locations in the subdivision itself can be further means of alerting the initial purchasers about the impacts (signs, however, generally do not remain in place beyond the initial sales period and therefore are of little long-term value).

A second strategy is to minimize annoyance in by promoting types of land uses that tend to mask or reduce the intrusiveness of aircraft noise. Although this strategy does not directly appear in the overflight policies of this *Compatibility Plan*, the objectives of the plan would be well-served if local jurisdictions take this concept into consideration in their own planning efforts. To the extent that residential land uses must be located in aircraft overflight areas, multi-family residences—because they tend to have comparatively little outdoor living areas, fewer external walls through which aircraft noise can intrude, and relatively high noise levels of their own—are preferable to single-family dwellings. Particularly undesirable are "ranchette" style residential areas consisting of large (about an acre on average) lots. Such developments are dense enough to expose many people to overflight noise, yet sufficiently rural in character that background noise levels are likely to be low.

Basis for Setting Criteria

In California, the most definitive guidance on where overflight impacts are significant or what actions should be taken in response comes from a state law that took effect in January 2004. California statutes (Business and Profession Code Section 11010 and Civil Code Sections 1103 and 1353) now require most residential real estate transactions, including all involving new subdivisions, to include disclosure that an airport is nearby. The area encompassed by the disclosure requirements is two miles from the airport or the airport influence area established by the county's airport land use commission. The law defines the airport influence area as "the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses as determined by an airport land use commission." This *Compatibility Plan* requires that the disclosure of airport proximity be applied to all new development within both the primary and secondary airport influence areas and recommends that disclosure be provided as part of all real estate transactions involving private property, especially any sale, lease, or rental of residential property.

SAFETY

Compared to noise, safety is in many respects a more difficult concern to address in airport land use compatibility policies. A major reason for this difference is that safety policies address uncertain events that *may occur* with *occasional* aircraft operations, whereas noise policies deal with known, more or less predictable events which *do occur* with *every* aircraft operation. Because aircraft accidents happen infrequently and the time, place, and consequences of an individual accident's occurrence cannot be predicted, the concept of *risk* is central to the assessment of safety compatibility.

Compatibility Objective

The overall objective of safety compatibility criteria is to minimize the risks associated with potential off-airport aircraft accidents and emergency landings beyond the runway environment. There are two components to this objective:

- *Safety on the Ground:* The most fundamental safety compatibility component is to provide for the safety of people and property on the ground in the event of an aircraft accident near an airport.
- *Safety for Aircraft Occupants:* The other important component is to enhance the chances of survival of the occupants of an aircraft involved in an accident that takes place beyond the immediate runway environment.

Measurement

Because aircraft accidents happen infrequently, measuring the risks associated with their occurrence is difficult. It is necessary to look beyond an individual airport in order to assemble enough data to be statistically valid. It is beyond the intent of this discussion to provide statistical data about aircraft accidents. Much can be found on that topic in the *Handbook*. However, certain aspects of aircraft accidents are necessary to discuss in that they have a direct bearing on land use compatibility strategies.

From the standpoint of land use planning, two variables determine the degree of risk posed by potential aircraft accidents: frequency and consequences.

The frequency variable measures *where* and *when* aircraft accidents occur in the vicinity of an airport. More specifically, these two elements can be described as follows:

- *Spatial Element:* The spatial element describes *where* aircraft accidents can be expected to occur. Of all the accidents that take place in the vicinity of airports, what percentage occurs in any given location?
- *Time Element:* The time element adds a *when* variable to the assessment of accident frequency. In any given location around a particular airport, what is the chance that an accident will occur in a specified period of time?

Spatial Distribution of Aircraft Accidents

Of these two elements, the spatial element is the one most meaningfully applied to land use compatibility planning around an individual airport. Looking at airports nationwide, enough accidents have occurred to provide useful data regarding where they mostly occur in the environs of airports. As described below, the *Handbook* uses this data to define a set of safety zones. Additionally, the relative con-

centration of accidents in certain parts of the airport environs is a key consideration in the establishment of compatibility criteria applicable within those zones.

In contrast, the time element is not very useful for land use compatibility planning purposes for several reasons. First, at any given airport, the number of accidents is, with rare exceptions, too few to be statistically meaningful in determining where future accidents might occur. Secondly, a calculation of accident frequency over time depends upon the size of the area under consideration—the smaller the area examined, the less likely it is that an accident will occur in that spot. Lastly, even if the accident frequency over a period of time is calculated, there are no clear baselines with which to compare the results—is once per 100 or 1,000 years significant or not?

The *Handbook* presents a set of diagrams indicating where accidents are most likely to occur around airline and general aviation airports. Figures D-2 and D-3 show the spatial distribution of general aviation aircraft accidents in the vicinity of airports. (Note that these charts show data for all general aviation accidents in the *Handbook* database. Data on accidents associated with different lengths of runway is also provided, though, and is considered in delineation of the safety zones depicted in Chapter 3 of this *Compatibility Plan*.)

The charts reveal several facts:

- About half of arrival accidents and a third of departure accidents take place within the FAA-defined runway protection zone for a runway with a low-visibility instrument approach procedure (a 2,500-foot long trapezoid, varying from 1,000 feet wide at the inner edge to 1,750 feet in width at the outer end). This fact lends validity to the importance of the runway protection zones as an area within which land use activities should be minimal.
- Although the runway protection zones represent the locations within which risk levels are highest, a significant degree of risk exists well beyond the runway protection zone boundaries. Among all near-airport (within 5 miles) accidents, over 80% are concentrated within 1.5 to 2.0 miles of a runway end.
- Arrival accidents tend to be concentrated relatively close to the extended runway centerline. Some 80% occur within a strip extending 10,000 feet from the runway landing threshold and 2,000 feet to each side of the runway centerline.
- Departure accidents are comparatively more dispersed laterally from the runway centerline, but are concentrated closer to the runway end. Many departure accidents also occur lateral to the runway itself, particularly when the runway is long. Approximately 80% of the departure accident sites lie within an area 2,500 from the runway centerline and 6,000 feet beyond the runway end or adjacent to the runway.

To provide some sense of order to the scatter of individual accident points, an analysis presented in the *Handbook* involves aggregating the accident location points (the scatter diagrams of where accidents have occurred relative to the runway) in a manner that better identifies where the accident sites are most concentrated. The results are presented as risk intensity contours—Figure D-2 shows arrival accident risks and Figure D-3 portrays departure accident risks. The two drawings divide the near-airport accident location points into five groups of 20% each (note that only accident sites that were not on a runway, but were within 5 miles of an airport are included in the database). The 20% contour represents the highest or most concentrated risk intensity, the 40% contour represents the next highest risk intensity, and so on up to 80%. The final 20% of the accident sites are beyond the 80% contour. Each contour is drawn so as to encompass 20% of the points within the most compact area. The contours are irregular in shape. No attempt has been made to create geometric shapes. However, the risk con-

tours can serve as the basis for creating geometric shapes that can then be used as safety zones. The *Handbook* contains several examples. The Department of Defense, through its *Air Installation Compatible Use Zones (AICUZ)* program, has followed a similar process to establish safety zone guidelines for military airports.

The *Handbook* takes the additional step of translating the risk contours into several sets of generic safety zones having regular geometric shapes. Generic safety zones are illustrated for different types and lengths of runways. The shapes of these zones reflect not just the accident distribution data, but also the ways in which different phases of aircraft operations create different accident risk characteristics near an airport. For most runways, the *Handbook* suggests creation of six zones. The locations, typical dimensions, and characteristics of the accident risks within each zone are outlined in Table D1. In more general terms, the relative degree of the risk exposure in each zone can be described as listed below.

- *Zone 1* clearly is exposed to the greatest risk of aircraft accidents. For civilian airports, the dimensions of this zone are established by FAA standards. The FAA encourages airport ownership of this zone and provides specific land use standards to the extent that land is airport owned. Where the land is not airport owned, the FAA says these standards serve as recommendations. Zone 1 at military airports matches the clear zones defined by the Department of Defense.
- *Zone 2* lies beyond Zone 1 and also has a significant degree of risk as reflected in both national and local accident location data. At military airports, this zone is equivalent to Accident Potential Zone I.
- *Zone 3* has less risk than Zone 2, but more than Zones 4, 5, or 6. Zone 3 encompasses locations where aircraft often turn at low altitude while approaching or departing the runway.
- *Zone 4* lies along the extended runway centerline beyond Zone 2 and is especially significant at airports that have straight-in instrument approach procedures or a high volume of operations that result in an extended traffic pattern. This zone is equivalent to Accident Potential Zone II at military airports.
- *Zone 5* is a unique area lying adjacent to the runway and, for most airports, lies on airport property. The risk is comparable to Zone 4.
- *Zone 6* contains the aircraft traffic pattern. Although a high percentage of accidents occur within Zone 6, for any given runway Zone 6 is larger than all the other zones combined. Relative to the other zones, the risks in Zone 6 are much less, but are still greater than in locations more distant from the airport.

Although accident location data, together with information on how aircraft flight parameters affect where accidents occur, are the bases for delineation of the generic safety zones, the *Handbook* indicates that adjustments to the zone sizes and shapes must be made in recognition of airport-specific characteristics. Among these characteristics are:

- The particular mix of aircraft types operating at the airport. Larger aircraft generally are faster than smaller planes and thus fly longer and wider traffic patterns or make straight-in approaches.
- The overall volume of aircraft operations. At busy airports, a larger traffic pattern is common because aircraft have to get in sequence for landing.
- Nearby terrain or other airports. These physical features may, for example, limit a traffic pattern to a single side of the airport or dictate "nonstandard" approach and departure routes.

- Instrument approach procedures. Aircraft following these procedures typically fly long, straight-in, gradual descents to the runway. In some cases, though, an approach route may be aligned at an angle to the runway rather than straight in.
- Existence of an air traffic control tower. When a tower is present, controllers may direct or allow pilots to fly unusual routes in order to expedite traffic flow. By comparison, at relatively busy but non-towered airports, aircraft mostly follow the "standard" pattern dictated by federal aviation regulations.
- A dominant direction of traffic flow. As reflected in the *Handbook* analysis of accident locations, landing aircraft tend to follow routes directly in line with the runway during final descent and thus accident sites also are concentrated along this alignment. Departing aircraft are more likely to turn to head to their intended destination and the accident pattern is thus more dispersed. On runways where the flow of aircraft operations is almost always in one direction, this distinction in accident patterns is considered.

Radar data is particularly helpful in showing exactly where aircraft fly when approaching or departing an airport. This data can be used to further support adjustments to the safety zones based upon the above characteristics. Radar data, though, is not available for many of outlying airports. In these instances, information on normal traffic pattern locations can be obtained through contact with local flight instructors and others highly familiar with a particular airport.

Accident Consequences

The consequences variable describes *what* happens when an aircraft accident occurs. Specific measures can be defined in terms of deaths, injuries, property damage, or other such characteristics. In many respects, the consequences component of aircraft accident risk assessment is a more important variable than accident frequency. Not only can a single accident cost many lives, it can indirectly force operational changes or even airport closure.

Relatively little data is available specifically documenting the consequences of aircraft accidents. Except with regard to numbers of deaths or injuries to people on the ground, data on various aspects of aircraft accidents must be used to infer what the consequences have been. Swath size is one useful piece of information. It indicates the area over which accident debris is spread. Swath size in turn depends upon the type of aircraft and the nature of the accident: was the aircraft in controlled flight (an engine failure for example), but then collided with something on the ground or did a catastrophic event (such as a mid-air collision or stall-spin) result in the aircraft making an uncontrolled descent? For small general aviation aircraft, the swath size data suggests that a controlled emergency landing in which the aircraft occupants have a strong chance of surviving is possible in an area about the size of a football field: 75 feet by 300 feet or about 0.5 acre. For larger aircraft, the minimum flight speed is so much higher that the consequences for people on board and anyone on the ground are likely to be high regardless of the land use or terrain characteristics.

Compatibility Strategies

The relatively low numbers of deaths and injuries from aircraft accidents is sometimes cited as indicating that the risks are low. Clearly, though, the more people occupying the critical areas around airports, the greater the risks are. Aircraft accidents may be rare occurrences, but when they occur, the consequences can be severe.

From a land use compatibility perspective, it is therefore essential to avoid conditions that can lead to catastrophic results. Basically, the question is: what land use planning measures can be taken to reduce the severity of an aircraft accident if one occurs in a particular location near an airport? Although there is a significant overlap, specific strategies must consider both components of the safety compatibility objective: protecting people and property on the ground; and, primarily for general aviation airports, enhancing safety for aircraft occupants. In each case, the primary strategy is to limit the intensity of use (the number of people concentrated on the site) in locations most susceptible to an off-airport aircraft accident. This is accomplished by three types of criteria.

Density and Intensity Limitations

Establishment of criteria limiting the maximum number of dwellings or people in areas close to the airport is the most direct method of reducing the potential severity of an aircraft accident. In setting these criteria, consideration must be given to the two different forms of aircraft accidents: those in which the aircraft is descending, but is flying and under directional control of the pilot; and those in which the aircraft is out of control as it falls. Additionally, these data do not include the incidents in which the pilot made a successful emergency landing—the latter generally are categorized as "incidents" rather than as accidents and do not appear in the National Transportation Safety Board data from which the database in the *Handbook* is drawn.

Limits on usage intensity—the number of people per acre—must take into account both types of potential aircraft accidents. To the extent that accidents and incidents are of the controlled variety, then allowing high concentrations of people in a small area would be sensible, as long as intervening areas are little populated. However, concentrated populations present a greater risk for severe consequences in the event of an uncontrolled accident at that location. The policies in Chapter 2 address both of these circumstances. Limiting the average usage intensity over a site reduces the risks associated with either type of accident. In most types of land use development, though, people are not spread equally throughout the site. To minimize the risks from an uncontrolled accident, the policies also limit the extent to which people can be concentrated and development can be clustered in any small area.

Open Land Requirements

Creation of requirements for open land near an airport addresses the objective of enhancing safety for the occupants of an aircraft forced to make an emergency landing away from a runway. If sufficiently large and clear of obstacles, open land areas can be valuable for light aircraft anywhere near an airport. For large and high-performance aircraft, however, open land has little value for emergency landing purposes and is useful primarily where it is an extension of the clear areas immediately adjoining a runway.

Highly Risk-Sensitive Uses

Certain critical types of land uses—particularly schools, hospitals, and other uses in which the mobility of occupants is effectively limited—should be avoided near the ends of runways regardless of the number of people involved. Critical community infrastructure also should be avoided near airports. These types of facilities include power plants, electrical substations, public communications facilities and other facilities, the damage or destruction of which could cause significant adverse effects to public health and welfare well beyond the immediate vicinity of the facility. Lastly, aboveground storage of large quantities of highly flammable or hazardous materials may pose high risks if involved in an aircraft accident and therefore are generally incompatible close to runway ends.

Basis for Setting Criteria

As with noise contours, risk data by itself does not answer the question of what degree of land use restrictions should be established in response to the risks. Although most ALUCs have policies that restrict certain land use activities in locations beyond the runway protection zones, the size of the area in which restrictions are established and the specific restrictions applied vary from one county to another.

Data useful in defining the geographic extent of airport safety areas was discussed above. To set safety compatibility criteria applicable within these zones presents the fundamental question of what is safe. Expressed in another way: what is an *acceptable risk*? In one respect, it may seem ideal to reduce risks to a minimum by prohibiting most types of land use development from areas near airports. However, as addressed in the *Handbook*, there are usually costs associated with such high degrees of restrictiveness. In practice, safety criteria are set on a progressive scale with the greatest restrictions established in locations with the greatest potential for aircraft accidents.

Little established guidance is available to ALUCs regarding how restrictive to make safety criteria for various parts of an airport's environs. Unlike the case with noise, there are no formal federal or state laws or regulations which set safety criteria for airport area land uses for civilian airports except within *runway protection zones* (and with regard to airspace obstructions as described separately in the next section). Federal Aviation Administration safety criteria primarily are focused on the runway and its immediate environment. Runway protection zones—then called *clear zones*—were originally established mostly for the purpose of protecting the occupants of aircraft which overrun or land short of a runway. Now, they are defined by the FAA as intended to enhance the protection of people and property on the ground.

The most useful place from which ALUCs can begin to determine appropriate safety compatibility criteria for airport environs is the *Handbook* itself. Although not regulatory in nature, state law obligates ALUCs to "be guided by" the information presented in the *Handbook*. Suggested usage intensity limitations, measured in terms of people per acre, are set forth along with other safety criteria. Reference should be made to that document for detailed description of the suggested criteria. Three risk-related variables discussed in the *Handbook* are worth noting here, however.

- *Runway Proximity:* In general, the areas of highest risk are closest to the runway ends and secondarily along the extended runway centerline. However, many common aircraft flight tracks do not follow along the runway alignment, particularly on departures. Also, where an aircraft crashes may not be along the flight path that was intended to be followed. As indicated in Figures D2 and D3, these factors affect the risk distribution.

- *Urban versus Rural Areas:* Irrespective of airports, people living in urban areas face different types of risks than those living in rural areas. The cost of avoiding risks differs between these two settings as well. The *Handbook* acknowledges these differences by indicating that usage intensities can be higher in heavily developed urban areas compared to partially undeveloped suburban areas or minimally developed rural locations, yet be equivalent in terms of the level of acceptable risk.

- *Existing versus Proposed Uses:* Another distinction in compatibility policies can be drawn between existing and proposed development. It is reasonable for safety-related policies to be established which prohibit certain types of new development while considering identical existing development to be acceptable. The *Handbook* notes that cost is an important factor in this regard. The range of risks can be divided into three levels. At the bottom of this scale are negligible and acceptable risks for which no action is necessary. At the top are intolerable risks for which action is necessary regardless of the cost. In between are risks that are significant, but tolerable. Whether action

should be taken to reduce these risks depends upon the costs involved. Typically, the cost of removing an incompatible development is greater than the cost of avoiding its construction in the first place.

Preparation of this *Compatibility Plan* has been greatly guided by the *Handbook* information. The *Handbook*, though, also recognizes the importance of tailoring compatibility plans to local circumstances. Such has been the case with the safety compatibility criteria included in this *Compatibility Plan*.

AIRSPACE PROTECTION

Relatively few aircraft accidents are caused by land use conditions that are hazards to flight. The potential exists, however, and protecting against it is essential to airport land use safety compatibility. In addition, and importantly, land use conditions that are hazards to flight may impact the continued viability of airport operations and limit the ability of an airport to operate in the manner identified by the airport proprietor in an adopted airport master plan and airport layout plan.

Compatibility Objective

Because airspace protection is in effect a safety factor, its objective can likewise be thought of in terms of risk. Specifically, the objective is to avoid development of land use conditions that, by posing hazards to flight, can increase the risk of an accident occurring. The particular hazards of concern are:

- Airspace obstructions;
- Wildlife hazards, particularly bird strikes; and
- Land use characteristics that pose other potential hazards to flight by creating visual or electronic interference with air navigation.

The purpose of the airspace protection policies is to ensure that structures and other uses do not cause hazards to aircraft in flight in the airport vicinity. Hazards to flight include physical obstructions to the navigable airspace, wildlife hazards, particularly bird strikes and land use characteristics that create visual or electronic interference with aircraft navigation or communication. This purpose is accomplished by policies that place limits on the height of structures and other objects in the airport vicinity and restrictions on other uses that potentially pose hazards to flight.

Measurement

The measurement of requirements for airspace protection around an airport is a function of several variables including: the dimensions and layout of the runway system; the type of operating procedures established for the airport; and, indirectly, the performance capabilities of aircraft operated at the airport.

- *Airspace Obstructions:* Whether a particular object constitutes an airspace obstruction depends upon two factors: the height of the object relative to the runway elevation; and its proximity to the airport. The acceptable height of objects near an airport is most commonly determined by application of standards set forth in Federal Aviation Regulations (FAR) Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*. These regulations establish a three-dimensional space in the air above an airport. Any object which penetrates this volume of airspace is considered to be an "obstruction" and may affect the aeronautical use of the airspace. Additionally, as described below, another set of airspace protection surfaces is defined by the *U.S. Standard for Terminal Instrument*

Procedures, known as TERPS. Although the intended function of these standards is in design of instrument approach and departure procedures, they can be important in land use compatibility planning in situations where ground elevations near an airport exceed the FAR Part 77 criteria.

- *Wildlife and Other Hazards to Flight:* The significance of other potential hazards to flight is principally measured in terms of the hazards' specific characteristics and their distance from the airport and/or its normal traffic patterns.

Compatibility Strategies

Compatibility strategies for the protection of airport airspace are relatively simple and are directly associated with the individual types of hazards:

- *Airspace Obstructions:* Buildings, antennas, other types of structures, and trees should be limited in height so as not to pose a potential hazard to flight.
- *Wildlife and Other Hazards to Flight:* Land uses that may create other types of hazards to flight near an airport should be avoided or modified so as not to include the offending characteristic.

Basis for Setting Criteria

The criteria for determining airspace obstructions have been long-established in FAR Part 77. Also, state of California regulation of obstructions under the State Aeronautics Act (Public Utilities Code, Section 21659) is based on FAR Part 77 criteria. A shortcoming of FAR Part 77 criteria, however, is that they often are too generic to fit the conditions specific to individual airports. The airspace protection surfaces defined in these regulations can be either more or less restrictive than appropriate for a particular airport. The surfaces can be less restrictive than essential in instances where an instrument approach procedure or its missed approach segment are not aligned with the runway. FAR Part 77 also does not take into account instrument departure procedures which, at some airports, can have critical airspace requirements. Oppositely, FAR Part 77 provides no useful guidance as to acceptable heights of objects located where the ground level already penetrates the airspace surfaces.

To define airspace protection surfaces better suited to these situations, reference must be made the TERPS standards mentioned above. These standards are used for creation of instrument approach and departure procedures. Thus they exactly match the procedures in effect at an individual airport. Unlike the FAR Part 77 surfaces, the elevations of which are set relative to the runway end elevations irrespective of surrounding terrain and obstacles, the TERPS surface elevations are directly determined by the location and elevation of critical obstacles. By design, neither the ground nor any obstacles can penetrate a TERPS surface. However, construction of a tall object that penetrates a TERPS surface can dictate immediate modifications to the location and elevation of the surfaces and directly cause minimum flight visibility and altitudes to be raised or the instrument course to be realigned. In severe instances, obstructions can force a procedure to be cancelled altogether. A significant downside to use of TERPS surfaces for compatibility planning purposes is that they are highly complex compared to the relative simplicity of FAR Part 77 surfaces. Also, the configuration and/or elevations of TERPS surfaces can change not only in response to new obstacles, but as implementation of new navigational technologies permits additional or modified instrument procedures to be established at an airport.

In the Compatibility Policy Map: Airspace Protection Zones presented in Chapter 3 of this *Compatibility Plan*, primary reliance is placed upon FAR Part 77 criteria. Where an instrument approach procedure is established, the associated TERPS surfaces are depicted as well. In most locations, the TERPS surfaces are well above the underlying terrain and present no significant constraint on land use development. As

a precaution to help ensure that tall towers or antennas located on high terrain do not penetrate a TERPS surface, places where the ground elevation comes within 100 feet of a TERPS surface are shown on the map.

Among other hazards to flight, bird strikes no doubt represent the most widespread concern. The FAA recommends that uses known to attract birds—sanitary landfills being a primary example—be kept at least 10,000 feet away from any runway used by turbine-powered aircraft. More information regarding criteria for avoidance of uses that can attract wildlife to airports can be found in FAA Advisory Circulars 150/5200-34A, *Construction or Establishment of Landfills near Public Airports*, and 150/5300-33B, *Hazardous Wildlife Attractants On or Near Airports.*

Other flight hazards include land uses that may cause visual or electronic hazards to aircraft in flight or taking off or landing at the airport. Specific characteristics to be avoided include sources of glare or bright lights, distracting lights that could be mistaken for airport lights, sources of dust, steam, or smoke that may impair pilot visibility, and sources of electrical interference with aircraft communications or navigation.

Zone	*Description*	***Nominal Dimensions*** (California Airport Land Use Planning Handbook)	***Relative Risk Level***	***Nature of Accident Risk***	***% of Accidents in Zone*** (Handbook Database)
1	Runway Protection Zone and within Runway Primary Surface primarily on airport property; airport ownership encouraged	Depending upon approach visibility minimums: 1,200 feet minimum, 2,700 feet maximum beyond runway ends; 125 to 500 feet from centerline adjacent to runway (zone dimensions established by FAA standards) Acreage (one runway end): 8 to 79 (RPZ only)	Very High	Landing undershoots and overshoots; overruns on aborted takeoffs; loss of control on takeoff	Arrivals: 28%–56% Departures: 23%–29% Total: 33%–39%
2	Inner Safety Zone	Along extended runway centerline, to a distance of 2,000 feet minimum, 6,000 feet maximum beyond runway ends Acreage (one runway end): 44 to 114	High	Aircraft at low altitude with limited directional options in emergencies: typically under 400 feet on landing; on takeoff, engine at maximum stress	Arrivals: 9%–15% Departures: 3%–28% Total: 8%–22%
3	Inner Turning Zone	Fan-shaped area adjacent to Zone 2 extending 2,000 feet minimum, 4,000 feet maximum from runway ends Acreage (one runway end): 50 to 151	Moderate	Turns at low altitude on arrival for aircraft flying tight base leg present stall-spin potential; likely touchdown area if emergency at low altitude on takeoff, especially to left of centerline	Arrivals: 2%–6% Departures: 5%–9% Total: 4%–7%
4	Outer Safety Zone	Along extended runway centerline extending 3,500 feet minimum, 10,000 feet maximum beyond runway ends Acreage (one runway end): 35 to 92	Low to Moderate	Low altitude overflight for aircraft on straight-in approaches, especially instrument approaches; on departure, aircraft normally complete transition from takeoff power and flap settings to climb mode and begin turns to en route heading	Arrivals: 3%–8% Departures: 2%–4% Total: 2%–6%
5	Sideline Zone primarily on airport property	Adjacent to runway, 500 feet minimum, 1,000 feet maximum from centerline Acreage: varies with runway length	Low to Moderate	Low risk on landing; moderate risk from loss of directional control on takeoff, especially with twin-engine aircraft	Arrivals: 1%–3% Departures: 5%–8% Total: 3%–5%
6	Traffic Pattern Zone	Oval area around other zones: 5,000 feet minimum, 10,000 feet maximum beyond runway ends; 4,500 feet minimum, 6,000 feet maximum from runway centerline Acreage: varies with runway length	Low	Significant percentage of accidents, but spread over wide area; widely varied causes	Arrivals: 10%–21% Departures: 24%–39% Total: 18%–29%

Table D1

Safety Zone Aircraft Accident Risk Characteristics

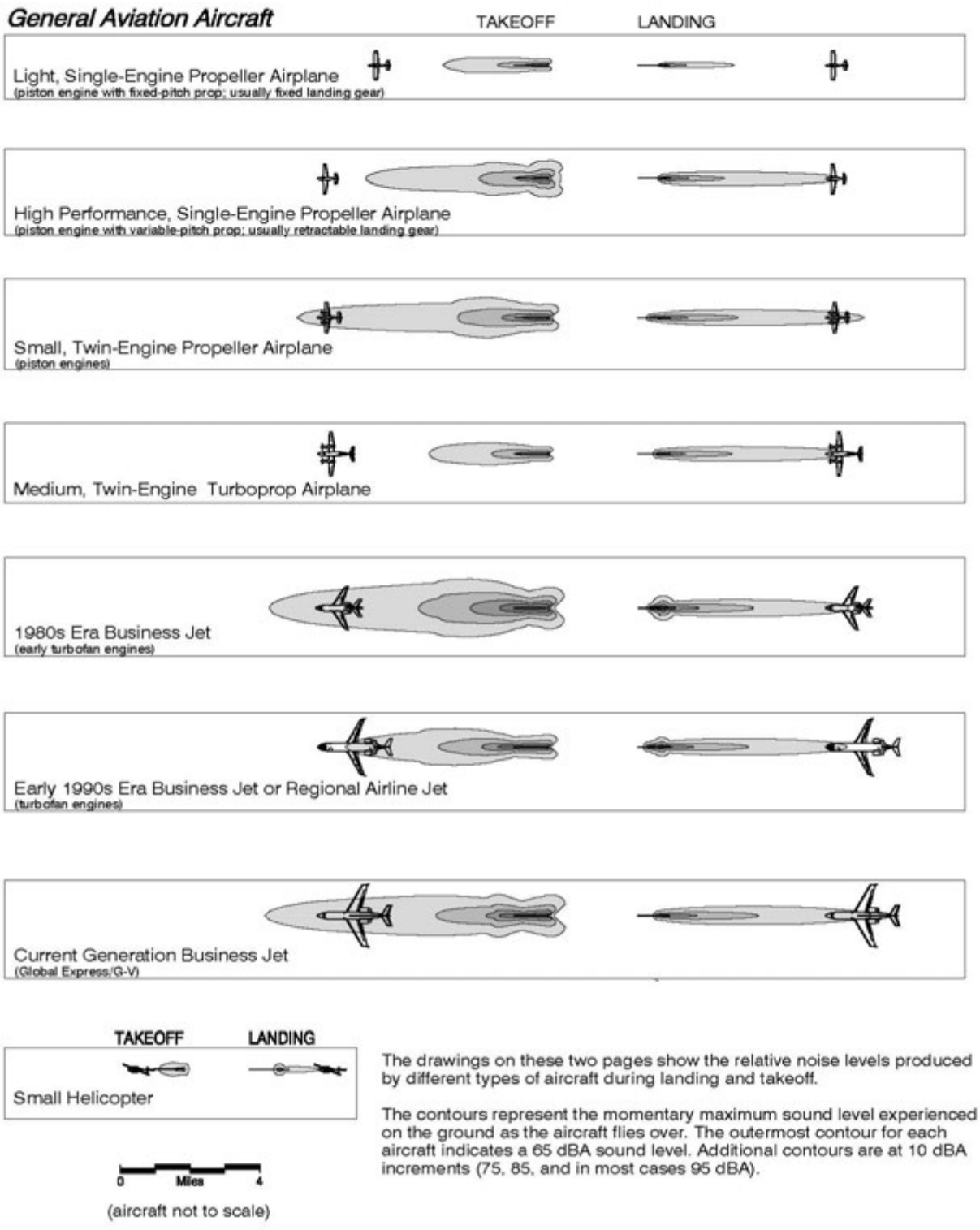

Figure D1

Noise Footprints of Selected Aircraft

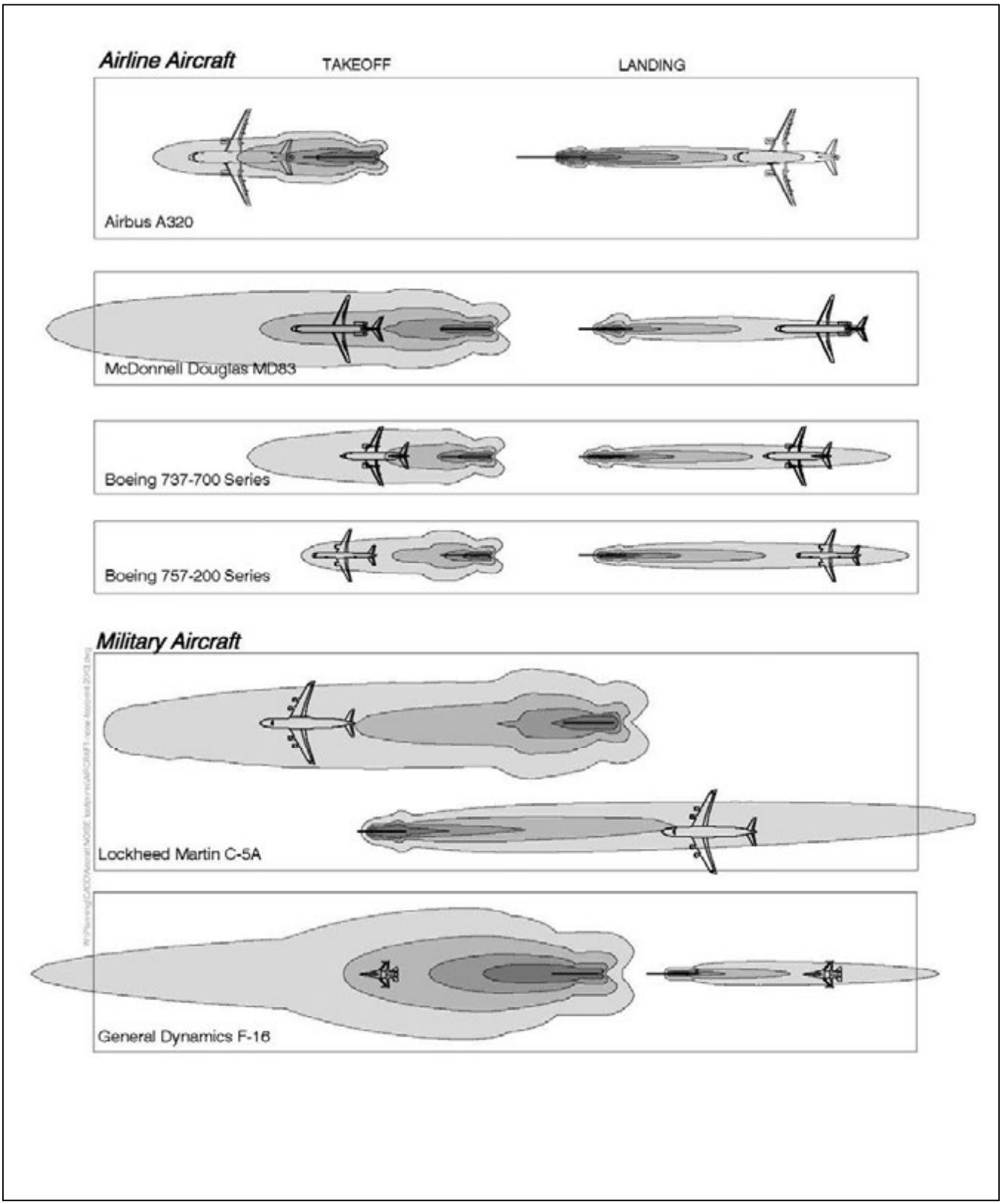

Figure D1, continued

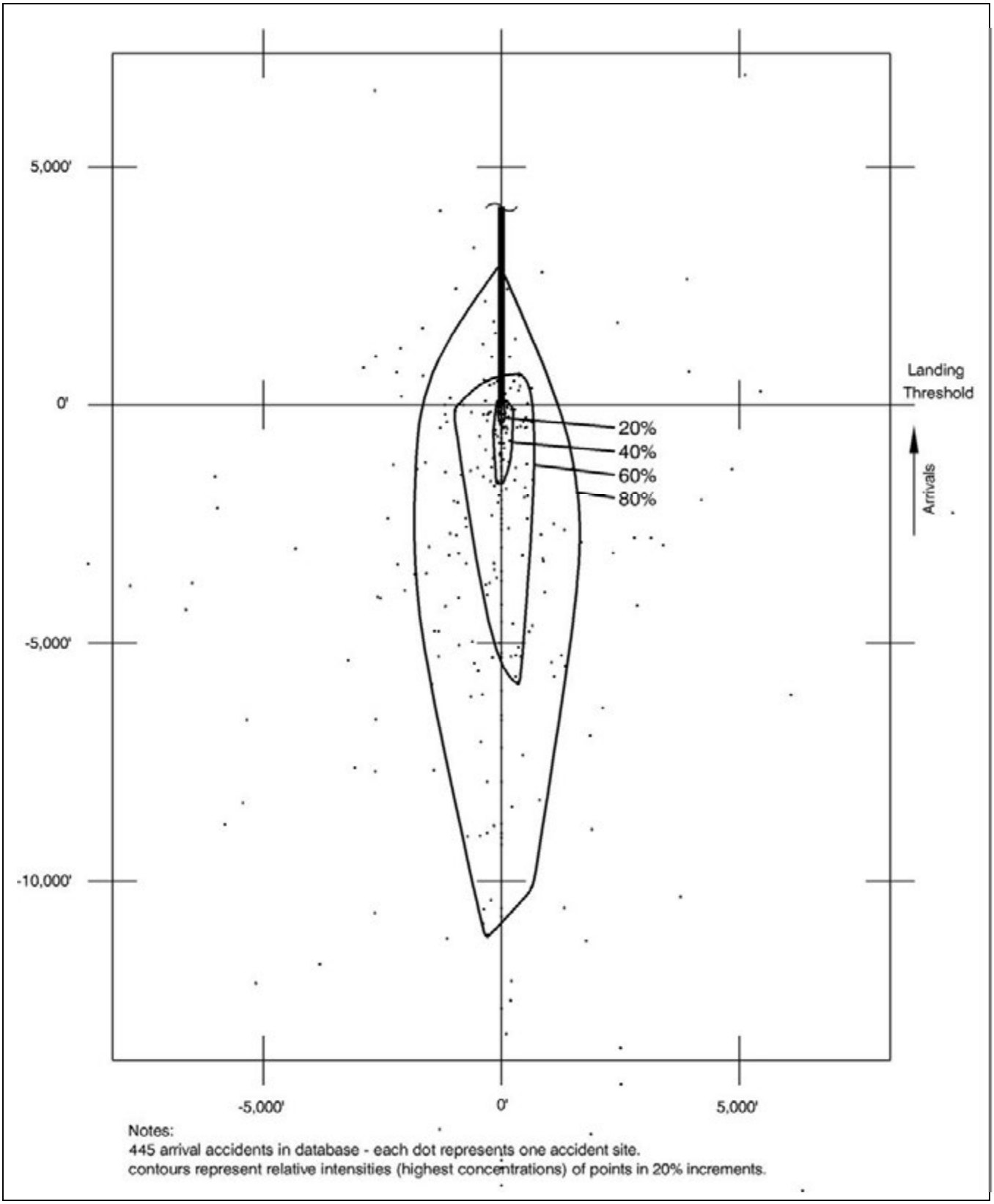

Figure D2

General Aviation Accident Distribution Contours

All Arrivals

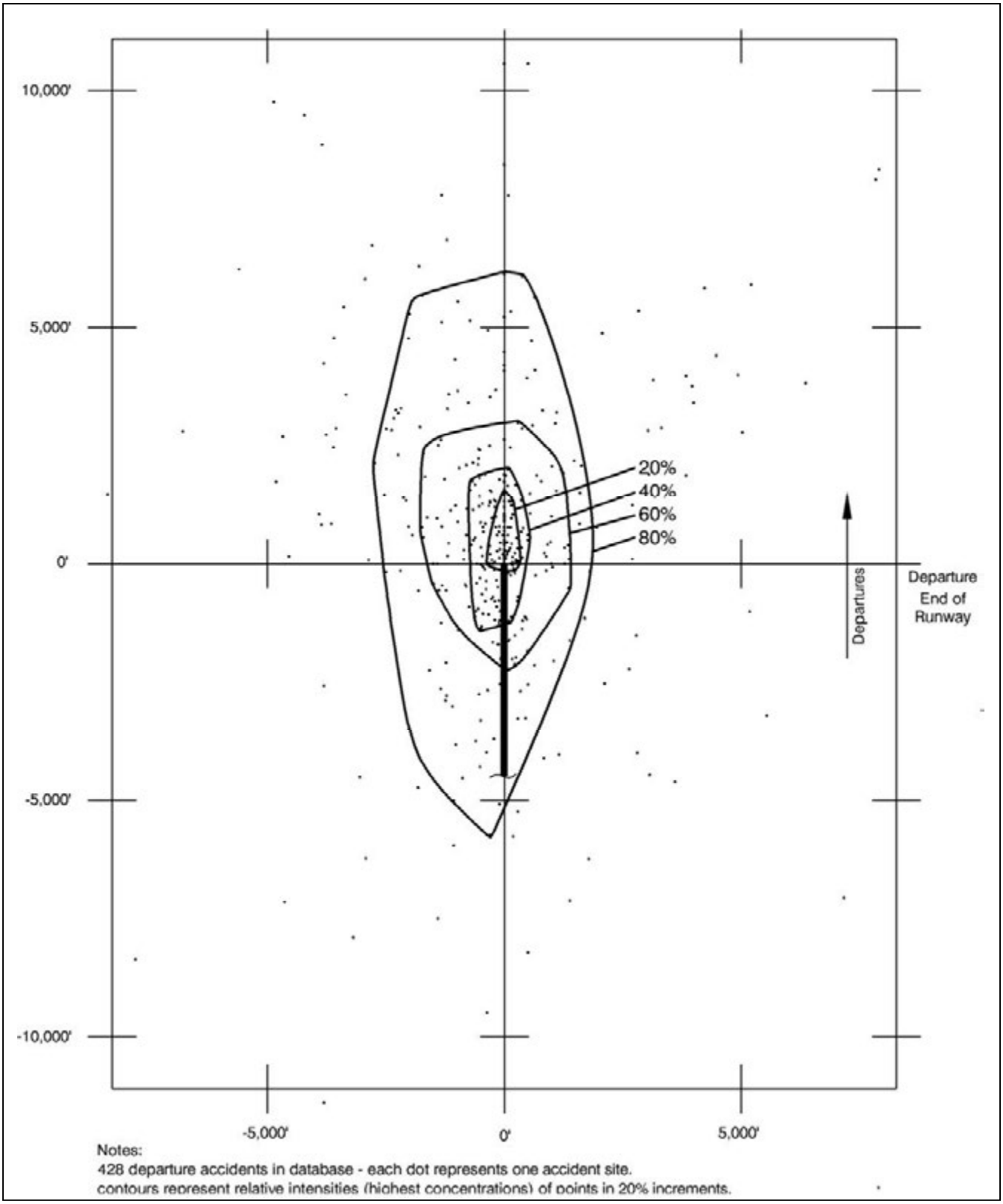

Figure D3

General Aviation Accident Distribution Contours

All Departures

APPENDIX E

Methods for Determining Concentrations of People

INTRODUCTION

The underlying safety compatibility criterion employed in this *Compatibility Plan* is "usage intensity"—the maximum number of people per acre that can be present in a given area at any one time. If a proposed use exceeds the maximum intensity, it is considered incompatible and thus inconsistent with compatibility planning policies. The usage intensity concept is identified in the *California Airport Land Use Planning Handbook* as the measure best suited for assessment of land use safety compatibility with airports. The *Handbook* is published by the California Division of Aeronautics is required under state law to be used as a guide in preparation of airport land use compatibility plans.

It is recognized, though, that "people per acre" is not a common measure in other facets of land use planning. This *Compatibility Plan* therefore also utilizes the more common measure of floor area ratio (FAR) as a means of implementing the usage intensity criteria on the local level. This appendix both provides guidance on how the usage intensity determination can be made and defines the relationships between this measure, FAR, and other measures found in land use planning. For a discussion of the rationale for use of people per acre as a measure of risk exposure, see Appendix D.

COUNTING PEOPLE

The most difficult part about calculating a use's intensity is estimating the number of people expected to use a particular facility under normal circumstances. All people—not just employees, but also customers and visitors—who may be on the property at a single point in time, whether indoors or outside, must be counted. The only exceptions are for rare special events, such as an air show at an airport, for which a facility is not designed and normally not used and for which extra safety precautions can be taken as appropriate.

Ideally, the actual number of people for which the facility is designed would be known. For example, the number of seats in a proposed movie theater can be determined with high accuracy once the theater size is decided. Other buildings, though, may be built as a shell and the eventual number of occupants not known until a specific tenant is found. Furthermore, even then, the number of occupants can change in the future as tenants change. Even greater uncertainty is involved with relatively open uses not having fixed seating—retail stores or sports parks, for example.

Absent clearly measurable occupancy numbers, other sources must be relied upon to estimate the number of people in a proposed development.

Survey of Similar Uses

A survey of similar uses already in existence is one option. Gathering data in this manner can be time-consuming and costly, however. Also, unless the survey sample is sufficiently large and conducted at

various times, inconsistent numbers may result. Except for uncommon uses for which occupancy levels cannot be estimated through other means, surveys are most appropriate as supplemental information.

Maximum Occupancy

A second option for estimating the number of people who will be on a site is to rely upon data indicating the maximum occupancy of a building measured in terms of Occupancy Load Factor—the number of square feet per occupant. The number of people on the site, assuming limited outdoor or peripheral uses, can be calculated by dividing the total floor area of a proposed use by the Occupancy Load Factor. The challenge of this methodology lies in establishing realistic figures for square feet per occupant. The number varies greatly from one use to another and, for some uses, has changed over time as well.

A commonly used source of maximum occupancy data is the standards set in the California Building Code (CBC). The chart reproduced as Table E1 indicates the Occupancy Load Factors for various types of uses. The CBC, though, is intended primarily for purposes of structural design and fire safety and represents a legal maximum occupancy in most jurisdictions. A CBC-based methodology consequently results in occupancy numbers that are higher than normal maximum usage in most instances. The numbers also are based upon usable floor area and do not take into account corridors, stairs, building equipment rooms, and other functions that are part of a building's gross square footage. Surveys of actual Occupancy Load Factors conducted by various agencies have indicated that many retail and office uses are generally occupied at no more than 50% of their maximum occupancy levels, even at the busiest times of day. Therefore, the *Handbook* indicates that the number of people calculated for office and retail uses can usually be divided in half to reflect the actual occupancy levels before making the final people-per-acre determination. Even with this adjustment, the CBC-based methodology typically produces intensities at the high end of the likely range.

Another source of data on square footage per occupant comes from the facility management industry. The data is used to help businesses determine how much building space they need to build or lease and thus tends to be more generous than the CBC standards. The numbers vary not only by the type of facility, as with the CBC, but also by type of industry. The following are selected examples of square footage per *employee* gathered from a variety of sources.

- Call centers 150 – 175
- Typical offices 180 – 250
- Law, finance, real estate offices 300 – 325
- Research & development, light industry 300 – 500
- Health services 500

The numbers above do not take into account the customers who may also be present for certain uses. For retail business, dining establishments, theaters, and other uses where customers outnumber employees, either direct measures of occupancy—the number of seats, for example—or other methodologies must be used to estimate the potential number of people on the site.

Parking Space Requirements

For many jurisdictions and a wide variety of uses, the number of people present on a site can be calculated based upon the number of automobile parking spaces that are required. Certain limitations and assumptions must be considered when applying this methodology, however. An obvious limitation is that parking space requirements can be correlated with occupancy numbers only where nearly all users ar-

rive by private vehicle rather than by public transportation, walking, or other method. Secondly, the jurisdiction needs to have a well-defined parking ordinance that lists parking space requirements for a wide range of land uses. For most uses, these requirements are typically stated in terms of the number of parking spaces that must be provided per 1,000 square feet of gross building size or a similar ratio. Lastly, assumptions must be made with regard to the average number of people who will arrive in each car.

Both of the critical ratios associated with this methodology—parking spaces to building size and occupants to vehicles—vary from one jurisdiction to another even for the same types of uses. Research of local ordinances and other sources, though, indicates that the following ratios are typical.

- **Parking Space Ratios**—These examples of required parking space requirements are typical of those found in ordinances adopted by urban and suburban jurisdictions. The numbers are ratios of spaces required per 1,000 square feet of gross floor area. Gross floor area is normally measured to the outside surfaces of a building and includes all floor levels as well as stairways, elevators, storage, and mechanical rooms.
  - Small Restaurants 10.0
  - Medical Offices 4.0 – 5.7
  - Shopping Centers 4.0 – 5.0
  - Health Clubs 3.3 – 5.0
  - Business Professional Offices 3.3 – 4.0
  - Retail Stores 3.0 – 3.5
  - Research & Development 2.5 – 4.0
  - Manufacturing 2.0 – 2.5
  - Furniture, Building Supply Stores 0.7 – 1.0
- **Vehicle Occupancy**—Data indicating the average number of people occupying each vehicle parking at a particular business or other land use can be found in various transportation surveys. The numbers vary both from one community or region to another and over time, thus current local data is best if available. The following data represent typical vehicle occupancy for different trip purposes.
  - Work 1.05 – 1.2
  - Education 1.2 – 2.0
  - Medical 1.5 – 1.7
  - Shopping 1.5 – 1.8
  - Dining, Social, Recreational 1.7 – 2.3

USAGE INTENSITY RELATIONSHIP TO OTHER DEVELOPMENT MEASURES

Calculating Usage Intensities

Once the number of people expected in a particular development—both over the entire site and within individual buildings—has been estimated, the usage intensity can be calculated. The criteria in Chapter 3 of this *Compatibility Plan* are measured in terms of the average intensity over the entire project site.

The average intensity is calculated by dividing the total number of people on the site by the site size. A 10-acre site expected to be occupied by as many as 1,000 people at a time, thus would have an average intensity of 100 people per acre. The site size equals the total size of the parcel or parcels to be developed.

Having calculated the usage intensities of a proposed development, a comparison can be made with the criteria set forth in the *Compatibility Plan* to determine whether the proposal is consistent or inconsistent with the policies.

Comparison with Floor Area Ratio

As noted earlier, usage intensity or people per acre is not a common metric in land use planning. Floor area ratio or FAR—the gross square footage of the buildings on a site divided by the site size—is a more common measure in land use planning. Some counties and cities adopt explicit FAR limits in their zoning ordinance or other policies. Those that do not set FAR limits often have other requirements such as, a maximum number of floors a building can have, minimum setback distances from the property line, and minimum number of parking spaces. These requirements effectively limit the floor area ratio as well.

To facilitate local jurisdiction implementation, the Safety Compatibility Criteria table in Chapter 3 has been structured around FAR measures to determine usage intensity limits for many types of nonresidential land use development. To utilize FAR in this manner, a critical additional piece of information is necessary to overcome the major shortcoming of FAR as a safety compatibility measure. The problem with FAR is that it does not directly correlate with risks to people because different types of buildings with the same FAR can have vastly different numbers of people inside—a low-intensity warehouse versus a high-intensity restaurant, for example. For FAR to be applied as a factor in setting development limitations, assumptions must be made as to how much space each person (employees and others) in the building will occupy. The Safety Compatibility Criteria table therefore indicates the assumed Occupancy Load Factor for various land uses. Mathematically, the relationship between usage intensity and FAR is:

$$\text{FAR} = \frac{\text{(allowable usage intensity)} \times \text{(Occupancy Load Factor)}}{43{,}560}$$

where *usage intensity* is measured in terms of people per acre and *Occupancy Load Factor* as square feet per person.

Selection of the usage intensity, occupancy level, and FAR numbers that appear in the Safety Compatibility Criteria table was done in an iterative manner that considered each of the components both separately and together. Usage intensities were initially set with respect to guidelines provided in the *California Airport Land Use Planning Handbook* (see Appendix D of this *Compatibility Plan*). Occupancy levels were derived from the CBC, but were adjusted based upon additional research from both local and na-

tional sources in the manner discussed earlier in this appendix. The FAR limits were initially calculated from these other two numbers using the formula above.

Comparison with Parking Space Requirements

As discussed above, many jurisdictions have adopted parking space requirements that vary from one land use type to another. Factoring in an estimated vehicle occupancy rate for various land uses as described earlier, the Occupancy Load Factor can be calculated. For example, a typical parking space requirement for office uses is 4.0 spaces per 1,000 square feet or 1 space per 250 square feet. If each vehicle is assumed to be occupied by 1.1 persons, the equivalent Occupancy Load Factor would be 1 person per 227 square feet. This number falls squarely within the range noted above that was found through separate research of norms used by the facility management industry.

As an added note, the Occupancy Load Factor of 215 square feet per person indicated in the Safety Compatibility Criteria table for office uses is slightly more conservative than the above calculation produces. This means that, for a given usage intensity standard, the FAR limit in the table is slightly more restrictive than would result from a higher Occupancy Load Factor.

Function of Space	Floor area per occupant (sq. ft.)
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal	
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Assembly with fixed seats	See Section 1004.7
Assembly without fixed seats	
Concentrated (chairs only-not fixed)	15 net
Standing space	5 net
Unconcentrated (tables and chairs)	7 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	100 gross
Courtrooms-other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net
Exercise rooms	50 gross
H-5 Fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient treatment areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Laboratory	
Educational	50 net
Laboratories, non-educational	100 net
Laboratory suite	200 gross
Library	
Reading rooms	50 net
Stack area	100 gross
Locker rooms	50 gross
Mercantile	
Areas on other floors	60 gross
Basement and grade floor areas	30 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses	500 gross

Source: California Building Code (2007), Table 1004.1.1

Table E1

Occupant Load Factors

California Building Code

APPENDIX F

General Plan Consistency Checklist

This checklist is intended to assist local agencies with modifications necessary to make their local plans and other local policies consistent with the ALUCP. It is also designed to facilitate ALUC reviews of these local plans and policies. The list will need to be modified to reflect the policies of each individual ALUC and is not intended as a state requirement.

COMPATIBILITY CRITERIA

General Plan Document

The following items typically appear directly in a general plan document. Amendment of the general plan will be required if there are any conflicts with the ALUCP.

- **Land Use Map**—No direct conflicts should exist between proposed new land uses indicated on a general plan land use map and the ALUC land use compatibility criteria.
  - Residential densities (dwelling units per acre) should not exceed the set limits.
  - Proposed nonresidential development needs to be assessed with respect to applicable intensity limits (see below).
  - No new land uses of a type listed as specifically prohibited should be shown within affected areas.
- **Noise Element**—General plan noise elements typically include criteria indicating the maximum noise exposure for which residential development is normally acceptable. This limit must be made consistent with the equivalent ALUCP criteria. Note, however, that a general plan may establish a different limit with respect to aviation-related noise than for noise from other sources (this may be appropriate in that aviation-related noise is sometimes judged to be more objectionable than other types of equally loud noises).

Zoning or Other Policy Documents

The following items need to be reflected either in the general plan or in a separate policy document such as a combining zone ordinance. If a separate policy document is adopted, modification of the general plan to achieve consistency with the ALUCP may not be required. Modifications would normally be needed only to eliminate any conflicting language which may be present and to make reference to the separate policy document

- **Intensity Limitations on Nonresidential Uses**—ALUCPs may establish limits on the usage intensities of commercial, industrial, and other nonresidential land uses. This can be done by duplication of the performance-oriented criteria—specifically, the number of people per acre—indicated in the ALUCP. Alternatively, ALUCs may create a detailed list of land uses which are allowable and/or not allowable within each compatibility zone. For certain land uses, such a list may need to include limits on building sizes, floor area ratios, habitable floors, and/or other design parameters which are equivalent to the usage intensity criteria.
- **Identification of Prohibited Uses**—ALUCPs may prohibit schools, day care centers, assisted living centers, hospitals, and other uses within a majority of an airport's influence area. The facilities often are permitted or conditionally permitted uses within many commercial or industrial land use designations.
- **Open Land Requirements**—ALUCP requirements, if any, for assuring that a minimum amount of open land is preserved in the airport vicinity must be reflected in local policies. Normally, the locations which are intended to be maintained as open land would be identified on a map with the total acreage within each compatibility zone indicated. If some of the area included as open land is private property, then policies must be established which assure that the open land will continue to exist as the property develops. Policies specifying the required characteristics of eligible open land should also be established
- **Infill Development**—If an ALUCP contains infill policies and a jurisdiction wishes to take advantage of them, the lands that meet the qualifications must be shown on a map.

Zoning or Other Policy Documents, Continued

- **Height Limitations and Other Hazards to Flight**—To protect the airport airspace, limitations must be set on the height of structures and other objects near airports. These limitations are to be based upon FAR Part 77. Restrictions also must be established on other land use characteristics which can cause hazards to flight (specifically, visual or electronic interference with navigation and uses which attract birds). Note that many jurisdictions have already adopted an airport-related hazard and height limit zoning ordinance which, if up to date, will satisfy this consistency requirement.
- **Buyer Awareness Measures**—Besides disclosure rules already required by state law, as a condition for approval of development within certain compatibility zones, some ALUCPs require either dedication of an avigation easement to the airport proprietor or placement on deeds of a notice regarding airport impacts. If so, local agency policies must contain similar requirements.
- **Nonconforming Uses and Reconstruction**—Local agency policies regarding nonconforming uses and reconstruction must be equivalent to or more restrictive than those in the ALUCP, if any.

REVIEW PROCEDURES

In addition to incorporation of ALUC compatibility criteria, local agency implementing documents must specify the manner in which development proposals will be reviewed for consistency with the compatibility criteria.

- **Actions Always Required to be Submitted for ALUC Review**—PUC Section 21676 identifies the types of actions that must be submitted for airport land use commission review. Local policies should either list these actions or, at a minimum, note the local agency's intent to comply with the state statute.
- **Other Land Use Actions Potentially Subject to ALUC Review**—In addition to the above actions, ALUCPs may identify certain major land use actions for which referral to the ALUC is dependent upon agreement between the local agency and ALUC. If the local agency fully complies with all of the items in this general plan consistency check list or has taken the necessary steps to overrule the ALUC, then referral of the additional actions is voluntary. On the other hand, a local agency may elect not to incorporate all of the necessary compatibility criteria and review procedures into its own policies. In this case, referral of major land use actions to the ALUC is mandatory. Local policies should indicate the local agency's intentions in this regard..
- **Process for Compatibility Reviews by Local Jurisdictions**—If a local agency chooses to submit only the mandatory actions for ALUC review, then it must establish a policy indicating the procedures which will be used to assure that airport compatibility criteria are addressed during review of other projects. Possibilities include: a standard review procedure checklist which includes reference to compatibility criteria; use of a geographic information system to identify all parcels within the airport influence area; etc.
- **Variance Procedures**—Local procedures for granting of variances to the zoning ordinance must make certain that any such variances do not result in a conflict with the compatibility criteria. Any variance that involves issues of noise, safety, airspace protection, or overflight compatibility as addressed in the ALUCP must be referred to the ALUC for review.
- **Enforcement**—Policies must be established to assure compliance with compatibility criteria during the lifetime of the development. Enforcement procedures are especially necessary with regard to limitations on usage intensities and the heights of trees. An airport combining district zoning ordinance is one means of implementing enforcement requirements.

Source: California Airport Land Use Planning Handbook (October 2011)

APPENDIX G

Sample Implementation Documents

The responsibility for implementation of the compatibility criteria set forth in the *Stanislaus County Airport Land Use Compatibility Plans* rests with the Stanislaus County Airport Land Use Commission (ALUC). As described in Appendix F, the modification of general plans and specific plans for consistency with applicable compatibility plans is the primary step in this process. However, not all of the measures necessary for achievement of airport land use compatibility are necessarily included in general plans and specific plans. Other types of documents also serve to implement compatibility plan policies. Samples of such implementation documents are included in this appendix.

Airport Combining Zone Ordinance

As noted in Chapter 1 of this document, one option that the affected local jurisdictions can utilize to implement airport land use compatibility criteria and associated policies is adoption of an airport combining zone ordinance. An airport combining zone ordinance is a way of collecting various airport-related development conditions into one local policy document. Adoption of a combining zone is not required, but is suggested as an option. Table G1 describes some of the potential components of an airport combining zone ordinance.

Buyer Awareness Measures

Buyer awareness is an umbrella category for several types of implementation documents all of which have the objective of ensuring that prospective buyers of airport area property, particularly residential property, are informed about the airport's impact on the property. The *Stanislaus County Airport Land Use Compatibility Plan* policies include each of these measures.

- **Avigation Easement**—Avigation easements transfer certain property rights from the owner of the underlying property to the owner of an airport or, in the case of military airports, to a local government agency on behalf of the federal government (the U.S. Department of Defense is not authorized to accept avigation easements). This *Compatibility Plan* requires avigation easement dedication as a condition for approval of development on property subject to high noise levels or a need to restrict heights of structures and trees to less than might ordinarily occur on the property. Specific easement dedication requirements are set forth in Chapter 2. Also, airports may require avigation easements in conjunction with programs for noise insulation of existing structures in the airport vicinity. A sample of a standard avigation easement is included in Table G2.
- **Recorded Overflight Notification**—An overflight notification informs property owners that the property is subject to aircraft overflight and generation of noise and other impacts. No restrictions on the heights of objects, requirements for marking or lighting of objects, or access to the property for these purposes are included. An overflight notification serves only as buyer acceptance of overflight conditions. Suggested wording of an overflight notification is included in Table G3. Unlike an avigation easement, overflight easement, or other type of easement, an overflight notification is not a conveyance of property rights. However, like an easement, an overflight notification is recorded on

the property deed and therefore remains in effect with sale of the property to subsequent owners. Overflight notifications are generally appropriate in areas outside the 60 dB CNEL noise contour, outside Safety Zones, and within areas where the height of structures and other objects would not pose a significant potential of being airspace obstruction hazards.

- **Airport Proximity Disclosure**—A less definitive, but more all-encompassing, form of buyer awareness measure is for the ALUC and local jurisdictions to establish a policy indicating that information about and airport's influence area should be disclosed to prospective buyers of all airport-vicinity properties prior to transfer of title. The advantage of this type of program is that it applies to previously existing land uses as well as to new development. The requirement for disclosure of information about the proximity of an airport has been present in state law for some time, but legislation adopted in 2002 and effective in January 2004 explicitly ties the requirement to the airport influence areas established by airport land use commissions (see Appendix B for excerpts from sections of the Business and Professions Code and Civil Code that define these requirements). With certain exceptions, these statutes require disclosure of a property's location within an airport influence area under any of the following three circumstances: (1) sale or lease of subdivided lands; (2) sale of common interest developments; and (3) sale of residential real property. In each case, the disclosure statement to be used is defined by state law as follows:

NOTICE OF AIRPORT IN VICINITY

> This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you.

An airport compatibility combining zoning ordinance might include some or all of the following components:

- **Airspace Protection**—A combining district can establish restrictions on the height of buildings, antennas, trees, and other objects as necessary to protect the airspace needed for operation of the airport. These restrictions should be based upon the current version of FAR Part 77, Objects Affecting Navigable Airspace, Subpart C. Additions or adjustment to take into account TERPS surfaces should be made as necessary. Provisions prohibiting smoke, glare, bird attractions, and other hazards to flight should also be included.

- **FAA Notification Requirements**—Combining districts also can be used to ensure that project developers are informed about the need for compliance with the notification requirements of FAR Part 77. Subpart B of the regulations requires that the proponent of any project which exceeds a specified set of height criteria submit a Notice of Proposed Construction or Alteration (Form 7460-1) to the Federal Aviation Administration prior to commencement of construction. The height criteria associated with this notification requirement are lower than those spelled out in FAR Part 77, Subpart C, which define airspace obstructions. The purpose of the notification is to determine if the proposed construction would constitute a potential hazard or obstruction to flight. Notification is not required for proposed structures that would be shielded by existing structures or by natural terrain of equal or greater height, where it is obvious that the proposal would not adversely affect air safety.

- **State Regulation of Obstructions**—State law prohibits anyone from constructing or altering a structure or permitting an object of natural growth to exceed the heights established by FAR Part 77, Subpart C, unless the FAA has determined the object would not or does not constitute a hazard to air navigation (PUC Section 21658 and 21659).

- **Designation of High Noise-Impact Areas**—California state statutes require that multi-family residential structures in high-noise exposure areas be constructed so as to limit the interior noise to a Community Noise Equivalent Level of no more than 45 dB. A combining district could be used to indicate the locations where special construction techniques may be necessary in order to ensure compliance with this requirement. The combining district also could extend this criterion to single-family dwellings.

- **Maximum Densities/Intensities**—Airport noise and safety compatibility criteria are frequently expressed in terms of dwelling units per acre for residential uses and people per acre for other land uses. While general plans typically use these measures of maximum density/intensity for land uses, zoning ordinances generally use minimum lot sizes and setbacks, along with building height restrictions. These standards often supplement, but do not translate directly into general plan density/intensity standards. Incorporation of airport area-related density/intensity standards measured in the same manner as a General Plan can either be directly included in a combining zone or used to modify the underlying land use designations. For residential land uses, the correlation between the compatibility criteria and land use designations is direct. For other land uses, the method of calculating the intensity limitations needs to be defined. Alternatively, a matrix can be established indicating whether each specific type of land use is compatible with each compatibility zone. To be useful, the land use categories need to be more detailed than typically provided by general plan or zoning ordinance land use designations.

- **Open Areas for Emergency Landing of Aircraft**—In most circumstances in which an accident involving a small aircraft occurs near an airport, the aircraft is under control as it descends. When forced to make an off- airport emergency landing, pilots will usually attempt to do so in the most open area readily available. To enhance safety both for people on the ground and the occupants of aircraft, ALUCPs often contain criteria requiring a certain amount of open land near airports. These criteria are most effectively carried out by planning at the general or specific plan level, but may also need to be included in a combining district so that they will be applied to development of large parcels. Adequate open areas can often be provided by clustering of development on adjacent land.

- **Areas of Special Compatibility Concern**—A significant drawback of standard general plan and zoning ordinance land use designations is that they can be changed. Uses that are currently compatible are not assured of staying that way in the future. Designation of areas of special compatibility concern would serve as a reminder that airport impacts should be carefully considered in any decision to change the existing land use designation. [A legal consideration that supports the value of this concept is that down-zoning of a property to a less intensive use is becoming more difficult. It is much better not to have inappropriately up-zoned the property in the first place.]

- **Real Estate Disclosure Policies**—The geographic extent and specific language of recommended real estate disclosure statements can be described in an airport combining zone ordinance (Business and Professions Code Section 11010(a) and (b)(13) and Civil Code, Sections 1102.6, 1103.4, and 1353.

Source: California Airport Land Use Planning Handbook (October 2011)

Table G1

Sample Airport Combining Zone Components

TYPICAL AVIGATION EASEMENT

[Airport Name]

This indenture made this _____ day of _____, 20__, between _____ hereinafter referred to as Grantor, and the County of Stanislaus, a political subdivision in the State of California, hereinafter referred to as Grantee.

The Grantor, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, does hereby grant to the Grantee, its successors and assigns, a perpetual and assignable easement over the following described parcel of land in which the Grantor holds a fee simple estate. The property which is subject to this easement is depicted as _____ on "Exhibit A" attached and is more particularly described as follows:

[Insert legal description of real property]

The easement applies to the Airspace above an imaginary plane over the real property. The plane is described as follows:

The imaginary plane above the hereinbefore described real property, as such plane is defined by Part 77 of the Federal Aviation Regulations, and consists of a plane [describe approach, transition, or horizontal surface]; the elevation of said plane being based upon the [Airport Name and official runway end elevation of ___] feet Above Mean Sea Level (AMSL), as determined by the Airport Layout Plan, the approximate dimensions of which said plane are described and shown on Exhibit A attached hereto and incorporated herein by reference.

The aforesaid easement and right-of-way includes, but is not limited to:

(1) For the use and benefit of the public, the easement and continuing right to fly, or cause or permit the flight by any and all persons, or any aircraft, of any and all kinds now or hereafter known, in, through, across, or about any portion of the Airspace hereinabove described; and

(2) The easement and right to cause or create, or permit or allow to be caused and created within all space above the existing surface of the hereinabove described real property and any and all Airspace laterally adjacent to said real property, such noise, vibration, currents and other effects of air illumination and fuel consumption as may be inherent in, or may arise or occur from or during the operation of aircraft of any and all kinds, now or hereafter known or used, for navigation of or flight in air; and

(3) A continuing right to clear and keep clear from the Airspace any portions of buildings, structures or improvements of any kinds, and of trees or other objects, including the right to remove or demolish those portions of such buildings, structures, improvements, trees, or other things which extend into or above said Airspace, and the right to cut to the ground level and remove, any trees which extend into or above the Airspace; and

(4) The right to mark and light, or cause or require to be marked and lighted, as obstructions to air navigation, any and all buildings, structures or other improvements, and trees or other objects, which extend into or above the Airspace; and

(5) The right of ingress to, passage within, and egress from the hereinabove described real property, for the purposes described in subparagraphs (3) and (4) above at reasonable times and after reasonable notice.

Table G2

Typical Avigation Easement

For and on behalf of itself, its successors and assigns, the Grantor hereby covenants with the County of Stanislaus, for the direct benefit of the real property constituting the [Airport Name] hereinafter described, that neither the Grantor, nor its successors in interest or assigns will construct, install, erect, place or grow, in or upon the hereinabove described real property, nor will they permit or allow any building structure, improvement, tree, or other object to extend into or above the Airspace so as to constitute an obstruction to air navigation or to obstruct or interfere with the use of the easement and rights-of-way herein granted. If Grantor fails to comply with the foregoing obligations within ten (10) days after Grantee gives written notice of violation to Grantor by depositing said notice in the United States mail, Grantee may enter the above-described real property for the purposes described in subparagraphs (3) and/or (4), above, and charge Grantor for the cost thereof.

The easements and rights-of-way herein granted shall be deemed both appurtenant to and for the direct benefit of that real property which constitutes [Airport Name], in the County of Stanislaus, State of California; and shall further be deemed in gross, being conveyed to the Grantee for the benefit of the Grantee and any and all members of the general public who may use said easement or right-of-way, in landing at, taking off from or operating such aircraft in or about the [Airport Name], or in otherwise flying through said Airspace.

Grantor, together with its successors in interest and assigns, hereby waives its right to legal action against Grantee, its successors or assigns for monetary damages or other redress due to impacts, as described in paragraph (2) of the granted rights of easement, associated with aircraft operations in the air or on the ground at the airport, including future increases in the volume or changes in location of said operations. Furthermore, Grantee, its successors, and assigns shall have no duty to avoid or mitigate such damages through physical modification of airport facilities or establishment or modification of aircraft operational procedures or restrictions. However, this waiver shall not apply if the airport role or character of its usage (as identified in an adopted airport master plan, for example) changes in a fundamental manner which could not reasonably have been anticipated at the time of the granting of this easement and which results in a substantial increase in the in the impacts associated with aircraft operations. Also, this grant of easement shall not operate to deprive the Grantor, its successors or assigns of any rights which may from time to time have against any air carrier or private operator for negligent or unlawful operation of aircraft.

These covenants and agreements run with the land and are binding upon the heirs, administrators, executors, successors and assigns of the Grantor, and, for the purpose of this instrument, the real property firstly hereinabove described is the servient tenement and said [Airport Name] is the dominant tenement.

DATED:

_____ _____

_____

STATE OF }

ss

COUNTY OF }

On _____, before me, the undersigned, a Notary Public in and for said County and State personally appeared _____, and _____ known to me to be the persons whose names are subscribed to the within instrument and acknowledged that they executed the same.

WITNESS my hand and official seal.

_____

Notary Public

Source: Modified from California Airport Land Use Planning Handbook

Table G2, continued

RECORDED OVERFLIGHT NOTIFICATION

This *Overflight Notification* concerns the real property situated in the County of Stanislaus and *[insert if applicable]* the City of _____, State of California, described as _____[APN No.:_].

This *Overflight Notification* provides notification of the condition of the above described property in recognition of, and in compliance with, CALIFORNIA BUSINESS & PROFESSIONS CODE Section 11010 and CALIFORNIA CIVIL CODE Sections 1102.6, 1103.4 and 1353, effective January 1, 2004, and related state and local regulations and consistent with policies of the Airport Land Use Commission for Stanislaus County for overflight notification provided in the Stanislaus County Airport Land Use Compatibility Plan.

NOTICE OF AIRPORT IN VICINITY: This property is located in the vicinity of an airport and within the airport influence area. The property may be subject to some of the annoyances or inconveniences associated with proximity to an airport and aircraft operations (for example: noise, vibration, overflights or odors). Individual sensitivities to those annoyances can vary from person to person. You should consider what airport annoyances, if any, affect the Property before you complete your purchase and whether they are acceptable to you.

The Federal Aviation Administration (FAA) has regulatory authority over the operation of aircraft in flight and on the runway and taxiway surfaces at the _____ Airport. The FAA is, therefore, exclusively responsible for airspace and air traffic management, including ensuring the safe and efficient use of navigable airspace, developing air traffic rules, assigning the use of airspace and controlling air traffic. Please contact the FAA for more detailed information regarding overflight and airspace protection issues associated with the operation of military aircraft.

The airport operator, _____, maintains information regarding hours of operation and other relevant information regarding airport operations. Please contact your local airport operator for more detailed information regarding airport specific operational issues including hours of operation.

This *Overflight Notification* shall be duly recorded with the Stanislaus County Assessor's Office, shall run with the Property, and shall be binding upon all parties having or acquiring any right, title or interest in the Property.

Effective Date:_____, 20__

Table G3

Sample Recorded Overflight Notification

APPENDIX H

Glossary of Terms

Above Ground Level (AGL): An elevation datum given in feet above ground level.

Accident Potential Zones (APZs): A set of safety-related zones defined by AICUZ studies for areas beyond the ends of military airport runways. Typically, three types of zones are established: a clear zone closest to the runway end, then APZ I and APZ II. The potential for aircraft accidents and the corresponding need for land use restrictions is greatest with the clear zone and diminish with increased distance from the runway.

Air Carriers: The commercial system of air transportation, consisting of the certificated air carriers, air taxis (including commuters), supplemental air carriers, commercial operators of large aircraft, and air travel clubs.

Air Installation Compatible Use Zones (AICUZ): A land use compatible plan prepared by the U.S. Department of Defense for military airfields. AICUZ plans serve as recommendations to local governments bodies having jurisdiction over land uses surrounding these facilities.

Aircraft Accident: An occurrence incident to flight in which, as a result of the operation of an aircraft, a person (occupant or nonoccupant) receives fatal or serious injury or an aircraft receives substantial damage.

- Except as provided below, *substantial damage* means damage or structural failure that adversely affects the structural strength, performance, or flight characteristics of the aircraft, and that would normally require major repair or replacement of the affected component.
- Engine failure, damage limited to an engine, bent fairings or cowling, dented skin, small puncture holes in the skin or fabric, ground damage to rotor or propeller blades, damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wingtips are not considered substantial damage.

Aircraft Incident: A mishap associated with the operation of an aircraft in which neither fatal nor serious injuries nor substantial damage to the aircraft occurs.

Aircraft Mishap: The collective term for an aircraft accident or an incident.

Aircraft Operation: The airborne movement of aircraft at an airport or about an en route fix or at other point where counts can be made. There are two types of operations: local and itinerant. An operation is counted for each landing and each departure, such that a touch-and-go flight is counted as two operations. (FAA Stats)

Airport: An area of land or water that is used or intended to be used for the landing and taking off of aircraft, and includes its buildings and facilities if any. (FAR 1)

Airport Elevation: The highest point of an airport's useable runways, measured in feet above mean sea level. (AIM)

Airport Land Use Commission (ALUC): A commission authorized under the provisions of California Public Utilities Code, Section 21670 et seq. and established (in any county within which a public-use airport is located) for the purpose of promoting compatibility between airports and the land uses surrounding them.

Airport Layout Plan (ALP): A scale drawing of existing and proposed airport facilities, their location on an airport, and the pertinent clearance and dimensional information required to demonstrate conformance with applicable standards.

Airport Master Plan (AMP): A long-range plan for development of an airport, including descriptions of the data and analyses on which the plan is based.

Airport Reference Code (ARC): A coding system used to relate airport design criteria to the operation and physical characteristics of the airplanes intended to operate at an airport. (Airport Design AC)

Airports, Classes of: For the purposes of issuing a Site Approval Permit, The California Department of Transportation, Division of Aeronautics classifies airports into the following categories: (CCR)

- *Agricultural Airport or Heliport:* An airport restricted to use only be agricultural aerial applicator aircraft (FAR Part 137 operators).

- *Emergency Medical Services (EMS) Landing Site:* A site used for the landing and taking off of EMS helicopters that is located at or as near as practical to a medical emergency or at or near a medical facility and

  (1) has been designated an EMS landing site by an officer authorized by a public safety agency, as defined in PUC Section 21662.1, using criteria that the public safety agency has determined is reasonable and prudent for the safe operation of EMS helicopters and

  (2) is used, over any twelve month period, for no more than an average of six landings per month with a patient or patients on the helicopter, except to allow for adequate medical response to a mass casualty event even if that response causes the site to be used beyond these limits, and

  (3) is not marked as a permitted heliport as described in Section 3554 of these regulations and

  (4) is used only for emergency medical purposes.

- *Heliport on Offshore Oil Platform:* A heliport located on a structure in the ocean, not connected to the shore by pier, bridge, wharf, dock or breakwater, used in the support of petroleum exploration or production.

- *Personal-Use Airport:* An airport limited to the non-commercial use of an individual owner or family and occasional invited guests.

- *Public-Use Airport:* An airport that is open for aircraft operations to the general public and is listed in the current edition of the *Airport/Facility Directory* that is published by the National Ocean Service of the U.S. Department of Commerce.

- *Seaplane Landing Site:* An area of water used, or intended for use, for landing and takeoff of seaplanes.

- *Special-Use Airport or Heliport:* An airport not open to the general public, access to which is controlled by the owner in support of commercial activities, public service operations, and/or personal use.

- *Temporary Helicopter Landing Site:* A site, other than an emergency medical service landing site at or near a medical facility, which is used for landing and taking off of helicopters and
  (1) is used or intended to be used for less than one year, except for recurrent annual events and
  (2) is not marked or lighted to be distinguishable as a heliport and
  (3) is not used exclusively for helicopter operations.

Ambient Noise Level: The level of noise that is all encompassing within a given environment for which a single source cannot be determined. It is usually a composite of sounds from many and varied sources near to and far from the receiver.

Approach Protection Easement: A form of easement that both conveys all of the rights of an avigation easement and sets specified limitations on the type of land uses allowed to be developed on the property.

Approach Speed: The recommended speed contained in aircraft manuals used by pilots when making an approach to landing. This speed will vary for different segments of an approach as well as for aircraft weight and configuration. (AIM)

Aviation-Related Use: Any facility or activity directly associated with the air transportation of persons or cargo or the operation, storage, or maintenance of aircraft at an airport or heliport. Such uses specifically include runways, taxiways, and their associated protected areas defined by the Federal Aviation Administration, together with aircraft aprons, hangars, fixed base operations, terminal buildings, etc.

Avigation Easement: A type of easement that typically conveys the following rights:

- A right-of-way for free and unobstructed passage of aircraft through the airspace over the property at any altitude above a surface specified in the easement (usually set in accordance with FAR Part 77 criteria).
- A right to subject the property to noise, vibrations, fumes, dust, and fuel particle emissions associated with normal airport activity.
- A right to prohibit the erection or growth of any structure, tree, or other object that would enter the acquired airspace.
- A right-of-entry onto the property, with proper advance notice, for the purpose of removing, marking, or lighting any structure or other object that enters the acquired airspace.
- A right to prohibit electrical interference, glare, misleading lights, visual impairments, and other hazards to aircraft flight from being created on the property.

Based Aircraft: Aircraft stationed at an airport on a long-term basis.

California Environmental Quality Act (CEQA): Statutes adopted by the state legislature for the purpose of maintaining a quality environment for the people of the state now and in the future. The Act establishes a process for state and local agency review of projects, as defined in the implementing guidelines that may adversely affect the environment.

Ceiling: Height above the earth's surface to the lowest layer of clouds or obscuring phenomena. (AIM)

Circling Approach/Circle-to-Land Maneuver: A maneuver initiated by the pilot to align the aircraft with a runway for landing when a straight-in landing from an instrument approach is not possible or not desirable. (AIM)

Clear Zone: The military airport equivalent of runway protection zones at civilian airports.

Combining District: A zoning district that establishes development standards in areas of special concern over and above the standards applicable to basic underlying zoning districts.

Commercial Activities: Airport-related activities that may offer a facility, service or commodity for sale, hire or profit. Examples of commodities for sale are: food, lodging, entertainment, real estate, petroleum products, parts and equipment. Examples of services are: flight training, charter flights, maintenance, aircraft storage, and tiedown. (CCR)

Commercial Operator: A person who, for compensation or hire, engages in the carriage by aircraft in air commerce of persons or property, other than as an air carrier. (FAR 1)

Community Noise Equivalent Level (CNEL): The noise metric adopted by the State of California for evaluating airport noise. It represents the average daytime noise level during a 24-hour day, adjusted to an equivalent level to account for the lower tolerance of people to noise during evening and nighttime periods relative to the daytime period. (State Airport Noise Standards)

Compatibility Plan: As used herein, a plan, usually adopted by an Airport Land Use Commission that sets forth policies for promoting compatibility between airports and the land uses that surround them. Often referred to as a *Comprehensive Land Use Plan (CLUP).*

Controlled Airspace: Any of several types of airspace within which some or all aircraft may be subject to air traffic control. (FAR 1)

Day-Night Average Sound Level (DNL): The noise metric adopted by the U.S. Environmental Protection Agency for measurement of environmental noise. It represents the average daytime noise level during a 24-hour day, measured in decibels and adjusted to account for the lower tolerance of people to noise during nighttime periods. The mathematical symbol is L_{dn}.

Decibel (dB): A unit measuring the magnitude of a sound, equal to the logarithm of the ratio of the intensity of the sound to the intensity of an arbitrarily chosen standard sound, specifically a sound just barely audible to an unimpaired human ear. For environmental noise from aircraft and other transportation sources, an *A-weighted sound level* (abbreviated dBA) is normally used. The A-weighting scale adjusts the values of different sound frequencies to approximate the auditory sensitivity of the human ear.

Deed Notice: A formal statement added to the legal description of a deed to a property and on any subdivision map. As used in airport land use planning, a deed notice would state that the property is subject to aircraft overflights. Deed notices are used as a form of buyer notification as a means of ensuring that those who are particularly sensitive to aircraft overflights can avoid moving to the affected areas.

Designated Body: A local government entity, such as a regional planning agency or a county planning commission, chosen by the county board of supervisors and the selection committee of city mayors to act in the capacity of an airport land use commission.

Displaced Threshold: A landing threshold that is located at a point on the runway other than the designated beginning of the runway (see *Threshold*). (AIM)

Dwelling Unit: Any building, structure or portion thereof which is occupied as, or designed or intended for occupancy as, a residence by one or more families, and any vacant land which is offered for sale or lease for the construction or location thereon of any such building, structure, or portion thereof. (HUD)

Easement: A less-than-fee-title transfer of real property rights from the property owner to the holder of the easement.

Equivalent Sound Level (L_{eq}): The level of constant sound that, in the given situation and time period, has the same average sound energy as does a time-varying sound.

Federal Aviation Regulations (FAR) Part 77*:* The part of Federal Aviation Regulations that deals with objects affecting navigable airspace in the vicinity of airports. Objects that exceed the Part 77 height limits constitute airspace obstructions. FAR Part 77 establishes standards for identifying obstructions to navigable airspace, sets forth requirements for notice to the FAA of certain proposed construction or alteration, and provides for aeronautical studies of obstructions to determine their effect on the safe and efficient use of airspace.

FAR Part 77 Surfaces: Imaginary airspace surfaces established with relation to each runway of an airport. There are five types of surfaces: (1) primary; (2) approach; (3) transitional; (4) horizontal; and (5) conical.

Federal Aviation Administration (FAA): The U.S. government agency that is responsible for ensuring the safe and efficient use of the nation's airports and airspace.

Federal Aviation Regulations (FAR): Regulations formally issued by the FAA to regulate air commerce.

Findings: Legally relevant subconclusions that expose a government agency's mode of analysis of facts, regulations, and policies, and that bridge the analytical gap between raw data and ultimate decision.

Fixed Base Operator (FBO): A business that operates at an airport and provides aircraft services to the general public including, but not limited to, sale of fuel and oil; aircraft sales, rental, maintenance, and repair; parking and tiedown or storage of aircraft; flight training; air taxi/charter operations; and specialty services, such as instrument and avionics maintenance, painting, overhaul, aerial application, aerial photography, aerial hoists, or pipeline patrol.

General Aviation: That portion of civil aviation that encompasses all facets of aviation except air carriers. (FAA Stats)

Glide Slope: An electronic signal radiated by a component of an ILS to provide vertical guidance for aircraft during approach and landing.

Global Positioning System (GPS): A navigational system that utilizes a network of satellites to determine a positional fix almost anywhere on or above the earth. Developed and operated by the U.S. Department of Defense, GPS has been made available to the civilian sector for surface, marine, and aerial navigational use. For aviation purposes, the current form of GPS guidance provides en route aerial navigation and selected types of nonprecision instrument approaches. Eventual application of GPS as the principal system of navigational guidance throughout the world is anticipated.

Helipad: A small, designated area, usually with a prepared surface, on a heliport, airport, landing/takeoff area, apron/ramp, or movement area used for takeoff, landing, or parking of helicopters. (AIM)

Heliport: A facility used for operating, basing, housing, and maintaining helicopters. (HAI)

Infill: Development that takes place on vacant property largely surrounded by existing development, especially development that is similar in character.

Instrument Approach Procedure: A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing or to a point from which a landing may be made visually. It is prescribed and approved for a specific airport by competent authority (refer to *Nonprecision Approach Procedure* and *Precision Approach Procedure*). (AIM)

Instrument Flight Rules (IFR): Rules governing the procedures for conducting instrument flight. Generally, IFR applies when meteorological conditions with a ceiling below 1,000 feet and visibility less than 3 miles prevail. (AIM)

Instrument Landing System (ILS): A precision instrument approach system that normally consists of the following electronic components and visual aids: (1) Localizer; (2) Glide Slope; (3) Outer Marker; (4) Middle Marker; (5) Approach Lights. (AIM)

Instrument Operation: An aircraft operation in accordance with an IFR flight plan or an operation where IFR separation between aircraft is provided by a terminal control facility. (FAA ATA)

Instrument Runway: A runway equipped with electronic and visual navigation aids for which a precision or nonprecision approach procedure having straight-in landing minimums has been approved. (AIM)

Inverse Condemnation: An action brought by a property owner seeking just compensation for land taken for a public use against a government or private entity having the power of eminent domain. It is a remedy peculiar to the property owner and is exercisable by that party where it appears that the taker of the property does not intend to bring eminent domain proceedings.

Land Use Density: A measure of the concentration of land use development in an area. Mostly the term is used with respect to residential development and refers to the number of dwelling units per acre. Unless otherwise noted, policies in this compatibility plan refer to *gross* rather than *net* acreage.

Land Use Intensity: A measure of the concentration of nonresidential land use development in an area. For the purposes of airport land use planning, the term indicates the number of people per acre attracted by the land use. Unless otherwise noted, policies in this compatibility plan refer to *gross* rather than *net* acreage.

Large Airplane: An airplane of more than 12,500 pounds maximum certificated takeoff weight. (Airport Design AC)

Localizer (LOC): The component of an ILS that provides course guidance to the runway. (AIM)

Mean Sea Level (MSL): An elevation datum given in feet from mean sea level.

Minimum Descent Altitude (MDA): The lowest altitude, expressed in feet above mean sea level, to which descent is authorized on final approach or during circle-to-land maneuvering in execution of a standard instrument approach procedure where no electronic glide slope is provided. (FAR 1)

Missed Approach: A maneuver conducted by a pilot when an instrument approach cannot be completed to a landing. (AIM)

National Transportation Safety Board (NTSB): The U.S. government agency responsible for investigating transportation accidents and incidents.

Navigational Aid (Navaid): Any visual or electronic device airborne or on the surface that provides point-to-point guidance information or position data to aircraft in flight. (AIM)

Noise Contours: Continuous lines of equal noise level usually drawn around a noise source, such as an airport or highway. The lines are generally drawn in 5-decibel increments so that they resemble elevation contours in topographic maps.

Noise Level Reduction (NLR): A measure used to describe the reduction in sound level from environmental noise sources occurring between the outside and the inside of a structure.

Nonconforming Use: An existing land use that does not conform to subsequently adopted or amended zoning or other land use development standards.

Nonprecision Approach Procedure: A standard instrument approach procedure in which no electronic glide slope is provided. (FAR 1)

Nonprecision Instrument Runway: A runway with an approved or planned straight-in instrument approach procedure that has no existing or planned precision instrument approach procedure. (Airport Design AC)

Obstruction: Any object of natural growth, terrain, or permanent or temporary construction or alteration, including equipment or materials used therein, the height of which exceed the standards established in Subpart C of Federal Aviation Regulations Part 77, *Objects Affecting Navigable Airspace*.

Overflight: Any distinctly visible and/or audible passage of an aircraft in flight, not necessarily directly overhead.

Overflight Easement: An easement that describes the right to overfly the property above a specified surface and includes the right to subject the property to noise, vibrations, fumes, and emissions. An overflight easement is used primarily as a form of buyer notification.

Overflight Zone: The area(s) where aircraft maneuver to enter or leave the traffic pattern, typically defined by the FAR Part 77 horizontal surface.

Overlay Zone: See *Combining District*.

Planning Area Boundary: An area surrounding an airport designated by an ALUC for the purpose of airport land use compatibility planning conducted in accordance with provisions of the State Aeronautics Act.

Precision Approach Procedure: A standard instrument approach procedure where an electronic glide slope is provided. (FAR 1)

Precision Instrument Runway: A runway with an existing or planned precision instrument approach procedure. (Airport Design AC)

Referral Area: The area around an airport defined by the planning area boundary adopted by an airport land use commission within which certain land use proposals are to be referred to the commission for review.

Runway Protection Zone (RPZ): An area (formerly called a *clear zone*) off the end of a runway used to enhance the protection of people and property on the ground. (Airport Design AC)

Safety Zone: For the purpose of airport land use planning, an area near an airport in which land use restrictions are established to protect the safety of the public from potential aircraft accidents.

Secondary Dwelling Unit: An attached or a detached residential dwelling unit which provides complete independent living facilities for one or more persons. It shall include permanent provisions for living, sleeping, eating, cooking, and sanitation on the same parcel as the single-family dwelling is situated. (California Department of Housing and Community Development)

Single-Event Noise: As used in herein, the noise from an individual aircraft operation or overflight.

Single Event Noise Exposure Level (SENEL): A measure, in decibels, of the noise exposure level of a single event, such as an aircraft flyby, measured over the time interval between the initial and final times for which the noise level of the event exceeds a threshold noise level and normalized to a reference duration of one second. SENEL is a noise metric established for use in California by the state Airport Noise Standards and is essentially identical to *Sound Exposure Level (SEL)*.

Site Approval Permit: A written approval issued by the California Department of Transportation authorizing construction of an airport in accordance with approved plans, specifications, and conditions. Both public-use and special-use airports require a site approval permit. (CCR)

Small Airplane: An airplane of 12,500 pounds or less maximum certificated takeoff weight. (Airport Design AC)

Sound Exposure Level (SEL): A time-integrated metric (i.e., continuously summed over a time period) that quantifies the total energy in the A-weighted sound level measured during a transient noise event. The time period for this measurement is generally taken to be that between the moments when the A-weighted sound level is 10 dB below the maximum.

Straight-In Instrument Approach: An instrument approach wherein a final approach is begun without first having executed a procedure turn; it is not necessarily completed with a straight-in landing or made to straight-in landing weather minimums. (AIM)

Structure: Something that is constructed or erected.

Taking: Government appropriation of private land for which compensation must be paid as required by the Fifth Amendment of the U.S. Constitution. It is not essential that there be physical seizure or appropriation for a *taking* to occur, only that the government action directly interferes with or substantially disturbs the owner's right to use and enjoyment of the property.

Terminal Instrument Procedures (TERPS): Procedures for instrument approach and departure of aircraft to and from civil and military airports. There are four types of terminal instrument procedures: precision approach, nonprecision approach, circling, and departure.

Threshold: The beginning of that portion of the runway usable for landing (also see *Displaced Threshold*). (AIM)

Touch-and-Go: An operation by an aircraft that lands and departs on a runway without stopping or exiting the runway. (AIM)

Traffic Pattern: The traffic flow that is prescribed for aircraft landing at, taxiing on, or taking off from an airport. The components of a typical traffic pattern are upwind leg, crosswind leg, downwind leg, base leg, and final approach. (AIM)

Visual Approach: An approach where the pilot must use visual reference to the runway for landing under VFR conditions.

Visual Flight Rules (VFR): Rules that govern the procedures for conducting flight under visual conditions. VFR applies when meteorological conditions are equal to or greater than the specified minimum-generally, a 1,000-foot ceiling and 3-mile visibility.

Visual Runway: A runway intended solely for the operation of aircraft using visual approach procedures, with no straight-in instrument approach procedure and no instrument designation indicated on an FAA-approved airport layout plan. (Airport Design AC)

Zoning: A police power measure, enacted primarily by units of local government, in which the community is divided into districts or zones within which permitted and special uses are established, as are regulations governing lot size, building bulk, placement, and other development standards. Requirements vary from district to district, but they must be uniform within districts. A zoning ordinance consists of two parts: the text and a map.

Glossary Sources

FAR 1: Federal Aviation Regulations Part 1, Definitions and Abbreviations

AIM: Aeronautical Information Manual

Airport Design AC: Federal Aviation Administration, *Airport Design* Advisory Circular 150/5300-13

CCR: California Code of Regulations, Title 21, Section 3525 et seq., *Division of Aeronautics*

FAA ATA: Federal Aviation Administration, *Air Traffic Activity*

FAA Stats: Federal Aviation Administration, *Statistical Handbook of Aviation*

HAI: Helicopter Association International

NTSB: National Transportation and Safety Board

Appendix C-1

Traffic Data Used in Emissions Modeling

2014 Combined											
Conformity											
EMFAC	VMT	Average Daily		AM Peak		Midday Peak		PM Peak		Off Peak	
Speed Bin	Speed Bins			7 am - 9 am		10 am - 4 pm		5 pm - 7 pm		(other)	
Name	Actual	VMT	%	VMT	%	VMT	%	VMT	%	VMT	%
5	0.0 - 7.50	598	0.00%	598	0.00%	0	0.00%	0	0.00%	0	0.00%
10	7.51 - 12.50	3,694	0.00%	3,404	0.20%	38	0.00%	247	0.00%	6	0.00%
15	12.51 - 17.50	27,722	0.30%	22,929	1.00%	4	0.00%	4,789	0.20%	0	0.00%
20	17.51 - 22.50	23,707	0.20%	12,491	0.60%	4,597	0.10%	6,562	0.30%	57	0.00%
25	22.51 - 27.50	111,231	1.10%	70,404	3.10%	23,888	0.50%	16,794	0.80%	145	0.00%
30	27.51 - 32.50	624,147	6.00%	168,959	7.50%	246,276	4.70%	160,175	7.70%	48,736	6.10%
35	32.51 - 37.50	678,702	6.60%	190,376	8.40%	280,299	5.40%	158,067	7.60%	49,959	6.20%
40	37.51 - 42.50	2,427,357	23.40%	632,798	28.10%	1,057,085	20.30%	522,469	25.00%	215,005	26.70%
45	42.51 - 47.60	502,230	4.90%	158,593	7.00%	140,278	2.70%	181,541	8.70%	21,818	2.70%
50	47.61 - 52.50	1,300,102	12.60%	300,624	13.30%	691,821	13.30%	178,408	8.50%	129,249	16.00%
55	52.51 - 57.50	157,547	1.50%	72,508	3.20%	2,819	0.10%	81,675	3.90%	545	0.10%
60	57.51 - 62.50	690,205	6.70%	162,236	7.20%	323,621	6.20%	182,682	8.70%	21,666	2.70%
65	62.51 - 67.50	1,012,346	9.80%	134,289	6.00%	631,016	12.10%	169,820	8.10%	77,220	9.60%
70	67.51 - 72.50	2,795,386	27.00%	325,594	14.40%	1,800,168	34.60%	428,484	20.50%	241,140	29.90%
	Total	10,354,973	100.00%	2,255,803	100.00%	5,201,911	100.00%	2,091,713	100.00%	805,546	100.00%

SB375											
EMFAC	**VMT**	**Average Daily**		**AM Peak**		**Midday Peak**		**PM Peak**		**Off Peak**	
Speed Bin	**Speed Bins**			**7 am - 9 am**		**10 am - 4 pm**		**5 pm - 7 pm**		**(other)**	
Name	**Actual**	**VMT**	**%**	**VMT**	**%**	**VMT**	**%**	**VMT**	**%**	**VMT**	**%**
5	0.0 - 7.50	557	0.00%	557	0.00%	0	0.00%	0	0.00%	0	0.00%
10	7.51 - 12.50	1,873	0.00%	1,601	0.10%	34	0.00%	234	0.00%	5	0.00%
15	12.51 - 17.50	15,117	0.30%	12,227	1.00%	2	0.00%	2,888	0.20%	0	0.00%
20	17.51 - 22.50	18,839	0.30%	9,026	0.70%	3,601	0.10%	6,160	0.50%	51	0.00%
25	22.51 - 27.50	69,183	1.20%	35,618	2.90%	19,997	0.80%	13,434	1.10%	134	0.00%
30	27.51 - 32.50	488,519	8.80%	126,808	10.20%	202,898	7.70%	117,919	10.10%	40,894	8.00%
35	32.51 - 37.50	551,331	9.90%	149,653	12.00%	232,083	8.80%	127,639	10.90%	41,956	8.20%
40	37.51 - 42.50	1,819,301	32.70%	433,797	34.80%	830,645	31.50%	383,757	32.80%	171,103	33.30%
45	42.51 - 47.60	334,325	6.00%	103,653	8.30%	109,462	4.10%	102,876	8.80%	18,334	3.60%
50	47.61 - 52.50	798,734	14.30%	177,254	14.20%	417,128	15.80%	122,093	10.40%	82,259	16.00%
55	52.51 - 57.50	88,785	1.60%	43,252	3.50%	2,109	0.10%	43,028	3.70%	396	0.10%
60	57.51 - 62.50	338,510	6.10%	73,533	5.90%	143,284	5.40%	107,109	9.20%	14,584	2.80%
65	62.51 - 67.50	479,880	8.60%	46,341	3.70%	293,346	11.10%	90,480	7.70%	49,713	9.70%
70	67.51 - 72.50	565,118	10.10%	32,735	2.60%	386,326	14.60%	51,518	4.40%	94,540	18.40%
	Total	5,570,071	100.00%	1,246,053	100.00%	2,640,913	100.00%	1,169,136	100.00%	513,969	100.00%

2014 Incorporated											
Conformity											
EMFAC	VMT	Average Daily		AM Peak		Midday Peak		PM Peak		Off Peak	
Speed Bin	Speed Bins			7 am - 9 am		10 am - 4 pm		5 pm - 7 pm		(other)	
Name	Actual	VMT	%	VMT	%	VMT	%	VMT	%	VMT	%
5	0.0 - 7.50	598	0.00%	598	0.00%	0	0.00%	0	0.00%	0	0.00%
10	7.51 - 12.50	3,311	0.00%	3,040	0.10%	25	0.00%	242	0.00%	4	0.00%
15	12.51 - 17.50	25,223	0.30%	20,885	1.00%	1	0.00%	4,338	0.20%	0	0.00%
20	17.51 - 22.50	22,415	0.20%	11,553	0.50%	4,417	0.10%	6,388	0.30%	57	0.00%
25	22.51 - 27.50	103,064	1.10%	63,817	3.00%	23,287	0.50%	15,815	0.80%	145	0.00%
30	27.51 - 32.50	595,525	6.10%	160,705	7.60%	237,348	4.80%	150,825	7.70%	46,647	6.30%
35	32.51 - 37.50	642,896	6.60%	180,421	8.60%	266,107	5.40%	149,479	7.60%	46,889	6.30%
40	37.51 - 42.50	2,198,351	22.60%	570,292	27.10%	967,921	19.60%	469,367	24.00%	190,772	25.80%
45	42.51 - 47.60	474,300	4.90%	150,978	7.20%	131,529	2.70%	171,481	8.80%	20,312	2.70%
50	47.61 - 52.50	1,204,510	12.40%	276,682	13.10%	648,140	13.10%	161,641	8.30%	118,046	16.00%
55	52.51 - 57.50	149,005	1.50%	68,656	3.30%	2,597	0.10%	77,260	3.90%	492	0.10%
60	57.51 - 62.50	646,948	6.60%	152,663	7.30%	300,040	6.10%	174,227	8.90%	20,018	2.70%
65	62.51 - 67.50	962,311	9.90%	127,250	6.00%	602,955	12.20%	160,709	8.20%	71,397	9.70%
70	67.51 - 72.50	2,713,535	27.90%	316,632	15.00%	1,755,598	35.50%	416,814	21.30%	224,491	30.40%
	Total	9,741,994	100.00%	2,104,173	100.00%	4,939,966	100.00%	1,958,586	100.00%	739,268	100.00%

SB375											
EMFAC	**VMT**	**Average Daily**		**AM Peak**		**Midday Peak**		**PM Peak**		**Off Peak**	
Speed Bin	**Speed Bins**			**7 am - 9 am**		**10 am - 4 pm**		**5 pm - 7 pm**		**(other)**	
Name	**Actual**	**VMT**	**%**	**VMT**	**%**	**VMT**	**%**	**VMT**	**%**	**VMT**	**%**
5	0.0 - 7.50	513	0.00%	513	0.10%	0	0.00%	0	0.00%	0	0.00%
10	7.51 - 12.50	1,524	0.00%	1,304	0.10%	12	0.00%	207	0.00%	2	0.00%
15	12.51 - 17.50	12,480	0.30%	10,159	1.00%	0	0.00%	2,321	0.30%	0	0.00%
20	17.51 - 22.50	14,972	0.30%	7,092	0.70%	2,729	0.10%	5,102	0.60%	48	0.00%
25	22.51 - 27.50	56,422	1.30%	29,868	3.10%	16,212	0.80%	10,217	1.10%	124	0.00%
30	27.51 - 32.50	407,233	9.50%	106,195	10.90%	167,891	8.30%	98,579	10.90%	34,567	8.50%
35	32.51 - 37.50	446,935	10.40%	122,814	12.60%	185,327	9.20%	104,030	11.50%	34,764	8.60%
40	37.51 - 42.50	1,282,624	29.90%	310,751	32.00%	576,288	28.60%	270,312	30.00%	125,273	30.90%
45	42.51 - 47.60	261,749	6.10%	83,021	8.50%	83,708	4.20%	80,833	9.00%	14,188	3.50%
50	47.61 - 52.50	595,585	13.90%	137,333	14.10%	306,720	15.20%	88,069	9.80%	63,462	15.60%
55	52.51 - 57.50	74,113	1.70%	36,537	3.80%	1,361	0.10%	35,932	4.00%	283	0.10%
60	57.51 - 62.50	278,902	6.50%	61,479	6.30%	115,556	5.70%	89,840	10.00%	12,027	3.00%
65	62.51 - 67.50	402,892	9.40%	38,763	4.00%	245,611	12.20%	76,500	8.50%	42,017	10.40%
70	67.51 - 72.50	459,458	10.70%	26,033	2.70%	314,224	15.60%	40,102	4.40%	79,099	19.50%
	Total	4,295,402	100.00%	971,862	100.00%	2,015,640	100.00%	902,045	100.00%	405,854	100.00%

2014 Unincorporated											
Conformity											
EMFAC	VMT	Average Daily		AM Peak		Midday Peak		PM Peak		Off Peak	
Speed Bin	Speed Bins			7 am - 9 am		10 am - 4 pm		5 pm - 7 pm		(other)	
Name	Actual	VMT	%	VMT	%	VMT	%	VMT	%	VMT	%
5	0.0 - 7.50	119	0.00%	119	0.00%	0	0.00%	0	0.00%	0	0.00%
10	7.51 - 12.50	1,545	0.00%	1,439	0.10%	38	0.00%	62	0.00%	6	0.00%
15	12.51 - 17.50	9,685	0.20%	7,846	0.60%	4	0.00%	1,835	0.20%	0	0.00%
20	17.51 - 22.50	10,826	0.20%	5,656	0.50%	2,668	0.10%	2,494	0.20%	8	0.00%
25	22.51 - 27.50	42,914	0.70%	23,203	1.90%	11,161	0.30%	8,529	0.70%	21	0.00%
30	27.51 - 32.50	236,024	3.90%	60,989	5.00%	104,015	3.20%	56,748	4.80%	14,273	4.10%
35	32.51 - 37.50	273,255	4.50%	74,148	6.10%	123,021	3.70%	61,375	5.20%	14,711	4.20%
40	37.51 - 42.50	1,337,144	22.20%	338,542	28.00%	614,480	18.60%	283,900	24.00%	100,223	28.80%
45	42.51 - 47.60	245,433	4.10%	74,922	6.20%	64,731	2.00%	97,753	8.30%	8,028	2.30%
50	47.61 - 52.50	722,623	12.00%	143,486	11.90%	421,630	12.80%	98,157	8.30%	59,349	17.00%
55	52.51 - 57.50	68,909	1.10%	32,243	2.70%	1,748	0.10%	34,654	2.90%	264	0.10%
60	57.51 - 62.50	352,469	5.80%	83,326	6.90%	175,139	5.30%	86,407	7.30%	7,598	2.20%
65	62.51 - 67.50	551,357	9.10%	82,425	6.80%	361,345	11.00%	81,533	6.90%	26,055	7.50%
70	67.51 - 72.50	2,183,882	36.20%	280,573	23.20%	1,417,029	43.00%	368,467	31.20%	117,813	33.80%
	Total	6,036,185	100.00%	1,208,917	100.00%	3,297,007	100.00%	1,181,913	100.00%	348,349	100.00%

SB375											
EMFAC	**VMT**	**Average Daily**		**AM Peak**		**Midday Peak**		**PM Peak**		**Off Peak**	
Speed Bin	**Speed Bins**			**7 am - 9 am**		**10 am - 4 pm**		**5 pm - 7 pm**		**(other)**	
Name	**Actual**	**VMT**	**%**	**VMT**	**%**	**VMT**	**%**	**VMT**	**%**	**VMT**	**%**
5	0.0 - 7.50	44	0.00%	44	0.00%	0	0.00%	0	0.00%	0	0.00%
10	7.51 - 12.50	349	0.00%	297	0.10%	22	0.00%	27	0.00%	3	0.00%
15	12.51 - 17.50	2,637	0.20%	2,068	0.80%	2	0.00%	567	0.20%	0	0.00%
20	17.51 - 22.50	3,867	0.30%	1,934	0.70%	872	0.10%	1,058	0.40%	3	0.00%
25	22.51 - 27.50	12,762	1.00%	5,750	2.10%	3,785	0.60%	3,217	1.20%	9	0.00%
30	27.51 - 32.50	81,287	6.40%	20,613	7.50%	35,007	5.60%	19,340	7.20%	6,327	5.90%
35	32.51 - 37.50	104,396	8.20%	26,839	9.80%	46,756	7.50%	23,608	8.80%	7,193	6.70%
40	37.51 - 42.50	536,677	42.10%	123,046	44.90%	254,356	40.70%	113,446	42.50%	45,829	42.40%
45	42.51 - 47.60	72,576	5.70%	20,632	7.50%	25,755	4.10%	22,044	8.30%	4,146	3.80%
50	47.61 - 52.50	203,149	15.90%	39,920	14.60%	110,408	17.70%	34,023	12.70%	18,797	17.40%
55	52.51 - 57.50	14,672	1.20%	6,714	2.40%	748	0.10%	7,096	2.70%	114	0.10%
60	57.51 - 62.50	59,608	4.70%	12,054	4.40%	27,728	4.40%	17,270	6.50%	2,556	2.40%
65	62.51 - 67.50	76,988	6.00%	7,577	2.80%	47,734	7.60%	13,980	5.20%	7,696	7.10%
70	67.51 - 72.50	105,660	8.30%	6,702	2.40%	72,101	11.50%	11,416	4.30%	15,441	14.30%
	Total	1,274,670	100.00%	274,191	100.00%	625,274	100.00%	267,091	100.00%	108,115	100.00%

2035 Combined											
Conformity											
EMFAC	VMT	Average Daily		AM Peak		Midday Peak		PM Peak		Off Peak	
Speed Bin	Speed Bins			7 am - 9 am		10 am - 4 pm		5 pm - 7 pm		(other)	
Name	Actual	VMT	%	VMT	%	VMT	%	VMT	%	VMT	%
5	0.0 - 7.50	106,092	0.70%	58,750	1.80%	0	0.00%	47,341	1.60%	0	0.00%
10	7.51 - 12.50	40,091	0.30%	31,798	1.00%	73	0.00%	8,211	0.30%	8	0.00%
15	12.51 - 17.50	26,844	0.20%	6,084	0.20%	2,231	0.00%	18,524	0.60%	5	0.00%
20	17.51 - 22.50	46,520	0.30%	24,410	0.80%	3,117	0.00%	18,932	0.60%	61	0.00%
25	22.51 - 27.50	151,311	1.00%	101,807	3.10%	18,766	0.30%	30,577	1.00%	161	0.00%
30	27.51 - 32.50	765,790	5.30%	234,919	7.20%	283,277	3.90%	192,909	6.50%	54,685	4.90%
35	32.51 - 37.50	1,075,722	7.40%	406,962	12.60%	360,469	5.00%	244,315	8.20%	63,977	5.70%
40	37.51 - 42.50	3,903,727	26.80%	950,849	29.30%	1,834,690	25.30%	775,862	26.20%	342,326	30.50%
45	42.51 - 47.60	787,934	5.40%	243,585	7.50%	284,017	3.90%	215,511	7.30%	44,822	4.00%
50	47.61 - 52.50	1,534,447	10.50%	228,105	7.00%	819,927	11.30%	290,532	9.80%	195,884	17.40%
55	52.51 - 57.50	320,197	2.20%	238,754	7.40%	3,779	0.10%	76,866	2.60%	798	0.10%
60	57.51 - 62.50	412,571	2.80%	212,162	6.50%	27,724	0.40%	172,685	5.80%	0	0.00%
65	62.51 - 67.50	1,605,878	11.00%	285,191	8.80%	832,870	11.50%	445,602	15.00%	42,215	3.80%
70	67.51 - 72.50	3,801,869	26.10%	218,438	6.70%	2,779,362	38.30%	426,464	14.40%	377,605	33.60%
	Total	14,578,994	100.00%	3,241,814	100.00%	7,250,303	100.00%	2,964,330	100.00%	1,122,547	100.00%
SB375											

EMFAC	VMT	Average Daily		AM Peak		Midday Peak		PM Peak		Off Peak	
Speed Bin	Speed Bins			7 am - 9 am		10 am - 4 pm		5 pm - 7 pm		(other)	
Name	Actual	VMT	%	VMT	%	VMT	%	VMT	%	VMT	%
5	0.0 - 7.50	38,322	0.50%	20,532	1.20%	0	0.00%	17,790	1.10%	0	0.00%
10	7.51 - 12.50	17,707	0.20%	15,917	0.90%	67	0.00%	1,715	0.10%	8	0.00%
15	12.51 - 17.50	15,111	0.20%	4,269	0.20%	1,339	0.00%	9,500	0.60%	2	0.00%
20	17.51 - 22.50	29,322	0.40%	15,667	0.90%	2,116	0.10%	11,484	0.70%	55	0.00%
25	22.51 - 27.50	70,057	0.90%	44,153	2.50%	14,727	0.40%	11,029	0.70%	148	0.00%
30	27.51 - 32.50	587,459	7.50%	171,313	9.60%	229,824	6.20%	141,696	8.60%	44,626	6.20%
35	32.51 - 37.50	775,008	9.90%	247,982	14.00%	291,601	7.90%	182,630	11.10%	52,795	7.30%
40	37.51 - 42.50	2,740,210	35.00%	636,602	35.80%	1,296,163	35.20%	549,282	33.30%	258,163	35.80%
45	42.51 - 47.60	569,675	7.30%	144,248	8.10%	230,080	6.30%	157,500	9.50%	37,847	5.30%
50	47.61 - 52.50	951,643	12.20%	139,634	7.90%	526,185	14.30%	164,658	10.00%	121,166	16.80%
55	52.51 - 57.50	99,060	1.30%	53,675	3.00%	2,924	0.10%	41,868	2.50%	592	0.10%
60	57.51 - 62.50	109,751	1.40%	55,491	3.10%	10,911	0.30%	43,349	2.60%	0	0.00%
65	62.51 - 67.50	511,599	6.50%	124,577	7.00%	235,615	6.40%	126,353	7.70%	25,052	3.50%
70	67.51 - 72.50	1,310,514	16.70%	102,854	5.80%	836,606	22.70%	190,736	11.60%	180,319	25.00%
	Total	7,825,438	100.00%	1,776,914	100.00%	3,678,159	100.00%	1,649,591	100.00%	720,774	100.00%

2035 Incorporated											
Conformity											
EMFAC	VMT	Average Daily		AM Peak		Midday Peak		PM Peak		Off Peak	
Speed Bin	Speed Bins			7 am - 9 am		10 am - 4 pm		5 pm - 7 pm		(other)	
Name	Actual	VMT	%	VMT	%	VMT	%	VMT	%	VMT	%
5	0.0 - 7.50	83,111	0.60%	46,655	1.60%	0	0.00%	36,457	1.40%	0	0.00%
10	7.51 - 12.50	33,908	0.30%	25,859	0.90%	48	0.00%	7,996	0.30%	5	0.00%
15	12.51 - 17.50	23,153	0.20%	5,215	0.20%	2,136	0.00%	15,801	0.60%	0	0.00%
20	17.51 - 22.50	39,563	0.30%	20,972	0.70%	2,368	0.00%	16,161	0.60%	61	0.00%
25	22.51 - 27.50	137,034	1.10%	90,836	3.20%	17,774	0.30%	28,265	1.10%	159	0.00%
30	27.51 - 32.50	700,130	5.40%	210,102	7.40%	265,443	4.00%	174,485	6.70%	50,100	5.30%
35	32.51 - 37.50	957,638	7.40%	358,127	12.60%	328,253	5.00%	215,004	8.30%	56,253	6.00%
40	37.51 - 42.50	3,240,811	25.00%	782,772	27.60%	1,558,517	23.70%	632,576	24.30%	266,947	28.20%
45	42.51 - 47.60	706,681	5.40%	222,793	7.90%	255,614	3.90%	188,612	7.20%	39,662	4.20%
50	47.61 - 52.50	1,335,311	10.30%	199,862	7.00%	717,677	10.90%	252,068	9.70%	165,704	17.50%
55	52.51 - 57.50	297,569	2.30%	226,060	8.00%	3,391	0.10%	67,426	2.60%	692	0.10%
60	57.51 - 62.50	381,046	2.90%	194,572	6.90%	22,678	0.30%	163,796	6.30%	0	0.00%
65	62.51 - 67.50	1,488,205	11.50%	260,197	9.20%	773,905	11.80%	417,053	16.00%	37,051	3.90%
70	67.51 - 72.50	3,543,275	27.30%	193,044	6.80%	2,633,541	40.00%	388,264	14.90%	328,426	34.80%
	Total	12,967,432	100.00%	2,837,066	100.00%	6,581,345	100.00%	2,603,963	100.00%	945,059	100.00%

SB375											
EMFAC	**VMT**	**Average Daily**		**AM Peak**		**Midday Peak**		**PM Peak**		**Off Peak**	
Speed Bin	**Speed Bins**			**7 am - 9 am**		**10 am - 4 pm**		**5 pm - 7 pm**		**(other)**	
Name	**Actual**	**VMT**	**%**	**VMT**	**%**	**VMT**	**%**	**VMT**	**%**	**VMT**	**%**
5	0.0 - 7.50	25,673	0.50%	13,867	1.20%	0	0.00%	11,806	1.10%	0	0.00%
10	7.51 - 12.50	12,246	0.20%	10,909	0.90%	22	0.00%	1,313	0.10%	2	0.00%
15	12.51 - 17.50	10,847	0.20%	2,839	0.20%	1,076	0.00%	6,932	0.60%	0	0.00%
20	17.51 - 22.50	19,278	0.40%	10,420	0.90%	1,397	0.10%	7,413	0.70%	49	0.00%
25	22.51 - 27.50	47,614	0.90%	29,115	2.50%	11,644	0.50%	6,725	0.60%	130	0.00%
30	27.51 - 32.50	433,817	8.40%	124,400	10.50%	172,739	7.10%	102,650	9.50%	34,028	7.00%
35	32.51 - 37.50	548,275	10.60%	173,272	14.70%	209,798	8.70%	126,528	11.70%	38,677	8.00%
40	37.51 - 42.50	1,585,110	30.70%	376,832	31.90%	742,488	30.70%	312,097	28.80%	153,693	31.80%
45	42.51 - 47.60	385,054	7.50%	102,247	8.60%	149,285	6.20%	107,716	10.00%	25,806	5.30%
50	47.61 - 52.50	596,938	11.60%	89,680	7.60%	327,528	13.50%	101,976	9.40%	77,754	16.10%
55	52.51 - 57.50	72,580	1.40%	38,354	3.20%	1,768	0.10%	32,069	3.00%	389	0.10%
60	57.51 - 62.50	79,201	1.50%	40,058	3.40%	7,416	0.30%	31,728	2.90%	0	0.00%
65	62.51 - 67.50	385,979	7.50%	94,428	8.00%	177,291	7.30%	94,018	8.70%	20,242	4.20%
70	67.51 - 72.50	962,589	18.60%	75,944	6.40%	614,827	25.40%	139,063	12.90%	132,755	27.50%
	Total	5,165,201	100.00%	1,182,365	100.00%	2,417,279	100.00%	1,082,033	100.00%	483,525	100.00%

2035 NP Combined											
Conformity											
EMFAC	VMT	Average Daily		AM Peak		Midday Peak		PM Peak		Off Peak	
Speed Bin	Speed Bins			7 am - 9 am		10 am - 4 pm		5 pm - 7 pm		(other)	
Name	Actual	VMT	%	VMT	%	VMT	%	VMT	%	VMT	%
5	0.0 - 7.50	104,454	0.70%	59,093	1.90%	0	0.00%	45,361	1.60%	0	0.00%
10	7.51 - 12.50	40,931	0.30%	30,399	1.00%	73	0.00%	10,451	0.40%	8	0.00%
15	12.51 - 17.50	31,750	0.20%	9,853	0.30%	17	0.00%	21,877	0.80%	3	0.00%
20	17.51 - 22.50	41,335	0.30%	19,028	0.60%	6,863	0.10%	15,384	0.50%	60	0.00%
25	22.51 - 27.50	123,470	0.90%	89,930	2.90%	16,174	0.20%	17,209	0.60%	156	0.00%
30	27.51 - 32.50	810,149	5.70%	279,490	8.90%	278,341	3.90%	198,525	6.90%	53,792	4.90%
35	32.51 - 37.50	975,058	6.90%	327,023	10.40%	351,160	5.00%	233,795	8.10%	63,080	5.80%
40	37.51 - 42.50	3,680,797	25.90%	876,749	27.90%	1,726,087	24.40%	760,311	26.20%	317,650	29.10%
45	42.51 - 47.60	737,539	5.20%	262,783	8.40%	253,675	3.60%	177,102	6.10%	43,979	4.00%
50	47.61 - 52.50	1,576,783	11.10%	265,731	8.50%	819,944	11.60%	299,850	10.30%	191,258	17.50%
55	52.51 - 57.50	232,409	1.60%	137,766	4.40%	3,741	0.10%	90,108	3.10%	794	0.10%
60	57.51 - 62.50	421,508	3.00%	252,564	8.00%	0	0.00%	168,944	5.80%	0	0.00%
65	62.51 - 67.50	1,387,549	9.80%	309,878	9.90%	674,783	9.50%	359,881	12.40%	43,007	3.90%
70	67.51 - 72.50	4,045,096	28.50%	217,841	6.90%	2,949,977	41.70%	498,461	17.20%	378,817	34.70%
	Total	14,208,826	100.00%	3,138,129	100.00%	7,080,835	100.00%	2,897,259	100.00%	1,092,604	100.00%
SB375											
EMFAC	VMT	Average Daily		AM Peak		Midday Peak		PM Peak		Off Peak	
Speed Bin	Speed Bins			7 am - 9 am		10 am - 4 pm		5 pm - 7 pm		(other)	

Name	Actual	VMT	%	VMT	%	VMT	%	VMT	%	VMT	%
5	0.0 - 7.50	36,861	0.50%	20,667	1.20%	0	0.00%	16,194	1.00%	0	0.00%
10	7.51 - 12.50	18,626	0.20%	15,298	0.90%	67	0.00%	3,253	0.20%	8	0.00%
15	12.51 - 17.50	16,543	0.20%	5,956	0.40%	8	0.00%	10,577	0.70%	1	0.00%
20	17.51 - 22.50	26,517	0.40%	12,074	0.70%	4,367	0.10%	10,022	0.60%	54	0.00%
25	22.51 - 27.50	55,568	0.70%	34,679	2.10%	12,890	0.40%	7,857	0.50%	142	0.00%
30	27.51 - 32.50	572,680	7.70%	169,471	10.10%	224,909	6.40%	134,658	8.50%	43,643	6.30%
35	32.51 - 37.50	725,821	9.70%	218,913	13.00%	283,209	8.00%	171,843	10.80%	51,855	7.50%
40	37.51 - 42.50	2,534,074	33.90%	579,179	34.50%	1,195,886	33.90%	522,811	33.00%	236,198	34.10%
45	42.51 - 47.60	524,435	7.00%	148,597	8.80%	202,234	5.70%	136,664	8.60%	36,940	5.30%
50	47.61 - 52.50	975,355	13.00%	161,270	9.60%	527,198	15.00%	170,512	10.80%	116,375	16.80%
55	52.51 - 57.50	85,243	1.10%	31,225	1.90%	2,879	0.10%	50,554	3.20%	585	0.10%
60	57.51 - 62.50	102,078	1.40%	60,841	3.60%	0	0.00%	41,237	2.60%	0	0.00%
65	62.51 - 67.50	497,790	6.70%	121,573	7.20%	236,908	6.70%	113,860	7.20%	25,448	3.70%
70	67.51 - 72.50	1,311,748	17.50%	100,885	6.00%	835,230	23.70%	194,819	12.30%	180,814	26.10%
	Total	7,483,339	100.00%	1,680,629	100.00%	3,525,785	100.00%	1,584,861	100.00%	692,063	100.00%

2035 NP Unincorporated											
Conformity											
EMFAC	VMT	Average Daily		AM Peak		Midday Peak		PM Peak		Off Peak	
Speed Bin	Speed Bins			7 am - 9 am		10 am - 4 pm		5 pm - 7 pm		(other)	
Name	Actual	VMT	%	VMT	%	VMT	%	VMT	%	VMT	%
5	0.0 - 7.50	57,571	0.60%	33,291	1.70%	0	0.00%	24,280	1.30%	0	0.00%
10	7.51 - 12.50	21,677	0.20%	13,663	0.70%	73	0.00%	7,933	0.40%	8	0.00%
15	12.51 - 17.50	16,409	0.20%	5,646	0.30%	17	0.00%	10,744	0.60%	3	0.00%
20	17.51 - 22.50	23,445	0.20%	10,748	0.50%	3,580	0.10%	9,105	0.50%	12	0.00%
25	22.51 - 27.50	82,123	0.90%	61,596	3.10%	7,574	0.20%	12,919	0.70%	34	0.00%
30	27.51 - 32.50	424,171	4.50%	148,970	7.60%	145,931	2.90%	106,947	5.70%	22,323	3.80%
35	32.51 - 37.50	526,558	5.60%	180,263	9.20%	188,892	3.80%	130,399	6.90%	27,004	4.60%
40	37.51 - 42.50	2,465,603	26.20%	563,005	28.80%	1,208,602	24.20%	506,668	26.90%	187,329	32.00%
45	42.51 - 47.60	441,390	4.70%	163,587	8.40%	159,520	3.20%	95,371	5.10%	22,912	3.90%
50	47.61 - 52.50	1,052,859	11.20%	168,653	8.60%	561,146	11.20%	209,310	11.10%	113,751	19.40%
55	52.51 - 57.50	158,294	1.70%	111,470	5.70%	2,529	0.10%	43,848	2.30%	447	0.10%
60	57.51 - 62.50	332,143	3.50%	194,998	10.00%	0	0.00%	137,145	7.30%	0	0.00%
65	62.51 - 67.50	912,922	9.70%	190,258	9.70%	445,032	8.90%	261,722	13.90%	15,910	2.70%
70	67.51 - 72.50	2,911,706	30.90%	111,839	5.70%	2,279,609	45.60%	324,870	17.30%	195,388	33.40%
	Total	9,426,871	100.00%	1,957,986	100.00%	5,002,505	100.00%	1,881,260	100.00%	585,121	100.00%

SB375											
EMFAC	**VMT**	**Average Daily**		**AM Peak**		**Midday Peak**		**PM Peak**		**Off Peak**	
Speed Bin	**Speed Bins**			**7 am - 9 am**		**10 am - 4 pm**		**5 pm - 7 pm**		**(other)**	
Name	**Actual**	**VMT**	**%**	**VMT**	**%**	**VMT**	**%**	**VMT**	**%**	**VMT**	**%**
5	0.0 - 7.50	12,484	0.50%	6,865	1.30%	0	0.00%	5,619	1.10%	0	0.00%
10	7.51 - 12.50	5,333	0.20%	4,485	0.80%	45	0.00%	797	0.20%	5	0.00%
15	12.51 - 17.50	4,637	0.20%	1,883	0.30%	8	0.00%	2,744	0.50%	1	0.00%
20	17.51 - 22.50	8,287	0.30%	3,646	0.70%	1,171	0.10%	3,465	0.70%	6	0.00%
25	22.51 - 27.50	15,825	0.60%	10,551	1.90%	2,693	0.20%	2,563	0.50%	17	0.00%
30	27.51 - 32.50	142,637	5.80%	42,992	7.90%	55,793	4.70%	33,613	6.40%	10,240	4.70%
35	32.51 - 37.50	208,136	8.50%	63,213	11.70%	79,262	6.70%	51,862	9.90%	13,798	6.30%
40	37.51 - 42.50	1,018,441	41.40%	226,543	41.80%	489,644	41.60%	212,126	40.60%	90,127	41.20%
45	42.51 - 47.60	166,389	6.80%	45,116	8.30%	67,874	5.80%	41,678	8.00%	11,722	5.40%
50	47.61 - 52.50	355,814	14.50%	53,581	9.90%	196,764	16.70%	65,296	12.50%	40,173	18.40%
55	52.51 - 57.50	21,492	0.90%	8,662	1.60%	1,146	0.10%	11,482	2.20%	202	0.10%
60	57.51 - 62.50	27,528	1.10%	16,041	3.00%	0	0.00%	11,487	2.20%	0	0.00%
65	62.51 - 67.50	120,066	4.90%	30,908	5.70%	57,203	4.90%	26,990	5.20%	4,964	2.30%
70	67.51 - 72.50	352,026	14.30%	26,900	5.00%	224,206	19.10%	53,355	10.20%	47,564	21.70%
	Total	2,459,093	100.00%	541,385	100.00%	1,175,811	100.00%	523,079	100.00%	218,819	100.00%

2035 Unincorporated											
Conformity											
EMFAC	VMT	Average Daily		AM Peak		Midday Peak		PM Peak		Off Peak	
Speed Bin	Speed Bins			7 am - 9 am		10 am - 4 pm		5 pm - 7 pm		(other)	
Name	Actual	VMT	%	VMT	%	VMT	%	VMT	%	VMT	%
5	0.0 - 7.50	58,094	0.60%	32,923	1.60%	0	0.00%	25,171	1.30%	0	0.00%
10	7.51 - 12.50	22,098	0.20%	15,223	0.70%	73	0.00%	6,793	0.30%	8	0.00%
15	12.51 - 17.50	13,828	0.10%	3,832	0.20%	802	0.00%	9,189	0.50%	5	0.00%
20	17.51 - 22.50	27,829	0.30%	14,606	0.70%	1,879	0.00%	11,331	0.60%	13	0.00%
25	22.51 - 27.50	106,344	1.10%	71,686	3.50%	8,890	0.20%	25,731	1.30%	37	0.00%
30	27.51 - 32.50	398,071	4.10%	121,534	6.00%	147,880	2.90%	105,729	5.40%	22,928	3.70%
35	32.51 - 37.50	591,311	6.10%	233,662	11.50%	193,792	3.80%	136,311	7.00%	27,546	4.50%
40	37.51 - 42.50	2,669,176	27.40%	619,269	30.30%	1,303,772	25.40%	536,008	27.50%	210,128	34.20%
45	42.51 - 47.60	470,711	4.80%	148,686	7.30%	181,498	3.50%	117,079	6.00%	23,448	3.80%
50	47.61 - 52.50	1,030,813	10.60%	148,427	7.30%	561,171	10.90%	202,571	10.40%	118,644	19.30%
55	52.51 - 57.50	236,504	2.40%	196,034	9.60%	2,545	0.00%	37,476	1.90%	449	0.10%
60	57.51 - 62.50	317,043	3.30%	162,028	7.90%	16,066	0.30%	138,948	7.10%	0	0.00%
65	62.51 - 67.50	1,123,148	11.50%	160,525	7.90%	607,683	11.80%	339,339	17.40%	15,603	2.50%
70	67.51 - 72.50	2,668,180	27.40%	112,196	5.50%	2,103,227	41.00%	257,369	13.20%	195,388	31.80%
	Total	9,733,149	100.00%	2,040,631	100.00%	5,129,277	100.00%	1,949,045	100.00%	614,196	100.00%

SB375											
EMFAC	**VMT**	**Average Daily**		**AM Peak**		**Midday Peak**		**PM Peak**		**Off Peak**	
Speed Bin	**Speed Bins**			**7 am - 9 am**		**10 am - 4 pm**		**5 pm - 7 pm**		**(other)**	
Name	**Actual**	**VMT**	**%**	**VMT**	**%**	**VMT**	**%**	**VMT**	**%**	**VMT**	**%**
5	0.0 - 7.50	12,649	0.50%	6,665	1.10%	0	0.00%	5,984	1.10%	0	0.00%
10	7.51 - 12.50	5,461	0.20%	5,008	0.80%	45	0.00%	402	0.10%	5	0.00%
15	12.51 - 17.50	4,264	0.20%	1,430	0.20%	263	0.00%	2,568	0.50%	2	0.00%
20	17.51 - 22.50	10,044	0.40%	5,247	0.90%	719	0.10%	4,071	0.70%	6	0.00%
25	22.51 - 27.50	22,443	0.80%	15,038	2.50%	3,083	0.20%	4,304	0.80%	18	0.00%
30	27.51 - 32.50	153,643	5.80%	46,913	7.90%	57,086	4.50%	39,046	6.90%	10,598	4.50%
35	32.51 - 37.50	226,734	8.50%	74,710	12.60%	81,802	6.50%	56,103	9.90%	14,119	6.00%
40	37.51 - 42.50	1,155,101	43.40%	259,769	43.70%	553,675	43.90%	237,185	41.80%	104,471	44.00%
45	42.51 - 47.60	184,621	6.90%	42,001	7.10%	80,796	6.40%	49,784	8.80%	12,041	5.10%
50	47.61 - 52.50	354,705	13.30%	49,953	8.40%	198,657	15.80%	62,682	11.00%	43,412	18.30%
55	52.51 - 57.50	26,480	1.00%	15,321	2.60%	1,156	0.10%	9,799	1.70%	203	0.10%
60	57.51 - 62.50	30,550	1.10%	15,433	2.60%	3,495	0.30%	11,621	2.00%	0	0.00%
65	62.51 - 67.50	125,619	4.70%	30,150	5.10%	58,324	4.60%	32,336	5.70%	4,810	2.00%
70	67.51 - 72.50	347,925	13.10%	26,910	4.50%	221,778	17.60%	51,673	9.10%	47,564	20.00%
	Total	2,660,237	100.00%	594,549	100.00%	1,260,880	100.00%	567,558	100.00%	237,249	100.00%

Appendix C-2

2014 CT-EMFAC Emissions Factors

2014 CT-EMFAC Emission Factors

File Name: Stanislaus (SJV) - 2014 - Annual.EF
CT-EMFAC Version: 5.0.0.14319
Run Date: 3/4/2015 16:10
Area: Stanislaus (SJV)
Analysis Year: 2014
Season: Annual

==========

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category
Truck 1	0.062	0.492
Truck 2	0.076	0.959
Non-Truck	0.862	0.005

==========

Fleet Average Running Exhaust Emission Factors (grams/mile)

Speed	ROG	TOG	CO	NOx	CO2	CO2 (Pavley I + LCFS)	PM10	PM2.5
5 mph	0.624955	0.790911	4.944911	2.414911	1566.164	1447.561768	0.055231	0.050783
10 mph	0.409411	0.515625	4.088172	1.840159	1195.065	1106.753296	0.040013	0.036785
15 mph	0.258178	0.327012	3.375197	1.410216	931.2738	862.969788	0.02856	0.026253
20 mph	0.164797	0.210805	2.885434	1.131275	744.0417	689.295288	0.020155	0.018524
25 mph	0.13077	0.165857	2.532849	1.0462	630.5753	585.200073	0.017023	0.015645
30 mph	0.108205	0.136336	2.295828	0.979107	555.556	516.230591	0.014873	0.013668
35 mph	0.092903	0.116495	2.112206	0.931671	504.3513	469.087555	0.013535	0.012439
40 mph	0.083026	0.103779	1.978587	0.901413	471.9636	439.192291	0.012914	0.011868
45 mph	0.077677	0.096732	1.89058	0.886749	455.033	423.478271	0.012953	0.011904
50 mph	0.076302	0.094653	1.850034	0.889237	452.122	420.633301	0.01362	0.012517
55 mph	0.078805	0.097416	1.854834	0.914721	461.5937	429.188843	0.0149	0.013694
60 mph	0.085682	0.105732	1.93338	0.931504	488.157	453.235291	0.016822	0.015461
65 mph	0.098143	0.120718	2.095679	0.95845	530.4226	491.620972	0.019341	0.017775
70 mph	0.111537	0.136262	2.316613	0.967431	557.3755	515.990234	0.019487	0.017907
75 mph	0.111537	0.136262	2.316613	0.967431	557.3755	515.990234	0.019487	0.017907

==========

Fleet Average Idling Exhaust Emission Factors (grams/vehicle-idle-hour)

Pollutant Name	Emission Factor
ROG	2.151497
TOG	2.846551
CO	24.612967
NOx	8.658174
CO2	6973.584473
CO2 (Pavley I + LCFS)	6393.432129
PM10	0.117128
PM2.5	0.107607

==========

Fleet Average Running Loss Emission Factors (grams/mile)

Pollutant Name	Emission Factor
ROG	0.115174
TOG	0.115174

==========

Fleet Average Tire Wear and Brake Wear Factors (grams/mile)

Pollutant Name	Emission Factor
PM10	0.051843
PM2.5	0.020466

==========END==========

2035 CT-EMFAC Emission Factors

File Name: Stanislaus (SJV) - 2035 - Annual.EF
CT-EMFAC Version: 5.0.0.14319
Run Date: 3/4/2015 16:36
Area: Stanislaus (SJV)
Analysis Year: 2035
Season: Annual

==========

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category
Truck 1	0.049	0.493
Truck 2	0.075	0.965
Non-Truck	0.876	0.005

==========

Fleet Average Running Exhaust Emission Factors (grams/mile)

Speed	ROG	TOG	CO	NOx	CO2	CO2 (Pavley I + LCFS)	PM10	PM2.5
5 mph	0.268028	0.347638	1.666446	0.607529	1551.554	1092.779785	0.018481	0.017095
10 mph	0.171136	0.221552	1.420114	0.479399	1186.316	841.698608	0.013468	0.012449
15 mph	0.102859	0.134763	1.199495	0.37881	923.8589	657.252991	0.010246	0.009465
20 mph	0.062147	0.083025	1.039297	0.304966	736.6284	523.650085	0.008114	0.007492
25 mph	0.051106	0.067056	0.939732	0.276829	623.8547	446.609497	0.006881	0.006351
30 mph	0.043689	0.056633	0.875139	0.253305	550.6682	396.148346	0.006179	0.0057
35 mph	0.038599	0.049524	0.815792	0.235751	499.4399	360.65564	0.005864	0.005408
40 mph	0.03537	0.045025	0.770382	0.223229	467.1648	338.048096	0.005856	0.005399
45 mph	0.033736	0.042657	0.736203	0.215527	449.8346	325.668884	0.006108	0.00563
50 mph	0.033667	0.042345	0.719453	0.212512	447.3826	323.442261	0.006597	0.006079
55 mph	0.03533	0.044216	0.720791	0.215189	459.0779	330.903046	0.007311	0.006737
60 mph	0.039144	0.048732	0.740633	0.218929	483.9676	347.106689	0.008265	0.007615
65 mph	0.04596	0.056885	0.797566	0.225351	526.6027	375.167786	0.00945	0.008706
70 mph	0.056207	0.06861	0.915389	0.227675	554.4557	393.186157	0.00959	0.008835
75 mph	0.056207	0.06861	0.915389	0.227675	554.4557	393.186157	0.00959	0.008835

==========

Fleet Average Idling Exhaust Emission Factors (grams/vehicle-idle-hour)

Pollutant Name	Emission Factor
ROG	0.995412
TOG	1.345745
CO	9.562176
NOx	3.715193
CO2	6939.976563
CO2 (Pavley I + LCFS)	4727.883301
PM10	0.075016
PM2.5	0.06948

==========

Fleet Average Running Loss Emission Factors (grams/mile)

Pollutant Name	Emission Factor
ROG	0.051675
TOG	0.051675

==========

Fleet Average Tire Wear and Brake Wear Factors (grams/mile)

Pollutant Name	Emission Factor
PM10	0.051488
PM2.5	0.020325

==========END==========

Appendix D

Stanislaus Countywide Regional Community Greenhouse Gas Inventory

STANISLAUS COUNTYWIDE REGIONAL COMMUNITY GREENHOUSE GAS INVENTORY

PREPARED FOR:

Stanislaus County
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PREPARED BY:

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July 2013

This project was funded with a grant from the California Strategic Growth Council

ICF International. 2013. Stanislaus County Regional Community Greenhouse Gas Inventory. July (ICF 00203.10) San Francisco, CA. Prepared for Stanislaus County, Modesto, CA.

Stanislaus County

City of Modesto

City of Hughson

City of Ceres

City of Newman

City of Oakdale

City of Patterson

City of Riverbank

City of Turlock

City of Waterford

Contents

Tables

Figures

Acronyms and Abbreviations

AB	Assembly Bill
AR4	IPCC Fourth Assessment Report
CAA	Clean Air Act
CAFE	Corporate Average Fuel Economy
Cal/EPA	California Environmental Protection Agency
CAP	Climate Action Plan
CARB	California Air Resources Board
CCA	Community Choice Aggregation
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFCs	chlorofluorocarbons
CH_4	methane
CO_2	carbon dioxide
CPUC	California Public Utilities Commission
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESPs	energy service providers
FED	Functional Equivalent Document
GHG	greenhouse gas
GWP	global warming potential
HCFCs	hydrochlorofluorocarbons
HFCs	hydrofluorocarbons
IOUs	investor-owned utilities
IPCC	Intergovernmental Panel on Climate Change
LAFCO	Local Agency Formation Commission
LCFS	Low Carbon Fuel Standard
LGOP	Local Government Operations Protocol
MCAP	municipal climate action plan
MID	Modesto Irrigation District
mph	miles per hour
MPOs	metropolitan planning organizations

MSR	Municipal Service Review
MT CO_2e	metric ton carbon dioxide equivalent
MW	megawatt
N_2O	nitrous oxide
NGOs	non-governmental organizations
NSPS	New Source Performance Standards
O_3	ozone
PFCs	perfluorocarbons
PG&E	Pacific Gas and Electric
PUR	Pesticide Use Report
RPS	Renewable Portfolio Standard
RST	Regional Sustainability Toolbox
RTAC	Regional Targets Advisory Committee
RTPs	Regional Transportation Plans
SAR	Second Assessment Report
SB	Senate Bill
SCAG	Southern California Association of Governments
SCRSWPA	Stanislaus County Regional Solid Waste Planning Agency
SF_6	sulfur hexafluoride
SGC	State of California Strategic Growth Council
SJVAPCD	San Joaquin Valley Air Pollution Control District
SP	service population
TDM	Travel Demand Model
TID	Turlock Irrigation District
UNFCCC	United Nations Framework Convention on Climate Change
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
VMT	vehicle miles traveled
WARM	Waste Reduction Model
WMO	World Meteorological Organization
WWTPs	wastewater treatment plants

Study Purpose

The Stanislaus Regional GHG Inventory Project was completed as part of the *Stanislaus County Regional Sustainability Toolbox (RST)*, a group of initiatives funded through the State of California Strategic Growth Council (SGC). The proposal was submitted collaboratively by Stanislaus County (lead jurisdiction), and the Cities of Ceres, Hughson, Modesto, Newman, Oakdale, Patterson, Riverbank, Turlock and Waterford. The SGC grant contains the following requirements:

- **Consistency with State Planning Priorities**—the goal of the Stanislaus County RST is to provide a locally driven set of tools that are consistent with regional, state, and federal goals and standards. The Stanislaus County RST is intended to fit state, regional and federal sustainability goals, blueprint plans and GHG reduction thresholds into a locally relevant setting.
- **Reduction of Greenhouse Gases**—the intention of the RST is to identify locally specific, measurable actions that allows each jurisdiction to meet or preferably exceed Statewide greenhouse gas (GHG) reduction goals. As such, a central component of the RST is to establish a baseline GHG inventory for the entire county.
- **Collaboration**—the toolkit approach allows planning efforts to be both locally appropriate while also being regionally consistent. The RST is intended to be the implementation tool for several regional planning efforts including: StanCOG's Regional Transportation Plan, the Valley Blueprint, the Sustainable Communities Strategy, and the California Partnership for the San Joaquin Valley. The proposal includes collaboration with the Great Valley Center, California State University Stanislaus, Local Agency Formation Commission (LAFCO), ICLEI–Local Governments for Sustainability, Stanislaus County Health Services Agency and Stanislaus County Asthma Coalition.

This report provides the quantification (in terms of carbon dioxide equivalent [CO_2e]) of GHG community emissions for the county as a whole for the year 2005. Using the methodology for the regional inventory, separate GHG community inventories were prepared for each jurisdiction in the county and provided to the individual cities and the unincorporated county for their use.

This study is not a GHG reduction plan does it quantify GHG reductions. This study is a baseline GHG inventory only.

Regional Emissions by Sector

Total GHG emissions in 2005 from the Stanislaus County Region (combined emissions from the nine incorporated cities and the County), referred to in this report as "the region" were 6,042,232 metric tons of carbon dioxide equivalent (MT CO_2e). Additional emissions arise from stationary sources and landfill sites (658,692 MT CO_2e). Stationary source emissions, while quantified and disclosed, were not included in the regional total because they are regulated by state and federal mandates. Landfill emissions for 2005, while quantified and disclosed, were not included in the regional total in order to avoid double-counting of waste sector emissions for 2005 as emissions for this sector were

quantified based on 2005 waste generation instead. GHG emissions for the region are shown in table ES-1 and Figure ES-1. Table ES-1 and Figure ES-1 represent the region's baseline GHG inventory for the year 2005. The largest sources of GHG emissions in the region are Building Energy (Electricity plus Natural Gas), On-Road Transportation and Agriculture.

Table ES-1. 2005 GHG Emissions Inventory for the Stanislaus County Region (MT CO_2e)

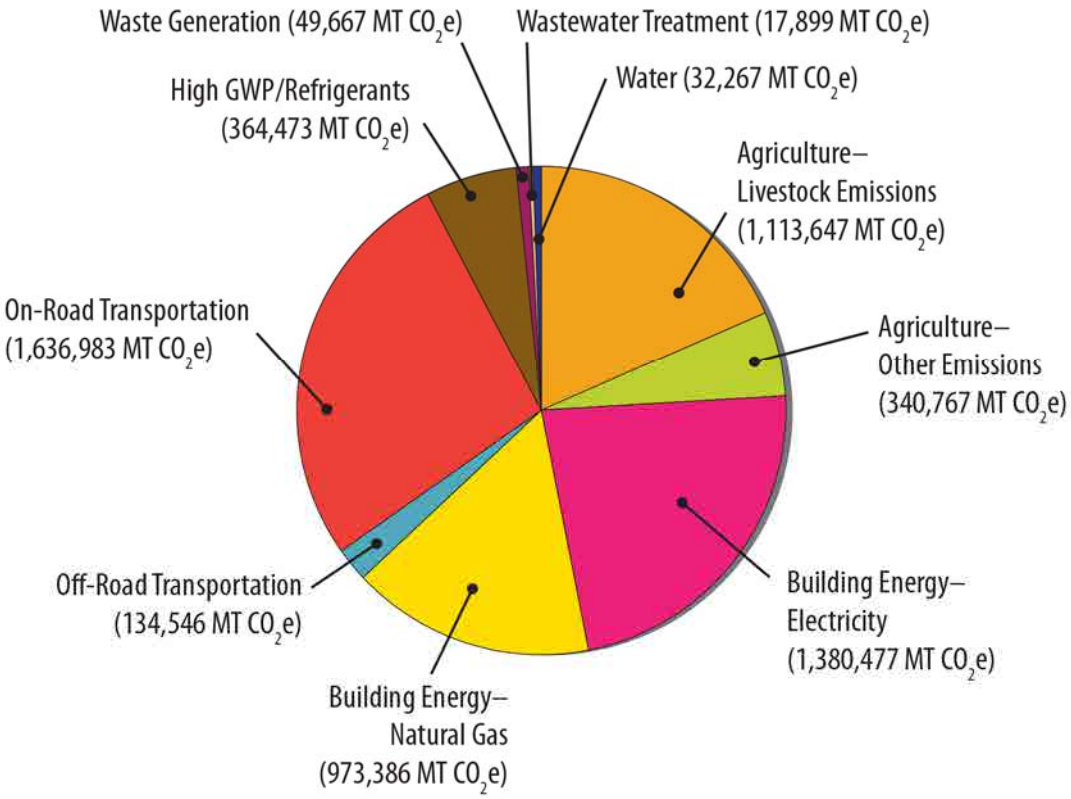
	Sector	Emissions	Percent
Direct[a]	Agriculture—Livestock Emissions	1,113,647	18%
	Agriculture—Other Emissions	340,767	6%
	Building Energy—Natural Gas	973,386	16%
	Off-Road Transportation	134,546	2%
	On-Road Transportation	1,636,983	27%
	High GWP/Refrigerants	364,473	6%
Indirect[b]	Building Energy—Electricity	1,380,477	23%
	Waste Generation	49,667	0.8%
	Wastewater Treatment	17,899	0.3%
	Water	32,267	0.5%
Total		6,044,113	100%
Excluded[c]	Stationary Sources	642,576	
	Waste Landfill	16,115	

a. Direct emissions are emissions that physically occur within the inventory boundary; see Chapter 1 for detail.

b. Indirect emissions are due to activity that occurs within the inventory boundary although the GHG emission may happen inside or outside the inventory boundary; see Chapter 1 for detail.

c. Stationary source emissions were excluded due to state and federal regulation of these sources. Landfill emissions were excluded to avoid double-counting with waste generation emissions.

Figure ES-1. 2005 GHG Emissions Inventory for the Stanislaus County Region (MT CO_2e)—Sector View



GHG emissions in the region are the result of daily activities of residents, employees, businesses, farms and industry in the region. A GHG inventory reflects the unique climate, character and economy of a particular region. Population, housing and employment for all participating jurisdictions in 2005 are shown in Table ES-2. The STANCOG Travel Demand Model (TDM) was used to estimate socioeconomic data because it represents a consistent source of data between all jurisdictions and resulted in estimates that are similar to socioeconomic data from other sources. There are differing socioeconomic data estimates from different sources, but the TDM results are close to these other estimates. The socioeconomic data in Table ES-2 represent the households, population, and jobs within each jurisdiction's geographical boundaries. Sphere of influence boundaries were not taken into consideration for the socioeconomic data estimates.

Table ES-2. Socioeconomic Data For All Participating Jurisdictions in 2005

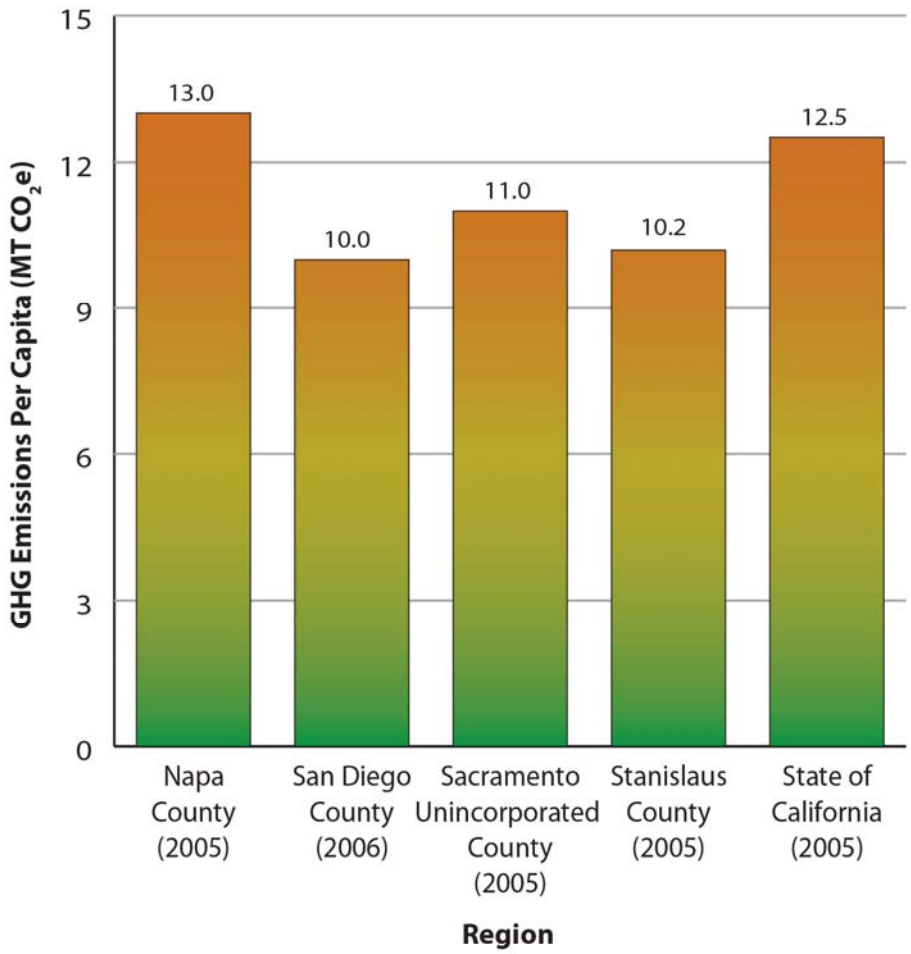
Jurisdiction	Households	Population	Employment
Ceres	12,639	40,722	8,402
Hughson	1,915	6,091	749
Modesto	73,489	206,962	78,310
Newman	3,091	10,083	1,056
Oakdale	7,496	20,299	6,005
Patterson	5,414	19,167	2,273
Riverbank	6,477	21,417	3,452
Turlock	23,074	67,510	23,738
Waterford	2,447	8,169	476
Unincorporated County	36,730	113,740	47,521
Total Stanislaus County	172,772	514,160	171,982

Source: StanCOG 2005 as reported by Fehr & Peers 2012

The jurisdictions in the region are connected economically, logistically and socially. Thus examining GHG emissions for the region as a whole, as this document does, is advantageous. For certain aspects of GHG reduction planning, individual jurisdictions might opt to pursue programs or policies unique to their community, but for others, several communities or all communities may opt to pursue programs and policies together.

Figure ES-2 shows per capita emissions for the Stanislaus region compared to the state average in 2005 and several other jurisdictions. In general, per capita emissions in the Stanislaus region were very similar to the rest of California in 2005. Emissions trends specific to each sector are discussed in Chapters 2.

Figure ES-2. Per Capita Emissions (Excluding Agriculture) Compared to Other Jurisdictions



Per capita emissions in the figure above were determined using the total of emissions from sectors that were common to all of the inventories listed and that used a similar methodology such that the per capita value is roughly an "apples to apples" comparison.

Emissions from agriculture, land use change, and other select sectors were excluded if they were not relevant to all jurisdictions (e.g. agriculture) or are not routinely included in local inventories (e.g. land use change).

In general, per capita emissions in Stanislaus County in 2005 were very similar to other parts of the state of California.

Chapter 1
Background

The Stanislaus County Regional Greenhouse Gas Inventory Project completed a baseline greenhouse gas (GHG) inventory for the entire county for the year 2005.[1] A GHG inventory is commonly completed by an entity seeking to better understand the sources, magnitude, and trends in GHG emissions. Common entities include nations, states, local governments, public organizations such as universities or a joint powers authority, or a private corporation or facility (e.g., a single oil refinery). A GHG inventory may serve the purposes of regulatory compliance, basic research, purchase or sale of GHG credits on the voluntary market, or as a baseline for measuring the achievements of voluntary or required sustainability practices.

Standard protocols exist for conducting GHG inventories at all scales. Rules and procedures for GHG inventories have been developed by a variety of government and non-government entities including the Intergovernmental Panel on Climate Change or IPCC (a part of the World Meteorological Organization or WMO), the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), the San Joaquin Valley Air Pollution Control District (SJVAPCD), the World Resources Institute, the California Climate Registry, ICLEI—Local Governments for Sustainability, the Association of Environmental Professionals and others.

Prior to 2006 when the state of California passed Assembly Bill (AB) 32, the majority of California cities and counties had not completed a GHG inventory. As such, GHG reduction planning at the local level is closely linked to state level GHG planning that has occurred since 2006. Further, many communities, including those in Stanislaus County, are completing a GHG inventory for the first time and familiarizing themselves with the process.

This section provides definitions of common terms used in the GHG inventory process, a brief history of GHG planning in California, a description of the co-benefits typically associated with GHG planning and an overview of Stanislaus County.

Greenhouse Gas Definitions

Greenhouse Gas—A GHG is any gas that absorbs infrared radiation in the atmosphere. GHGs include, but are not limited to, water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrochlorofluorocarbons (HCFCs), ozone (O_3), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Of these, all but water vapor and O_3 are regulated under AB 32 and accounted for in the state's GHG inventory.

Community GHG Inventory—A community inventory includes GHG emissions associated with the activities of the community as a whole, including residents, businesses, and the municipal

[1] GHG community inventories for the individual jurisdictions in the County were also prepared as part of this project. The community inventories were provided separately to the jurisdictions for their use.

government operations.[2] For example, a community GHG inventory includes emissions due to energy used to power and heat homes and businesses; fuel used by vehicles that have either an origin or destination within the jurisdiction; waste that is generated by residents and businesses in the jurisdiction and sent to landfills; fuel use at large stationary sources such as factories or industrial facilities; livestock and fertilizer use; fuel use by off-road equipment; and others.

Municipal GHG Inventory—A municipal inventory includes GHG emissions associated with a City or County's services and municipal operations. For example, a municipal GHG Inventory includes emissions due to the following: energy used by City or County buildings such as the courthouse, city hall or the jail; fuel used by the City or County vehicle fleet; waste generated by the City and County employees; process emissions associated with treating wastewater if the City or County operates a plant; fugitive emissions of methane from landfills if the City or County operates a landfill; and fuel use by City and County employees commuting to and from work. The GHG emissions associated with a City or County's municipal operations are typically 1 to 5% of the community's emissions as a whole.

Unit of Measure—The unit of measure used throughout this GHG inventory is the metric ton of CO_2 equivalent, abbreviated as MT CO_2e. This is the international unit that combines the differing impacts of all greenhouse gases into a single unit, by multiplying each emitted gas by its global warming potential (GWP). GWP is the measure of how effective a greenhouse gas is at trapping heat in the earth's atmosphere. GWP compares the relative warming effect of the GHG in question to that of carbon dioxide.[3]

Boundary—A GHG inventory represents emissions due to activities associated with a certain boundary. This boundary can be organizational, operational or geographic. These boundaries determine which emissions are accounted for and reported by the entity.

Direct Emissions—Direct emissions include direct releases of GHGs that physically occur within the boundary and are related to fuel combustion, process emissions or fugitive emissions. For example, the combustion of fuel by vehicles driving within the boundary, the combustion of natural gas or other fuel by industries or facilities within the boundary or the release of methane from livestock physically located within a jurisdiction.[4]

Indirect Emissions— Indirect releases of GHGs. Indirect releases are GHG emissions that result from *activity* that occurs within the boundary but the physical release of the GHG emission occurs outside of the boundary. For example, residents and businesses within the county use electricity by turning on lights or other electronic equipment but the power plant where the electricity is generated, and where fuel is burned to generate the electricity, may be located far away from the county. Electricity use is considered an indirect emission.

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[2] Municipal government emissions are included in the regional community inventory when the emissions occur within the county boundary overall. Sometimes municipal government emissions do not occur within the community boundary.

[3] The GWP of CO_2 is, by definition, one (1). The GWP values used in this report are based on the IPCC Second Assessment Report (SAR) and United Nations Framework Convention on Climate Change (UNFCCC) reporting guidelines and are as follows: CO_2 = 1, Methane (CH_4) = 21, Nitrous Oxide (N_2O) = 310, Sulfur Hexaflouride (SF_6) = 23,600 (IPCC 1996; UNFCCC 2006). Although the IPCC Fourth Assessment Report (AR4) presents different GWP estimates, the current inventory standard relies on SAR GWPs to comply with reporting standards and consistency with regional and national inventories (Intergovernmental Panel on Climate Change 2007).

[4] Biogenic CO_2 emissions are excluded from the inventory as they do not result in net atmospheric increases in CO_2.

Excluded Emission—In this report, two sources were quantified but not included in the regional totals. Stationary source emissions were excluded due to state and federal regulation and control over these sources. Landfill emissions for 2005 due to historical waste generation were excluded because emissions associated with 2005 waste generation were considered for appropriate to include as a measure of 2005 activity.

Emissions Sector—An emissions sector is a category of GHG emissions reflecting the nature of the activity producing the GHG emissions, for example *building energy* or *on-road transportation*. GHG emissions sectors included in this inventory are: agriculture, building energy, off-road transportation, on-road transportation, high global warming potential gases (refrigerants), waste landfills, waste generation, wastewater treatment, water consumption and stationary sources.

Emission Factor—An emission factor is a unique value equating the amount of GHGs emitted per unit of a given activity, for example metric tons of CO_2 per gallon of gasoline burned.

Baseline Year—The baseline year for any entity is the first year for which emissions are inventoried and reported. For this inventory, the baseline year is 2005.

Climate Action Plan (CAP)/Greenhouse Gas Reduction Plan—"Climate Action Plan" is a term commonly used in California for a planning document designed to reduce an entity's GHG emissions over a period of time. Some communities use different terms such as a "Greenhouse Gas Reduction Plan." The specific components of a GHG reduction plan are not required by law or articulated in California GHG legislation. However, air districts and other agencies such as ICLEI have produced guidance for what should be included in a GHG reduction plan. In addition, CEQA guidelines adopted in 2010 describe elements required in GHG reduction plans if a jurisdiction intends to tier CEQA project compliance off a jurisdictional reduction plan. GHG reduction plans typically include: a baseline GHG inventory, a projection of GHG emissions to 2020 (or other future years), a GHG reduction target for 2020 (or other future years), GHG reduction strategies that together achieve the target, implementation actions, monitoring requirements, and adaptive steps to be taken to ensure the jurisdiction meets its identified target.

Greenhouse Gas Emissions and Planning in the United States and California

National and State Level Inventories

EPA completes a GHG inventory each year for the United States. GHG inventory data is available for every year beginning in 1990. The state of California also completes an annual GHG inventory and data is available beginning in 2000. The national and state of California GHG inventories for the year 2005 are shown below in Figure 1-1 and Table 1-1 in units of million MT CO2e. Please note that the California Energy Commission (CEC) and the EPA present inventory data slightly differently.

Figure 1-1. United States and California GHG Inventories in 2005

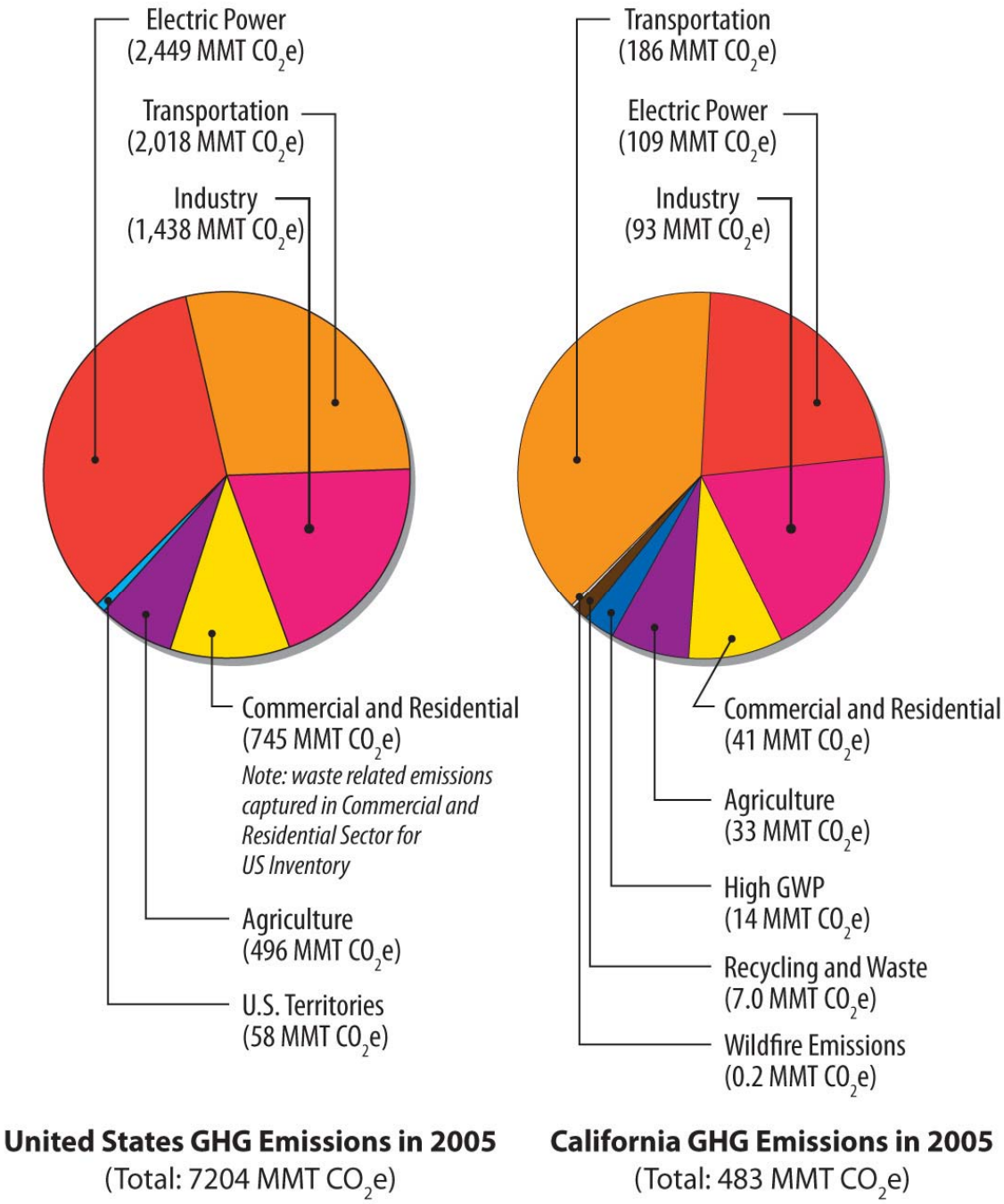


Table 1-1a. United States GHG Inventory in 2005

Sector	Million MT CO_2e	% of total national emissions
Transportation	2018	28
Electric Power	2449	34
Commercial and Residential[a]	745	10
Industrial	1438	20
Agriculture	496	7
U.S. Territories	58	1
Total	7204	100

Source: U.S. Environmental Protection Agency 2012

a. Includes emissions from landfills, wastewater treatment, on-site stationary combustion such as natural gas and high GWP substances

Table 1-1b. California GHG Inventory in 2005

Sector	Million MT CO_2e	% of total state emissions
Transportation	186	38
Electric Power	109	23
Commercial and Residential	41	9
Industrial	93	19
Recycling and Waste	7	1
High GWP	14	3
Agriculture	33	7
Wildfire Emissions	< 1	<1
Total	483	100

Source: California Air Resources Board 2011a

Fossil fuels are burned to create electricity which powers homes and commercial/industrial buildings, to create heat and to power our vehicles. In the United States, vehicle emissions represent approximately 28% of all emissions (U.S. Environmental Protection Agency 2010a). Vehicle emissions represented approximately 38% of all GHGs emitted by Californians in 2005. Energy used to power buildings is the other primary source of GHGs in the United States and California. Other sources of GHG emissions include agriculture, land clearing, the decomposition of waste in landfills, refrigerants, and certain industrial processes.

National and State Legislation

Although there is currently no federal overarching law specifically related to climate change or the regulation of GHGs, pursuant to authority under the Clean Air Act, the USEPA is taking a lead role in regulating certain specific emissions sources including stationary sources. Key legislative and regulatory actions are summarized in Table 1-2.

The State of California has adopted legislation, and regulatory agencies have enacted policies, addressing various aspects of climate change and GHG emissions mitigation. Much of this legislation and policy activity is not directed at local jurisdictions but rather establishes a broad framework for the state's long-term GHG mitigation and climate change adaptation program.

Summaries of key regulations and legislation at the federal and state levels that are relevant to the GHG planning in the Stanislaus region are provided in Table 1-2 below. Figure 1-2 displays a timeline of key state and federal regulatory activity.

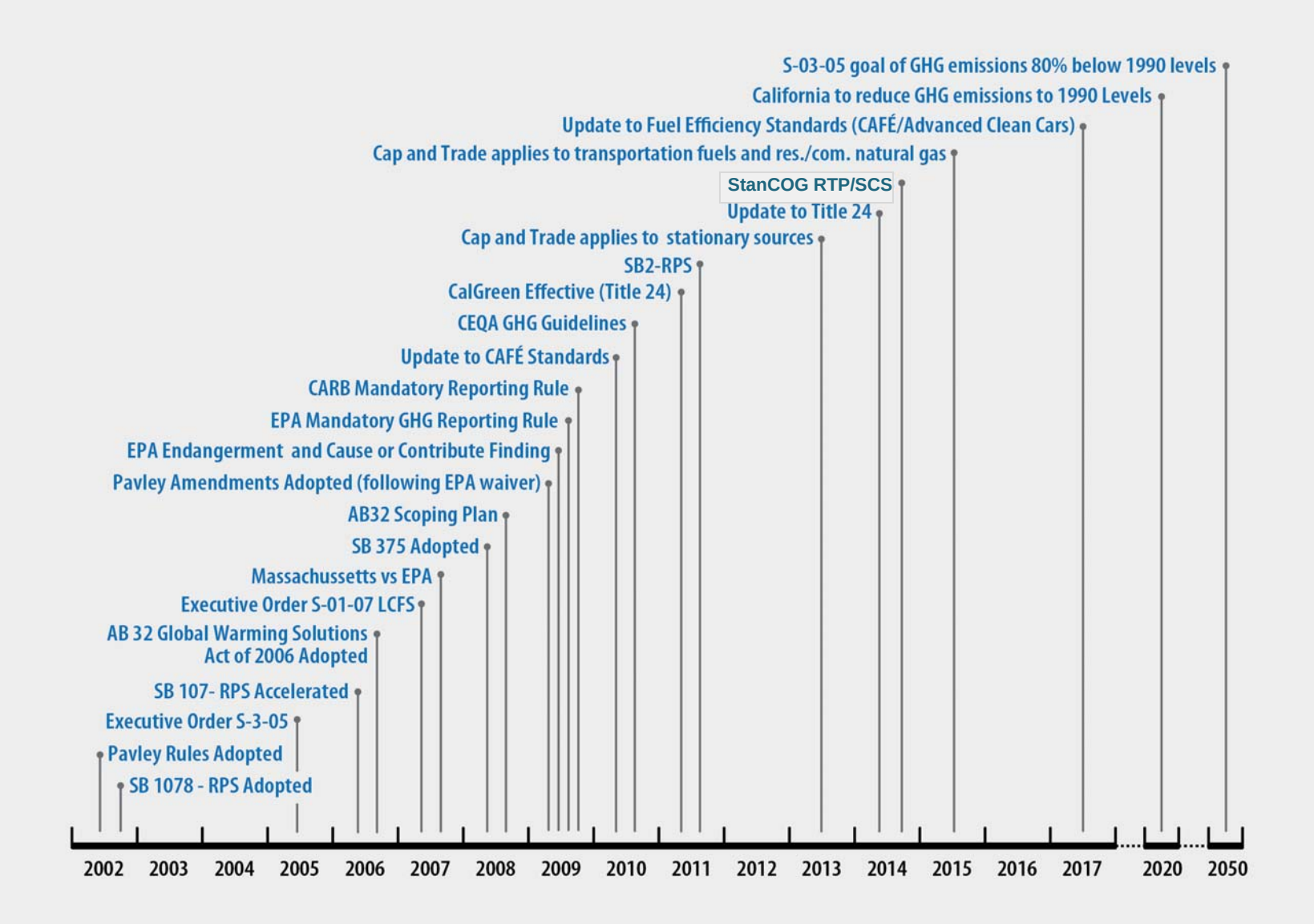
Table 1-2. Summary of Key Federal and State Legislation and Regulations

Federal	
Massachusetts et al. vs. U.S. Environmental Protection Agency (2007)	Twelve states and cities including California, in conjunction with several environmental organizations, sued to force EPA to regulate GHGs as a pollutant pursuant to the Clean Air Act (CAA) in Massachusetts et al. v. Environmental Protection Agency 549 US 497 (2007). The court ruled that the plaintiffs had standing to sue, GHGs fit within the CAA's definition of a pollutant, and the EPA's reasons for not regulating GHGs were insufficiently grounded in the CAA.
U.S. Environmental Protection Agency Endangerment Finding (2009)	In its "Endangerment Finding," the Administrator of the EPA found that GHGs, as described above, threaten the public health and welfare of current and future generations. The Administrator also found that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare. Although the Finding of Endangerment does not place requirements on industry, it is an important step in EPA's process to develop regulation. This measure is a prerequisite to finalizing EPA's proposed GHG emission standards for light-duty vehicles, which were jointly proposed by EPA and the Department of Transportation's National Highway Safety Administration in 2009.
U.S. Environmental Protection Agency Cause or Contribute Finding (2010)	In its "Cause or Contribute Finding" the EPA Administrator found that the combined emissions of these well-mixed GHG from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.
U.S. Environmental Protection Agency Mandatory Reporting Rule for GHGs (2009)	Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 MT or more per year of GHGs are required to report annual emissions to the EPA. The first annual reports for the largest emitting facilities, covering calendar year 2010, were submitted to the EPA in 2011. The mandatory reporting rule does not limit GHG emissions but establishes a standard framework for emissions reporting and tracking of large emitters.
U.S. Environmental Protection Agency Settlement Agreements to Address GHG Emissions from Refineries and Electricity Generation (2010)	In 2010, the EPA entered into two settlement agreements to issue rules that will address GHG emissions from fossil fueled power plants and refineries. Regulations on both types of facilities will be coordinated with regulatory action on traditional types of pollutants and promulgated through the New Source Performance Standards (NSPS). The authority to issue regulations is under the Clean Air Act as confirmed by the U.S. Supreme Court ruling.
Update to Corporate Average Fuel Economy (CAFE) Standards (2009, 2012)	The Corporate Average Fuel Economy (CAFE) standards establish stricter fuel economy requirements and require automakers to cut GHG emissions in new vehicles by roughly 25% by 2016. New standards for model years 2017–2025 were issued in 2012 and will achieve a fleet average in 2025 of 54.5 miles per gallon.

State	
Executive Order S-03-05 (2005)	Executive Order (EO) S-03-05 established the following GHG emission reduction targets for California's state agencies. By 2010, reduce GHG emissions to 2000 levels. By 2020, reduce GHG emissions to 1990 levels. By 2050, reduce GHG emissions to 80% below 1990 levels. Executive orders are binding only on state agencies and not on local governments or private properties. Accordingly, EO S-03-05 will guide state agencies' efforts to control and regulate GHG emissions but will have no direct binding effect on local efforts. The Secretary of the California Environmental Protection Agency (Cal/EPA) is required to report to the Governor and state legislature biannually on the impacts of global warming on California, mitigation and adaptation plans, and progress made toward reducing GHG emissions to meet the targets established in this executive order.
Assembly Bill 1493—Pavley Rules (2002, amendments 2009)/ Advanced Clean Cars (2012)	Known as "Pavley I," Assembly Bill (AB) 1493 standards were the nation's first GHG standards for automobiles. AB 1493 required the California Air Resources Board (CARB) to adopt vehicle standards that will lower GHG emissions from new light duty autos to the maximum extent feasible beginning in 2009. Additional strengthening of the Pavley standards (Advanced Clean Cars) was adopted for vehicle model years 2017–2025. Together, the two standards are expected to increase average fuel economy to roughly 43 mpg by 2020 and reduce GHG emissions from the transportation sector in California by approximately 14%. The new federal CAFE standards, described above, are the analogous national policy.
Senate Bills 1078/107 and Senate Bill 1—Renewable Portfolio Standard (2002, 2006, 2011)	California's Renewable Portfolio Standard (RPS), obligates investor-owned utilities (IOUs), energy service providers (ESPs), and Community Choice Aggregations (CCAs) to procure 33% of retail sales from eligible renewable sources by 2020. The California Public Utilities Commission (CPUC) and CEC are jointly responsible for implementing the program.
Assembly Bill 32—California Global Warming Solutions Act (2006)	AB 32 codified the state's GHG emissions target by requiring that the state's global warming emissions be reduced to 1990 levels by 2020. Since being adopted, the CARB, CEC, CPUC, and Building Standards Commission have been developing regulations that will help meet the goals of AB 32 and EO S-03-05. The Scoping Plan for AB 32 identifies specific measures to reduce GHG emissions to 1990 levels by 2020, and requires CARB and other state agencies to develop and enforce regulations and other initiatives for reducing GHGs. Specifically, the Scoping Plan articulates a key role for local governments, recommending they establish GHG reduction goals for both their municipal operations and the community consistent with those of the state (i.e., approximately 15% below current levels).
Executive Order S-01-07—Low Carbon Fuel Standard (2007)	EO S-01-07 essentially mandates: (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020, and (2) that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established in California.
Assembly Bill 939, title 27 (2009)—Landfill Methane Regulation	This regulation is a discrete early action GHG reduction measure, as described in the California Global Warming Solutions Act of 2006 (AB 32; Stats. 2006, chapter 488). It will reduce methane emissions from landfills primarily by requiring owners and operators of certain uncontrolled landfills to install gas collection and control systems, and by requiring existing and newly installed gas collection and control systems to operate optimally.

Senate Bill 375—Sustainable Communities Strategy (2008)	SB 375 provides for a new planning process that coordinates land use planning, regional transportation plans, and funding priorities in order to help California meet the GHG reduction goals established in AB 32. SB 375 requires regional transportation plans, developed by metropolitan planning organizations (MPOs) to incorporate a "sustainable communities strategy" (SCS) in their Regional Transportation Plans (RTPs). The goal of the SCS is to reduce regional vehicle miles traveled (VMT) through land use planning and consequent transportation patterns. CARB set regional GHG reduction targets that will focus each SCS. The regional targets were released by CARB in September 2010. SB 375 also includes provisions for streamlined California Environmental Quality Act (CEQA) review for some infill projects such as transit-oriented development. StanCOG is preparing the SCS for Stanislaus County and is scheduled to complete and adopt the SCS in late 2013.
California Title 24 Energy Efficiency and Green Building (2008, 2011, 2014)	Title 24 provides voluntary and mandatory energy efficiency standards for new residential and non-residential buildings, as well as major modifications to existing buildings. The last update was adopted in 2013, which takes effect in 2014. The California Green Building Standards Code (included in Title 24) established requirements for planning and design for sustainable site development, water conservation, material conservation, and internal air contaminants.
CARB GHG Mandatory Reporting Rule Title 17 (2009)	CARB approved a rule requiring mandatory reporting of GHG emissions from certain sources, pursuant to AB 32. Facilities subject to the mandatory reporting rule must report their emissions from the calendar year 2009 and have those emissions verified by a third party in 2010. In general the rule applies to facilities emitting more than 25,000 MT CO_2e in any given calendar year or electricity generating facilities with a nameplate generating capacity greater than 1 megawatt (MW) and/or emitting more than 2,500 MT CO_2e per year. Additional requirements also apply to cement plants and entities that buy and sell electricity in the state.
California Cap and Trade Program (2011)	CARB adopted the California Cap and Trade program, formalizing a complex market system designed to help California reach the GHG emissions reductions targets set forth in AB 32. The regulation which went into effect on January 1, 2013 and was identified as a key strategy in the AB 32 Scoping Plan, sets a cap on the annual GHG emissions from the state's largest emitters, stationary sources such as oil refineries, power plants, fuel distribution centers, cement plants and other industrial processes. The regulation establishes a price signal which will drive long term investment in cleaner fuels and efficient energy use.
AB 341 Mandatory Commercial Recycling (2011)	This legislation requires commercial businesses and multi-family building owners to support the reuse, recycling, composting or other diversion of solid waste from disposal by either self-haul, subscription to a hauler, arrangement for pickup of recyclable materials or subscription to a recycling service. The law took effect in mid-2012.

Figure 1-2. GHG Related Legislation, Regulation, and Executive Orders



Local Level Planning

The AB 32 Scoping Plan lays out California's plan for achieving the GHG reductions required by AB 32. Specifically the Scoping Plan describes a list of measures that the state will undertake, and the expected GHG reductions associated with these measures before 2020. Because the state does not have jurisdictional control over some of the activities that produce GHG emissions in California, the AB 32 Scoping Plan articulates a unique role for local governments in achieving the state's GHG reduction goals. The AB 32 Scoping Plan recommends, but does not require, local governments to reduce GHG emissions from both their *municipal operations* and the *community at large* to a level that is 15% below current levels.

At the time of the Scoping Plan adoption in 2008, a 15% reduction from 2005–2008 levels was the state's burden of reduction to meet 1990 emissions levels. However, this calculation was based on an *estimate* only of the level of emissions during the period 2005 to 2008. Subsequent development of actual inventories for 2005 to 2008 indicates that a 10% to 11% reduction is needed by 2020 to meet 1990 emissions levels.

Many jurisdictions across California have completed a GHG Inventory, a GHG reduction plan, or both. These plans generally address two types of emissions.

- Community inventory and reduction plans address emissions that arise from the community at large (residents, businesses and their associated activities within the jurisdictional boundary).
- Municipal inventory and reduction plans address emissions that arise from the municipal operations only (County or City buildings, vehicle fleet, activities required to provide services to the jurisdiction).

Completing a GHG inventory is the first step towards either of these goals. In addition to this regional community inventory, the cities and unincorporated area of Stanislaus County previously completed municipal GHG inventories for the year 2005. As a separate part of the RST project, community inventories were developed for each jurisdiction for the year 2005 using the same methodology used for the regional inventory and provided to them for their use.

This report presents a community GHG inventory data for the region as a whole (sum of emissions from all incorporated cities and the unincorporated county) for the baseline year 2005.

Benefits of Greenhouse Gas Planning and Accurate Accounting

Local governments often pursue GHG planning for multiple reasons. A reduction in GHG emissions is often a co-benefit of other activities, primarily energy efficiency related activities or other environmental mitigation. With accurate accounting of GHG emissions in the jurisdiction, a community can "take credit" for the GHG benefits associated with a range of policies, programs and activities that the jurisdiction is pursuing anyway. This section describes co-benefits typically associated with GHG accounting and planning and vice versa.

Greenhouse Gas Reduction Benefits

The completion of a community and/or municipal GHG inventory and the subsequent step to identify policies and programs that will reduce GHG emissions over time can demonstrate that local

planning is promoting consistency with AB 32, (i.e., that a local government is doing its fair share to help meet the state goals overall).

Energy Use Benefits

In the state of California, GHG emissions associated with the energy used to power and heat our buildings represent approximately 23% of total GHG emissions in 2005. Building energy related emissions represent a similar percent of total emissions at the City or County level as well. For financial reasons, including the increased availability of utility incentives and retrofit grants, local governments, home-owners and businesses opt to conduct energy efficiency retrofits to existing construction. Building ordinances for newer construction ensure optimum energy savings for new occupants. These energy savings benefit the energy customer as well as the utility and also result in lower GHG emissions.

Financial Benefits

In addition to the financial benefits associated with energy efficient construction and retrofits, other financial savings are often associated with actions commonly pursued as part of a City or County's GHG planning. For example, when waste diversion programs decrease the amount of waste going to landfills, fewer landfill fees are paid. When comprehensive water conservation efforts are pursued, water bills are lower. During times of high fuel costs, alternative modes of transportation including bus, rail, bike, ride-share or employer sponsored shuttles can greatly reduce individual's fuel costs. In the agriculture and forestry sectors (and others) it is also possible to develop GHG offset projects by establishing specific management practices or installing specific equipment on the site. The offset project can then be sold on the voluntary market. Finally, through the efforts of gathering the data required to complete a GHG inventory and regularly update it, many communities identify ways to streamline data and reporting for other programs, increasing efficiency within city departments.

Additional Co-Benefits

Additional co-benefits of GHG planning and accounting are generally associated with improved air quality, increased sustainability of the water supply, increased aesthetics in communities and public health.

Tiering under CEQA

Amendments to the CEQA guidelines in March 2010 describe that CEQA project evaluation of GHG emissions can tier off a programmatic analysis of GHG emissions reductions provided that the GHG reduction plan includes the following (CEQA Guidelines Section 15183.5):

1. Quantify greenhouse gas emissions, both existing (a) and projected (b) over a specified time period, resulting from activities within a defined geographic area.
2. Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable. This usually involves setting a GHG reduction target as part of the plan that is consistent with the state's goals. Participating jurisdictions in Stanislaus have not set GHG reduction targets as part of this effort.
3. Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area.

4. Specify measures or a group of measures, including performance standards that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level.
5. Monitor the plan's progress.
6. Adopt the GHG Reduction Strategy in a public process following environmental review.

The Amendments to the CEQA guidelines create a streamlined CEQA process for the analysis of greenhouse gas emissions at the project level. Individual projects could demonstrate consistency with an over-arching GHG reduction plan, where one exists, in lieu of a comprehensive project-level GHG analysis in order to reach a *less than significant* determination. This approach is also supported by the San Joaquin Air Pollution Control District.

This report quantifies *existing* greenhouse gas emissions only (baseline year 2005) within the county boundary. To prepare a qualified GHG reduction plan that could be used for CEQA tiering, Stanislaus jurisdictions would need to use the separately prepared individual jurisdictional community inventories and then complete steps 1b–6 above.

Overview of Stanislaus County

Stanislaus County is located in California's Central Valley and is bordered by San Joaquin County to the north, Merced County to the south, Santa Clara County to the west and Calaveras and Tuolumne Counties to the east. The San Joaquin River flows north through the center of the county and eastern areas of the county are known as the "gateway to Yosemite". Nine incorporated cities are present in Stanislaus County: Ceres, Hughson, Modesto, Newman, Oakdale, Patterson, Riverbank, Turlock and Waterford. The major industry in the unincorporated county is agriculture. Significant industries in Stanislaus cities include the following: food packaging and processing, agricultural support, wine production, agriculture, government offices and education, and tourism. According to the U.S census, the total population of Stanislaus County was 446,997 in 2000 and 514,453 in 2010. In 2005, the population of Stanislaus County was 514,160. Socioeconomic data (population, jobs and housing) for all jurisdictions in Stanislaus County for year 2005 are shown below in Table 1-3.

Table 1-3. Socioeconomic Data for All Participating Jurisdictions in 2005

Jurisdiction	Households	Population	Employment
Ceres	12,639	40,722	8,402
Hughson	1,915	6,091	749
Modesto	73,489	206,962	78,310
Newman	3,091	10,083	1,056
Oakdale	7,496	20,299	6,005
Patterson	5,414	19,167	2,273
Riverbank	6,477	21,417	3,452
Turlock	23,074	67,510	23,738
Waterford	2,447	8,169	476
Unincorporated County	36,730	113,740	47,521
Total Stanislaus County	172,772	514,160	171,982

Source: StanCOG 2005 as reported by Fehr & Peers 2012

Chapter 2
Sector Summaries

This section presents the 2005 Stanislaus Regional GHG emissions inventory. Results are presented by sector. The GHG emissions for the region as a whole (i.e., "regional inventory") for 2005 are presented in Table 2-1 and Figure 2-1. Per capita (Total emissions/population) and per service population (Total emissions/population plus jobs) emissions for the Stanislaus region were 11.8 MT CO2e/person and 8.8 MT CO2e/service population (SP), respectively. These values include Agriculture. The following sub-sections each describe a different sector of the inventory. The physical processes resulting in emissions will be described for each and a general overview of emissions in the sector will be provided. Complete discussion of the data acquisition, emissions calculations and methodologies, and data sources used can be found in Chapter 3.

Table 2-1. 2005 GHG Emissions Inventory for the Stanislaus County Region (MT CO_2e)

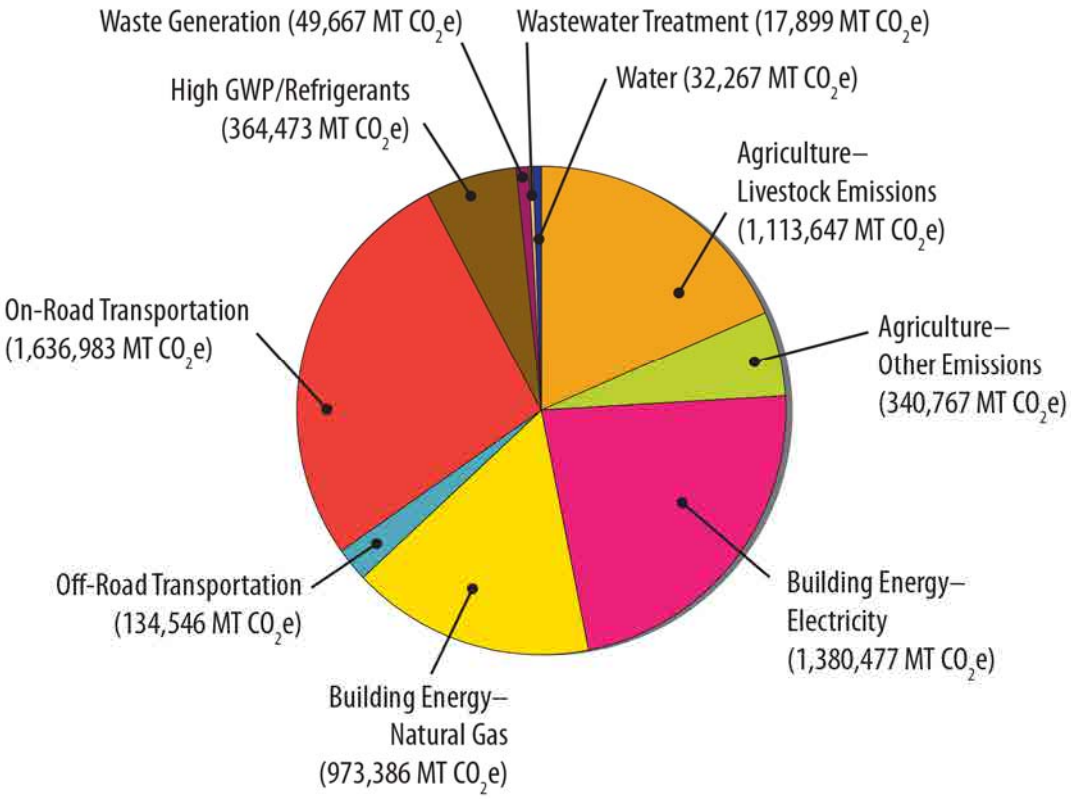
	Sector	Emissions	Percent
Direct[a]	Agriculture—Livestock Emissions	1,113,647	18%
	Agriculture—Other Emissions	340,767	6%
	Building Energy—Natural Gas	973,386	16%
	Off-Road Transportation	134,546	2%
	On-Road Transportation	1,636,983	27%
	High GWP/Refrigerants	364,473	6%
Indirect[b]	Building Energy—Electricity	1,380,477	23%
	Waste Generation	49,667	0.8%
	Wastewater Treatment	17,899	0.3%
	Water	32,267	0.5%
Total		6,044,113	100%
Excluded[c]	Stationary Sources	642,576	
	Waste Landfill	16,115	

a. Direct emissions are emissions that physically occur within the inventory boundary; see Chapter 1 for detail.

b. Indirect emissions are due to activity that occurs within the inventory boundary although the GHG emission may happen outside the inventory boundary; see Chapter 1 for detail.

c. Stationary source emissions were excluded due to state and federal regulation of these sources. Landfill emissions were excluded to avoid double-counting with waste generation emissions.

Figure 2-1. GHG Emissions Inventory for the Stanislaus County Region (MT CO_2e)



Total Emissions: 6,044,113 MT CO_2e

Note:
Emissions sectors not included in this chart:
Landfill Sites (16,115 MT CO_2e)
Stationary Sources (642,576 MT CO_2e)

Agriculture

Emissions in the agriculture sector are direct emissions resulting from the application of fertilizer to crops and the activity of livestock[5]. Emissions of N_2O can result from anthropogenic inputs of nitrogen into soil through fertilizers by way of a direct (directly from the soils to which the nitrogen is added and released) and indirect (following volatilization of ammonia and oxides of nitrogen from managed soils) pathway (Intergovernmental Panel on Climate Change 2006). Emissions of CH_4 and N_2O can also result from livestock production through enteric fermentation and manure management. Both direct and indirect emissions of N_2O are accounted for in this inventory.

[5] Livestock related GHG emissions result from enteric fermentation, by ruminants, and also from manure by all livestock types. The decomposition of manure in ponds, stockpiles or other manure storage and treatment systems results in the release of CH_4 and N_2O, depending on conditions.

Agriculture emissions account for approximately 24% of the region's total GHG emissions inventory in 2005. Comparatively, agricultural emissions in the state of California were approximately 7% of total emissions in 2005. Stanislaus County is a large agriculture producing region for the state and for the nation. As California agriculture is concentrated in certain areas of the state, agricultural related emissions will only be a significant fraction of total emissions in select communities, such as the unincorporated portions of Stanislaus County. Stanislaus County ranked 6th among 58 counties in California for total dollar value of agriculture products, ranked 4th among 58 counties for total value of livestock products and ranked 2nd among 58 counties for almond production (USDA Census of Agriculture 2007). In 2005, agriculture emissions in Stanislaus represent approximately 4.5% of agriculture related emissions statewide.

The four general sources of agricultural emissions accounted for in this inventory are: livestock enteric fermentation, livestock manure management, N_2O emissions from the application of fertilizer and pesticide, and the burning of fuel by agricultural vehicles and equipment. A complete description of methods and data used can be found in Chapter 3. Table 2-2 and Figure 2-2 present 2005 agriculture emissions by source. Figure 2-3 compares Stanislaus County's agricultural emissions to the state and national agricultural emissions, while Table 2-3 compares the county's agricultural emissions to other agricultural producing counties in California.

Table 2-2. GHG Emissions from Agriculture Sources in 2005 (MT CO_2e)

Agricultural Source	Total Sector Emissions	Percentage
Livestock Enteric Fermentation and Manure Management	1,113,647	76.6%
Fertilizer Application	169,120	11.6%
Pesticide Usage	2,090	0.1%
Agricultural Equipment	169,557	11.7%
Total Emissions	1,454,414	100.0%

Figure 2-2. GHG Emissions from Agriculture Sources in 2005 (MT CO_2e)

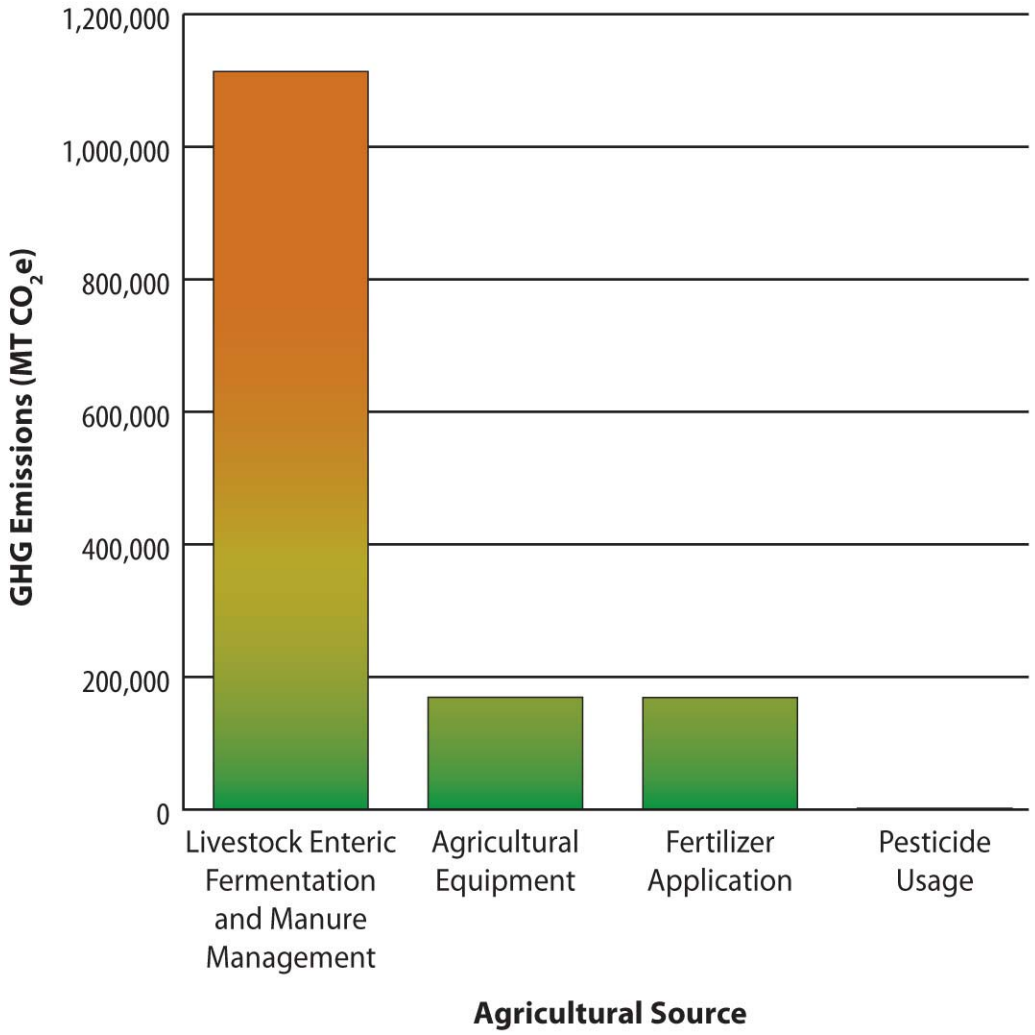
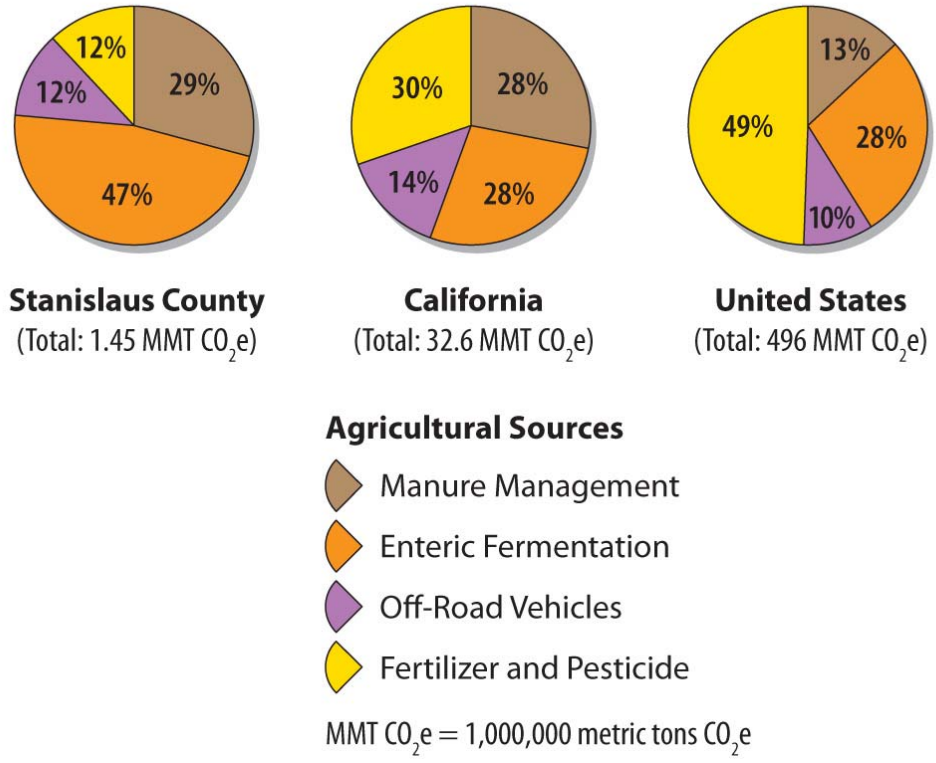


Figure 2-3. Comparison of Stanislaus GHG Emissions from Agriculture to National and State Level Agriculture Emissions



Note: U.S. and California inventories also include GHG emissions due to rice cultivation, agricultural burning, and forest fires, which are not captured in Stanislaus County's GHG inventory.

Table 2-3. Stanislaus Agriculture Emissions Compared to Other California Agriculture Producing Counties

County	Agriculture-Related Emissions (MT CO_2e)	Year	Sources Included in Emissions
Stanislaus County[a]	1,454,414	2005	All agriculture sources
San Joaquin County[b]	951,023	2007	All agriculture sources
Tulare County[c]	3,294,870	2007	Dairy/feedlots
Yolo County[d]	297,341	2008	All agriculture sources

Note:

a. This work
b. San Joaquin County 2011
c. Tulare County 2011
d. Yolo County 2010

Building Energy

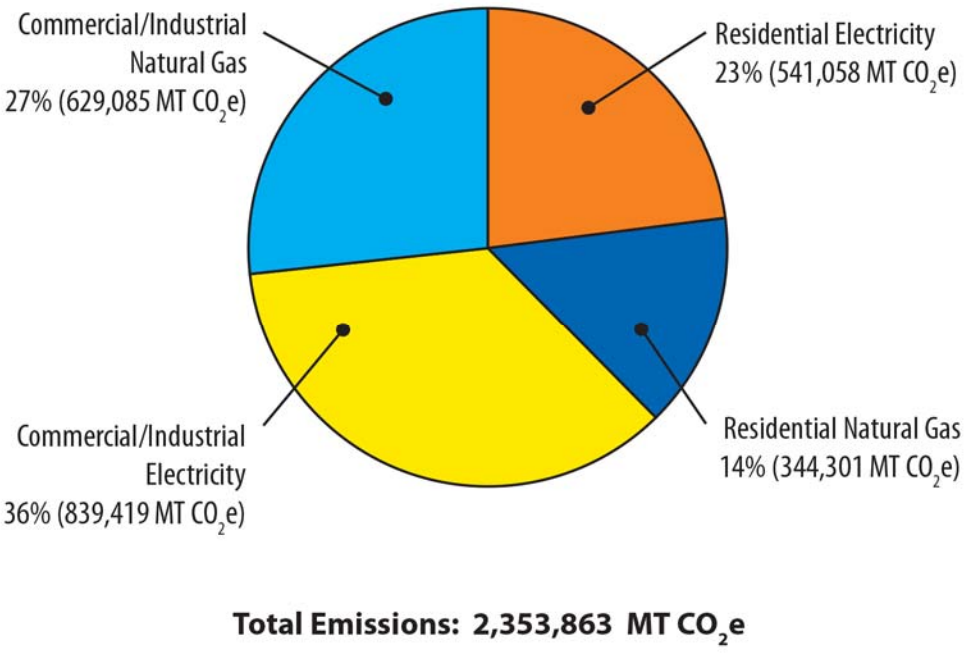
GHG emissions result from the use of electricity and natural gas by residential, commercial, and industrial buildings in the region. Emissions associated with building energy use accounted for 39% of the total regional emissions in 2005 (Table 2-1). Residents and business in the region receive electricity and natural gas from Pacific Gas and Electric (PG&E), Turlock Irrigation District (TID) and Modesto Irrigation District (MID). Electricity use in buildings results in indirect emissions from the power plants that produce electricity. These plants may be located either within or outside of the county and the combustion of the fuel to produce the electricity always occurs in a different location from the user. Electricity emissions are classified as indirect emissions. Natural gas consumption in buildings by furnaces and other appliances result in direct emissions where the natural gas is combusted; these are classified as direct emissions.

Table 2-4 presents the energy consumption (residential, commercial and industrial buildings) in 2005 for the region. The proportions of energy type and end users to the regional total of GHG emissions in this sector are shown in Figure 2-4. This data captures direct access customers in the PG&E service area. MID and TID confirmed the absence of direct access customers in their service areas. Building energy use emissions are generally a function of the number of residents and businesses, types and ages of buildings, predominant types of industry and the composition of the power supply.

Table 2-4. Building Energy Consumption—Residential and Commercial/Industrial Electricity and Natural Gas in 2005

	Residential Building Energy Use		Commercial/Industrial Building Energy Use	
	Electricity (kwh)	Natural Gas (therms)	Electricity (kwh)	Natural Gas (therms)
Regional Total	1,682,405,061	64,710,119	2,592,105,029	118,233,329

Figure 2-4. Proportion of Regional GHG Emissions in the Building Energy Sector Due to Electricity and Natural Gas Use by Various End Users (MT CO_2e)



Building energy related emissions within the region are the result of commercial/industrial electricity consumption (36%) followed by commercial/industrial natural gas consumption (27%), residential electricity (23%) and residential natural gas (15%).

Building energy related emissions in the state of California accounted for approximately 23% of total state GHG emissions in 2005, while building energy emissions were approximately 39% of total Stanislaus regional emissions in 2005 (California Air Resources Board 2011a). Building energy use is typically between 25–40% of a community's total GHG emissions depending on the other dominant sources of emissions in the community, the presence or absence of large commercial or industrial users, and the climate and age of the building stock (i.e., older homes in colder regions of the state require more heating).

On-Road Transportation

This sector includes GHG emissions that result from the burning of fuel by on-road vehicles traveling in the region. On-road vehicle emissions account for 27% of the region's total emissions in 2005 and approximately 38% of California's statewide emissions during the same year. These emissions are considered direct emissions.

The Stanislaus Council of Governments, or StanCOG, travel demand model was used to develop vehicle miles traveled (VMT) estimates for the region in 2005 (Fehr and Peers 2012). The model captures vehicle trips, including truck trips, by different travel purposes, including home-based work, shopping and recreational trips, and non-home based trips. The travel demand model area includes all of Stanislaus County. Adjacent counties (San Joaquin, Merced, Santa Clara, Calaveras,

Tuolumne, Mariposa, and Alameda) are represented by external gateways where major roadways provide access into the overall model area. These stations capture the traffic entering, exiting or passing through the model area on major county and state roadways (e.g., State Route 99, Interstate 5, and State Route 108).

Transportation modeling and the quantification of GHGs in this analysis are consistent with the methods being used for the development of StanCOG's Sustainable Communities Strategy.

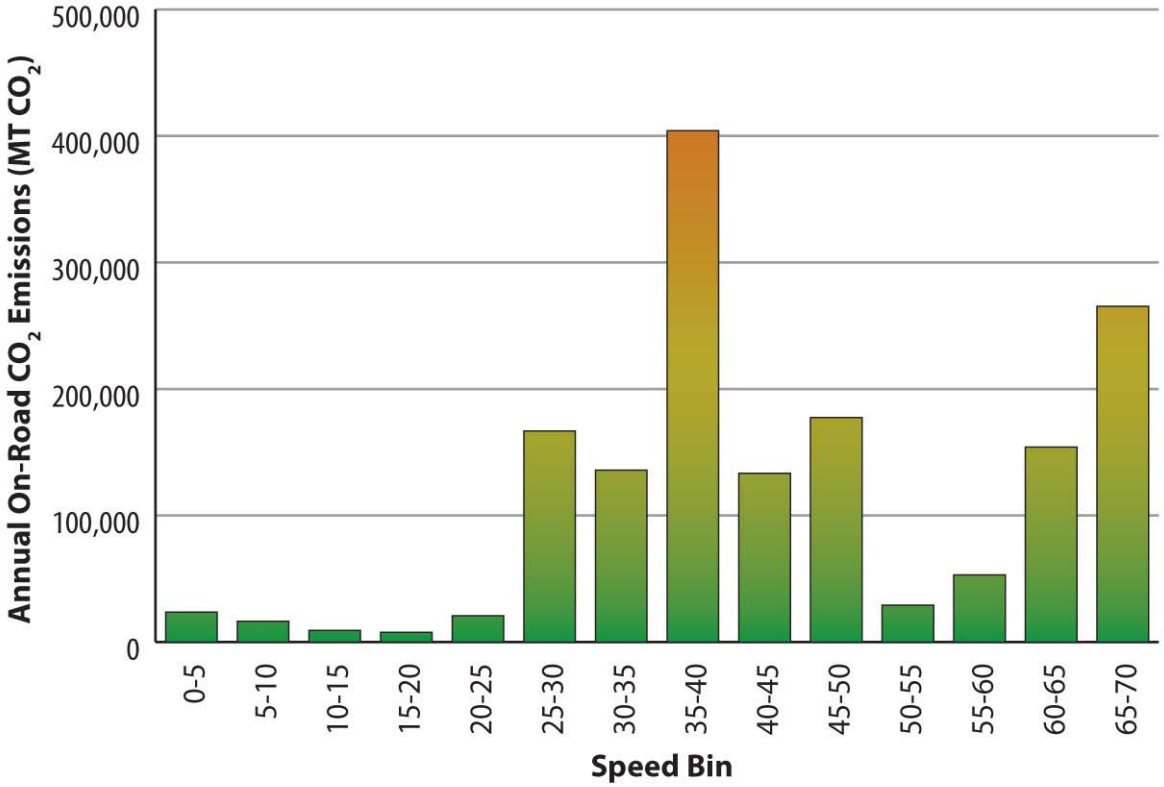
Table 2-5 and Figure 2-5 present regional VMT and associated GHG emissions in 2005 by vehicle speed bins. Because the fuel economy of vehicles depends on the speed, the fuel consumption and GHG emissions partially depend on the speed at which vehicles are generally traveling. In general, the majority of VMT in the region occur at speeds between 35 and 50 miles per hour (mph) with about 15% occurring above speeds of 60 mph (highway traffic).

Table 2-5. Regional VMT and GHG Emissions by Speed Bin

Speed Bin (MPH)	Annual VMT	Annual CO_2 Emissions (MT CO_2)
0-5	17,380,883	23,690
5-10	15,549,764	16,374
10-15	10,893,718	9,147
15-20	11,154,315	7,746
20-25	34,372,085	20,845
25-30	305,504,699	166,798
30-35	268,670,649	135,914
35-40	838,474,144	404,119
40-45	282,636,011	133,411
45-50	373,459,791	177,517
50-55	59,046,214	29,083
55-60	100,798,989	53,002
60-65	266,157,328	154,179
65-70	450,077,391	265,409
Total	3,034,175,981	1,597,233

Note: The emissions in this table are CO_2 emissions, not CO_2e emissions. CH_4 and N_2O emissions from on-road transportation were calculated using a different methodology.

Figure 2-5. Regional GHG Emissions by Speed Bin in 2005 (MT CO_2)



Note: The emissions in this table are CO_2 emissions, not CO_2e emissions. CH_4 and N_2O emissions from on-road transportation were calculated using a different methodology. Emissions of CO_2 typically account for 95-98% of CO_2e emissions in the On-Road Transportation sector.

Off-Road Transportation

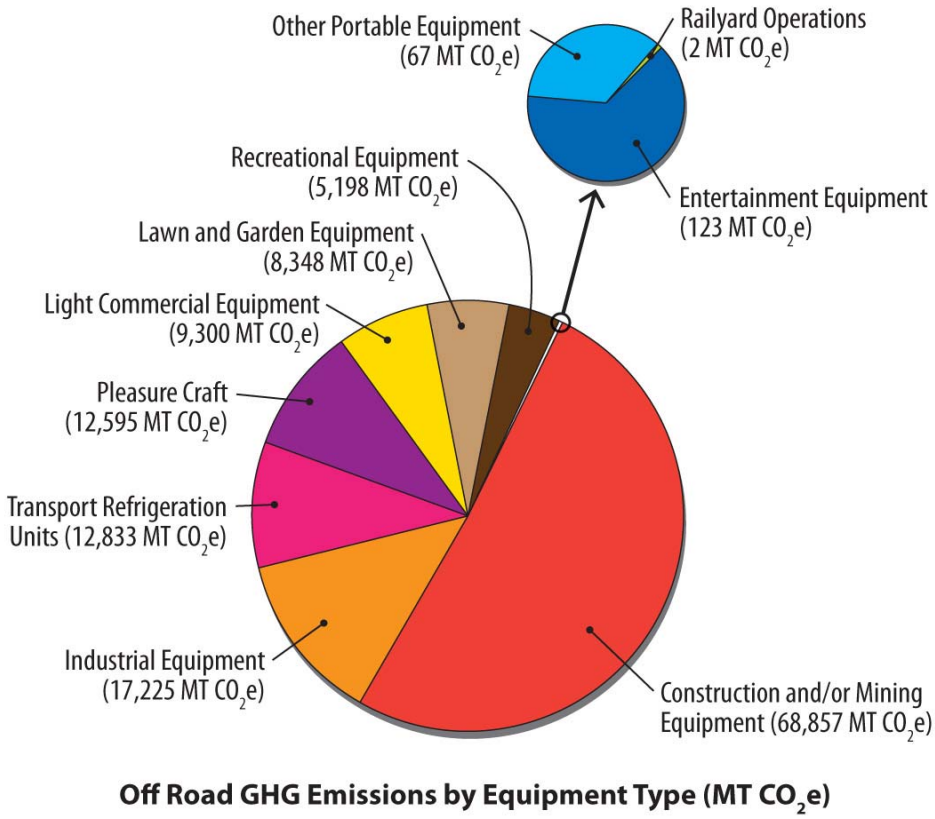
This sector captures fuel consumption by all types of off-road vehicles and equipment being used in the region, referred to in this document as "Off-Road Transportation". Off-road equipment includes recreational boats and vehicles, equipment for industry, construction, and lawn and garden maintenance (agricultural equipment was included in the agricultural sector). GHG emissions result from the combustion of diesel or gasoline to power these vehicles and equipment. These emissions were calculated at the county level using CARB's OFFROAD 2007 model. Off-road equipment emissions accounted for approximately 2% of the total regional emissions in 2005 (Table 2-1, Figure 2-1). These emissions are direct emissions resulting from equipment fuel combustion. Table 2-6 and Figure 2-6 present the regional GHG emissions due to off-road equipment in 2005 by equipment type. Construction and/or mining equipment account for 51% of the total regional emissions in this sector.

Table 2-6. Regional GHG Emissions Due to Off-Road Equipment in 2005 by Equipment Type

Equipment Type	Off-Road Emissions (MT CO_2e)
Construction and Mining Equipment	68,857
Entertainment Equipment	123
Industrial Equipment	17,225
Lawn and Garden Equipment	8,348
Light Commercial Equipment	9,300
Other Portable Equipment	67
Pleasure Craft	12,595
Rail yard Operations	2
Recreational Equipment	5,198
Transport Refrigeration Units	12,833
Total	134,546

Note: Emissions from off-road vehicles in the county were determined using CARB's OFFROAD 2007 model. The OFFROAD model provides the amount and type of fuel consumed at the county level for a wide variety of off-road vehicle and equipment categories, such as construction equipment, lawn and garden equipment, and industrial equipment.

Figure 2-6. GHG Emissions Due to Off-Road Equipment in 2005 from Various Off-Road Equipment Types



Stationary Sources

This source category accounts for GHG emissions from fuel combustion and fugitive (process) emissions at primarily industrial facilities located in the region. Emissions from these facilities, including GHG emissions, are regulated by SJVAPCD, CARB, and/or the USEPA and local jurisdictions usually defer to state and federal authority to regulate these sources. In addition, given the state and federal framework of regulation, local regulation of such sources could result in confusion and inconsistencies in the regulation of such large sources between jurisdictions, which is undesirable. Thus, while emissions were quantified from stationary industrial source they were excluded from GHG totals for the region. Were these sources to be included in the regional total, emissions from these sources would account for approximately 10% of total regional emissions in 2005 and are primarily associated with facilities that support the agriculture or food packaging industry.

GHG emissions from stationary sources result from onsite fuel use that is not provided by a central natural gas utility such as PG&E (natural gas use is accounted for in the building energy category (Chapter 1, *Background*). Combusted fuels accounted for in this sector include diesel, distillate oil, liquid petroleum gas, propane, natural gas (from non-utility sources), digester gas, gasoline, waste gas, waste oil, vapor recovery gas, landfill gas or any fuel combusted by a source required to obtain a permit from the SJVAPCD. A number of stationary sources in the region are also required to report GHG emissions to CARB under California's Mandatory Reporting Rule (MRR) for GHG emissions. Per SJVAQCD policy, fuel use data used to estimate GHG emissions in this report does not include facilities that have requested their fuel use be kept confidential. Fuel used by equipment not requiring a District permit, such as residential combustion equipment, portable equipment, mobile equipment, and permit exempt stationary combustion equipment, is also not included in the estimate of GHG emissions from stationary sources.

Several power generation facilities are located in the region. Emissions associated with these facilities are captured in the Building Energy sector where the end use activity occurs.

Waste

The regional GHG inventory includes GHG emissions due to two distinct waste sources. The first, *waste generation*, is forward looking, as it accounts for the GHG emissions that will occur in the future due to waste that is created during the inventory year (2005) and sent to a landfill during the inventory year (2005), but decomposes in the landfill over many future years (2005 and beyond). The activity of generating the waste occurs completely inside the jurisdiction boundary and during the inventory year (2005), but the GHG emissions may occur outside the boundary at a distant landfill. These emissions are classified as indirect emissions and included in the regional total.

The second waste source, *landfill sites*, is backward looking and accounts for the GHG emissions that occur at specific landfill sites located in the boundary and are the result of all the waste that has historically been deposited at that site and is currently decomposing in the landfill during the inventory year. The activity of generating the waste occurred in the past, and occurred in any of the jurisdictions that send waste to the specific landfill site. Site specific landfill emissions are only reported as an informational item in this document because if they were included in regional totals, there would be a double-counting of emissions from the waste sector due to combining of the backward-looking and forward-looking emissions that would distort the presentation of an annual

emissions estimate. It was decided to include the forward-looking emissions from waste generation as they are emissions associated with the inventory year activity and to disclose the backward-looking landfill emission as an informational item only because it is related to prior year waste generation before the inventory year. The discussion below relates only to the region's *waste generation* during 2005.

GHG emissions due to solid waste generated within the region in 2005 were 49,667 MT CO_2e and account for approximately 0.8% of total regional emissions. GHG emissions due to waste generated in the region are fugitive emissions of CH_4 that occur at the various receiving landfills, and are considered an indirect emission. The materials disposed of in the region are recycled, composted, placed in a landfill, or combusted for energy at the Covanta Facility on Fink Road. The emissions calculated here include those that result only from the decomposition of waste placed in a landfill. Energy that is produced by combusting waste at the Covanta facility is sold to PG&E. Associated GHG emissions are captured in the Building Energy sector and are lower (on a per kwh basis) than GHG emissions associated with the burning of fossil fuels to produce equivalent amounts of electricity. Tons of waste of each type generated in the region in 2005 are shown in Table 2-7. Regional GHG emissions that result from the landfilling of each type of waste are shown in Figure 2-7 (California Department of Resources Recycling and Recovery 2012a and 2012b)[6].

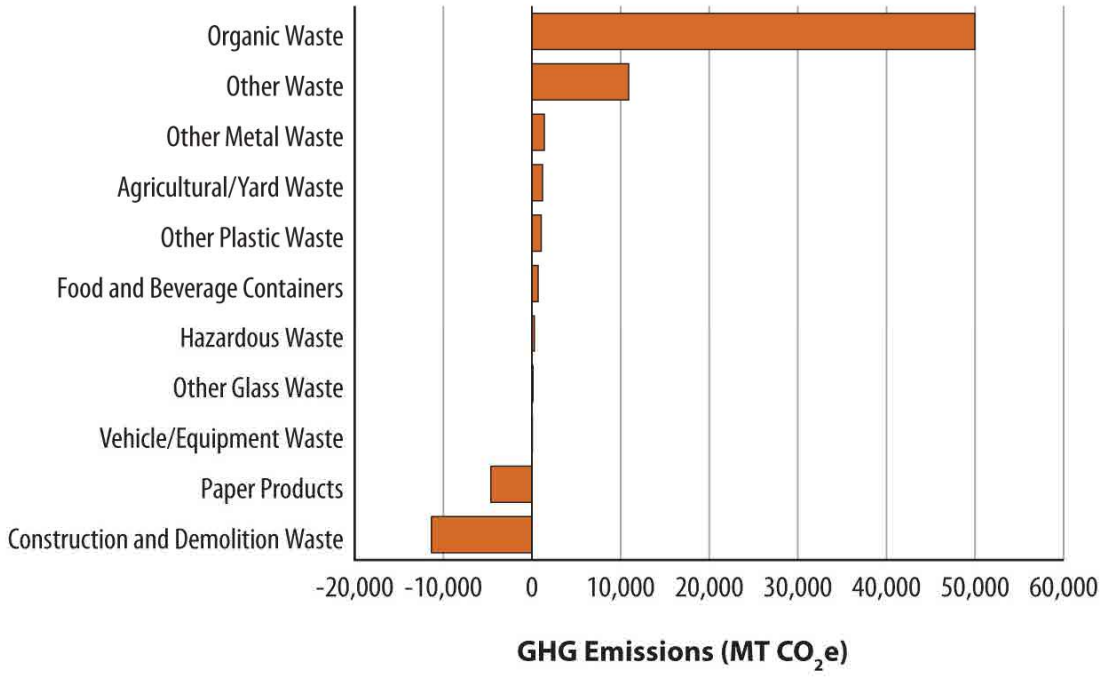
Table 2-7. Waste Generation by Waste Type (Tons)

Waste Type	Tonnage by Waste Type (Short Tons)
Agricultural/Yard Waste	85,201
Food and Beverage Containers	29,971
Other Waste	14,922
Construction and Demolition Waste	82,805
Other Plastic Waste	44,885
Other Glass Waste	4,810
Organic Waste	105,979
Hazardous Waste	374
Paper Products	177,784
Other Metal Waste	13,507
Vehicle/Equipment Waste	1,564
Total	561,801

Source: California Department of Resources Recycling and Recovery 2012a and 2012b

[6] All data related to waste generation in this document was obtained through CalRecycle which tracks waste data across the state. Individual local waste haulers may have more detailed and often more accurate data for waste generation amounts and profiles for a specific community. Data collection from all individual waste service providers was beyond the scope of this regional effort.

Figure 2-7. Regional GHG Emissions by Waste Type (MT CO_2e)



Waste generated in the region is either diverted (through recycling, composting, etc.) or transported to one of 16 different landfills located throughout the state (California Department of Resources Recycling and Recovery2012a). Much of the waste generated in the county is exported to landfills outside the county. According to CalRecycle, in 2005, the region exported 50%-75% of the waste generated to landfills outside of the county border, depending on the jurisdiction. As such, the majority of these emissions will not occur within the county, but the county is responsible for creating this waste during the inventory year.

In 2005, the percentage of waste diverted from landfills in the county was between 48%-61%, depending on the jurisdiction (California Department of Resources Recycling and Recovery 2012b). The state average in 2005 was 52%.

Water

The majority of water demand in Stanislaus County is met with supplies from local groundwater and surface water including the Tuolumne River. The Oak Flat Water District, servicing the West Side Area receives State Water Project deliveries. Table 2-8 and Figure 2-8 shows the total amount of water consumed in the region in 2005 by end user. Table 2-9 shows the various water sources for the region and the associated energy of each.

Table 2-8. Water Consumption by End User Sector in 2005 (Agriculture, Commercial/Industrial, Residential)

End Use	Water Consumption (Acre-feet/year)
Residential	142,258
Commercial/Industrial	206,073
Agricultural	1,284,759
Total	1,633,089
Source: Individual jurisdiction Urban Water Management Plans, Stanislaus Local Agency Formation Commission 2011, and United States Geological Survey 2009	

Figure 2-8. Water Consumption by End User Sector in 2005 (Agriculture, Commercial/Industrial, Residential)

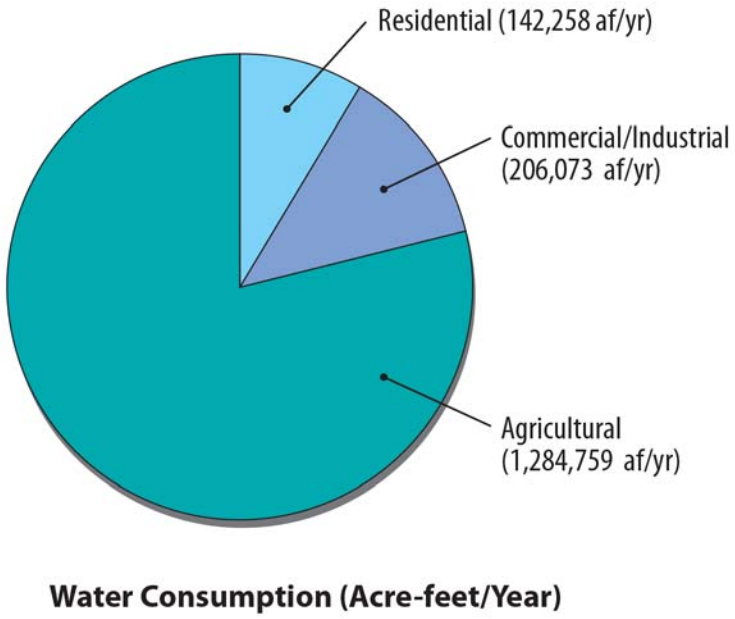


Table 2-9. Water Sources for the Region and Associated Energy Intensity (kwh/MG)

Water Source	Energy Intensity (kWh/Million Gallon)
Ground Water—San Joaquin River Basin	896
Surface Water—State Water Project to the San Joaquin Valley	1,510
Source: California Air Pollution Control Officers Association 2010	

GHG emissions associated with water consumption are due to electricity use for water supply and conveyance (i.e., energy used to bring water to the region from other areas or energy consumed to pump water locally), electricity use for water treatment, and water distribution (i.e., energy used to move water within the region from treatment facilities to end users). Energy associated with

pumping, treatment and local distribution are accounted for in the building energy sector. Only the GHG emissions related to conveying water to the county are reported in this section.

GHG emissions related to water consumption accounted for approximately 0.5% of the region's total emissions in 2005. The term "water consumption" as used in this section includes the following indirect emissions by activity: Emissions due to water consumed by residential, commercial/industrial, and agricultural end users in the region are included and were calculated based on information in Urban Water Management Plans (UWMP) in the county.

Wastewater

GHG emissions result from two activities associated with the treatment of commercial/industrial and domestic wastewater: 1) energy consumed to power the treatment facilities and 2) fugitive emissions of CH_4 and N_2O that occur during the chemical and biological degradation of the waste. Local governments often own and operate wastewater treatment plants (WWTPs) and thus the GHG emissions associated with a specific plant, regardless of the population it serves, are captured in a jurisdiction's municipal GHG inventory. Because some jurisdictions do not own and operate WWTPs and rely on a plant operated by a neighboring jurisdiction and because the activity of *generating* wastewater occurs within the physical boundary of the jurisdiction, these GHG emissions are also captured in the community inventory presented in this report

GHG emissions due to the treatment of wastewater generated by residents, businesses and facilities in the region account for approximately 0.3% of total regional GHG emissions in 2005 (Table 2-1 and Figure 2-1). The majority of the region's residents and businesses are served by 8 WWTPs located within the boundary of this inventory. GHG emissions that result from electricity and/or natural gas used to power the facilities are classified as indirect emissions and are included in the inventory in the building energy sector. Fugitive emissions of CH_4 and N_2O that result from the treatment and breakdown of waste in the facility are classified as direct emissions if occurring at a plant within the inventory boundary and indirect emissions if the receiving plant is located outside of the inventory boundary. GHG emissions associated with the treatment and breakdown of waste can vary by a large amount from plant to plant, depending on the technology in place at the plant and the presence or absence of anaerobic or facultative lagoons, and not necessarily on the amount of wastewater treated at the plant or the size of the population it serves. Thus, WWTPs that serve small rural communities may produce more emissions than large plants serving many times more people.

To estimate GHG emissions due to wastewater generated within the region, per capita GHG emissions factors were developed for each WWTP using information as reported in the jurisdictions' municipal GHG inventories. Plant specific factors were then applied to populations with an adjustment for commercial and industrial activity per the LGOP. Four of the eight WWTPs located in the region capture and flare the fugitive emissions (biogas) onsite; the other four facilities do not capture the biogas. Emissions from flared methane and methane used as fuel are not counted towards total emissions as they are considered to be equivalent to the gases produced from natural decomposition processes.[7]

[7] Modesto Municipal Inventory

Refrigerants/High GWP Gases

Refrigerants often contain greenhouse gases. Direct release of these compounds through leaks or during maintenance of the equipment that use these compounds is a direct GHG emission. Total emissions from refrigerants and other high GWP gases were 364,473 MT CO_2e and account for approximately 6% of total regional GHG emissions in 2005. Refrigerant emissions also account for approximately 3% of California's statewide GHG emissions (California Air Resources Board 2010b).

High-GWP gases are emitted from residential and commercial/industrial stationary refrigeration and air-conditioning equipment. High-GWP refrigerants include chlorofluorocarbons (CFCs), HCFCs, and HFCs. These gases are regulated under the Montreal Protocol and the Kyoto Protocol. Each of these refrigerants has a very high global warming potential, ranging between 500 and 10,000 times more potent than CO_2 (California Air Resources Board 2009a). Refrigerant uses are categorized by CARB accordingly:

- *Large commercial refrigeration* includes refrigerated equipment found in supermarkets, large grocery stores, and other retail food establishments.
- *Small commercial refrigeration* includes stand-alone display cases, small walk-in cold rooms, and other small refrigeration equipment used primarily in convenience stores, small grocery stores, pharmacies, and restaurants.
- *Large commercial AC* includes centrifugal chillers and packaged chillers used for comfort cooling in non-residential commercial buildings, while *small commercial AC* includes unitary AC systems used for commercial building comfort cooling.
- *Residential AC and refrigeration* include packaged AC units and refrigerator-freezers used in households (California Air Resources Board 2009a).

Refrigerant emissions for the region were calculated using statewide emissions published by CARB and scaled to the local level using household population and commercial/industrial natural gas consumption data.

Chapter 3
Methods

This section describes data sources and methods used to estimate GHG emissions from all sectors for the region.

Double counting of GHG emissions would result in emissions from a specific source being attributed to more than one sector, which would result in an overestimate of total GHG emissions. Careful attention was paid to the development of each sector's emissions estimates to ensure that double counting of emissions did not occur.

Agriculture

What the Sector Includes

This sector includes emissions from agricultural activities associated with the combustion of fossil fuels in agricultural equipment, fugitive emissions of methane and nitrous oxide from manure management, fugitive emissions of methane from enteric fermentation, fugitive emissions of nitrous oxide from fertilizer use, and pesticide related GHG emissions.

Methodology

Fuel Combustion Emissions from Agricultural Vehicles

Agricultural vehicles include tractors, pumps, small farm equipment, and other vehicles used for agricultural purposes. Emissions from agricultural vehicles were calculated using CARB's OFFROAD2007 model. The OFFROAD2007 model estimates emissions at the county level for multiple equipment and vehicle types.

Emissions from Manure Management, Enteric Fermentation, and Fertilizer Use

To estimate emissions in these agricultural sub-sectors, populations in various livestock categories and acres of agricultural land types within the region were obtained from the USDA Agriculture Census for 2005. This data includes the population of milk cows, beef cows, other cattle, hogs and pigs, poultry, sheep, lambs, and goats, as well as amounts and types of fertilizer application for each U.S. county for 2002 and 2007 (U.S. Department of Agriculture 2007). A linear extrapolation was used to estimate 2005 population data and fertilizer acreage. Manure management and enteric fermentation emissions were calculated using livestock population numbers and standard emissions factors used in the California state GHG inventory and developed by CARB (2010).

Emissions resulting from fertilizer use were calculated using the number of acres treated with fertilizers found in the USDA's Agriculture Census in conjunction with CARB equations and protocols for estimating direct and indirect N_2O emissions from fertilizer application (U.S. Department of Agriculture 2007; California Air Resources Board 2011a).

Pesticide related emissions were estimated using acres of each crop type and the corresponding pesticide carbon intensity factors, and pesticide application rates from the California Pesticide Use Report (PUR) dataset, collected and managed by the California Department of Pesticide Regulation (Pesticide Action Network 2010)[8].

Data Sources

U.S. Department of Agriculture (USDA). 2007. http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_2_County_Level/California/

California Air Resources Board. 2011a. California Greenhouse Gas Inventory Data 2000 to 2009 and Technical Support Document. http://www.arb.ca.gov/cc/inventory/data/data.htm

Pesticide Action Network. 2010. Available: http://www.pesticideinfo.org/DCo.jsp?cok=50

Building Energy

What the Sector Includes

Building energy emissions include both direct emissions from onsite natural gas consumption (heating and cooking) and indirect emissions from electricity consumption. This sector captures both residential and commercial/industrial buildings or facilities. Indirect emissions from electricity consumption occur as a result of combustion of fossil fuels at power plants, although the activity of using electricity occurs (e.g., lighting or air conditioning) within the inventory boundary.

Methodology

Electricity and natural gas usage data (aggregated by end user categories) was collected from the utilities serving the region. These utilities include: MID, PG&E, and TID. GHG emissions due to electricity use were calculated by applying utility and year-specific CO_2 emission factors (MT CO_2e/MWH) to the total electricity consumption. CO_2 electricity emission factors for MID and PG&E were taken from Public Utility Protocol Reports[9] (these utilities publicly report their emissions to the California Climate Action Registry), while the CO_2 electricity emission factor for TID was provided by TID. Weighted averages of the emission factors were calculated for cities that receive electricity from more than one utility. Electricity emission factors for CH_4 and N_2O were taken from on E-Grid (U.S. Environmental Protection Agency 2010b) values for California and are identical for all three utilities. TID and MID confirmed that no direct access customers are present within their service areas. Electricity consumption data as provided by PG&E accounts for direct access customers within their service area.

Natural gas is provided to the county by PG&E. Natural gas consumption by end user category for the whole region in 2005 was provided by PG&E. GHG emissions due to natural gas consumption were estimated by multiplying natural gas consumption (therms) by the natural gas emission

[8] Original source for all pesticide use data used by PAN is the California Pesticide Use Report (PUR) dataset, collected and managed by the California Department of Pesticide Regulation.

[9] California Climate Action Registry Public Reports: < http://www.climateregistry.org/>

factors for CO_2, CH_4, and N_2O from the Climate Registry General Reporting Protocol version 3.1 (California Climate Action Registry 2009).

Data Sources

- Electricity consumption for the region by end user category and 2005 carbon intensity of electricity (residential, commercial, industrial) for 2005—TID
- Electricity consumption for the region by end user category and 2005 carbon intensity of electricity (residential, commercial, industrial) for 2005—MID
- Electricity and natural gas consumption for the region by end user category and 2005 carbon intensity of electricity (residential, commercial, industrial) for 2005—PG&E
- CO_2, CH_4 and N_2O emission factors for natural gas combustion—California Climate Action Registry General Reporting Protocol v. 3.1

Landfill Sites

What the Sector Includes

This sector includes CH_4 emissions from solid waste that was *already in place* during the inventory year 2005 in landfill sites in the county. The waste that is in place in these landfills may have been generated by many jurisdictions over many years and the methane that is physically released in a given year is the combination of decomposing waste from many years in the past. Landfill emission were quantified for 2005 but were excluded from the regional GHG inventory because the emissions from waste generation were considered more appropriate to include in the regional total as they are tied to waste generating activity that occurred in 2005 versus the landfill emissions which are tied to prior year historical waste generation. Per the LGOP, landfill emissions, for landfills owned and operated by a jurisdiction, should be included in a municipal inventory as they are under the operational control of the jurisdiction. Emissions associated with the three landfills located in the unincorporated county area (Bonzi, Fink Road, and Geer Road) were not captured in the municipal inventories and are included here as an informational item only.

Methodology

Emissions resulting from the decomposition of waste in place at regional landfills were modeled using CARB's landfill emissions tool (California Air Resources Board 2011b). Staff reports from CEC and CARB were used to determine the year in which the landfills opened and the waste in place at interim years (California Energy Commission 2002; California Air Resources Board 2009b). Composting facilities in the county were not analyzed for GHG emissions because of the biogenic nature of compost pile emissions (U.S. Environmental Protection Agency 2010a). The landfill emissions tool requires an annual waste deposition as well as daily cover and climate conditions at the landfill to generate annual CO_2 and CH_4 emissions for each year that waste is present in the landfill. An assumed landfill gas capture rate of 75% was applied to CH_4 emissions from 2005 at each landfill. CO_2 emissions from landfills are considered biogenic and were not included in this analysis.

Data Sources

- CEC Staff Report 500-02-041V1. September 2002. Landfill Gas to Energy Potential in California.
- CARB. Stationary Source Division. May 2009. Initial Statement of Reasons for the Proposed Regulation to Reduce Methane Emissions from Municipal Solid Waste Landfills.
- CARB FOD Landfill Emissions Tool

Off-Road Transportation

What the Sector Includes

This sector includes emissions due to the burning of fuel by all types of off-road vehicles and equipment operating in the county including but not limited to residential (e.g., lawn and garden), commercial/industrial (e.g., transportation refrigeration units, construction), oil, gas and mining equipment, pleasure craft and recreational vehicles, and portable pumps and generators.

Methodology

Emissions from off-road vehicles in the county were estimated using CARB's OFFROAD 2007 model (California Air Resources Board 2007). The OFFROAD model provides the annual activity level (hours of operation per year or gallons of fuel consumed per year) and type of fuel consumed for a wide variety of off-road vehicle and equipment categories. Outputs are provided at the county level. The fuel consumed was summed for each equipment and vehicle category and multiplied by corresponding fuel emission factors from the California Climate Action Reserve (2009) General Reporting Protocol v 3.1. The CCAR emission factors relate the amount of CO_2, CH_4, and N_2O emitted per gallon of gasoline, diesel, or liquefied propane consumed.

Data Sources

- California Climate ActionRegistry General Reporting Protocol v 3.1. January 2009
- CARB's OFFROAD 2007 model
- Regional socioeconomic data (Table ES-2)

On-Road Transportation

What the Sector Includes

This sector includes emissions from on-road transportation in the region. Emissions from this sector are due to the combustion of fossil fuels (such as diesel and gasoline) used to power all on-road vehicles (e.g., light and medium duty autos, medium and heavy duty trucks, buses, and motorcycles).

Methodology

Traffic modeling was conducted for the region using the StanCOG Travel Demand Model for the year 2005. This same model, and all underlying assumptions and inputs, will also be used for all SB 375 Planning in the region. The StanCOG model runs were performed by traffic analysts at Fehr and Peers.

CO_2 emissions from on-road vehicles were estimated using VMT data as output by the StanCOG Travel Demand Model and emission factors (grams CO_2/mile) by speed bin from the CT-EMFAC model (California Department of Transportation 2007). The StanCOG travel demand model includes multiple vehicle trip types such as home-based work, shopping and recreational trips, and non-home based trips. For this analysis, VMT was estimated for the region using the accounting guidelines set forth by the SB 375 Regional Targets Advisory Committee. VMT for the county is defined as:

1. All County-County (CC-CC) trips: All trips that travel from one part of the County to another part of the county area.
2. One-half of County-External (CC-EC) trips: One-half of the trips with an origin in the county and a destination outside Stanislaus County.
3. One-half of External-County (EC-CC) trips: One-half of the trips with an origin outside Stanislaus County and a destination in the county.

CH_4 and N_2O emissions were calculated using the VMT data and emission factors (grams CH_4/mile or grams N_2O /mile) as provided by the EMFAC2011 model (California Air Resources Board 2011c). The EMFAC2011 model was also used to determine the vehicle category profile in Stanislaus County. The vehicle category distribution indicates the vehicle types in the county such as light duty autos, light duty trucks, heavy duty trucks and buses. The proportions of vehicle types were multiplied by total VMT and then by the corresponding vehicle type emission factor from the EPA to estimate CH_4 and N_2O emissions.

Data Sources

- StanCOG TDM outputs for the region
- *CT EMFAC model
- U.S. Environmental Protection Agency. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2005, EPA 430-R-07-002, Annex 3.2, (April 2007)

Refrigerants/ High GWP gases

What the Sector Includes

Refrigerant emissions are produced by air conditioning use and other refrigerant applications in commercial/industrial and residential buildings.

Methodology

ICF used a top down approach to estimate refrigerant emissions, using state-level data provided by CARB (California Energy Commission 2006). Residential refrigerant emissions were estimated by scaling state-level residential refrigerant emissions to the region based on the number of households.

Commercial/industrial refrigerant emissions were determined by scaling state level commercial refrigerant use to the region based on commercial natural gas consumption. The CEC has determined a correlation between the commercial natural gas use and commercial refrigerant emissions (California Energy Commission n.d.).

Data Sources

- California GHG Emission Inventory 2000–2009 (California Air Resources Board 2012)
- Natural gas consumption by end user category (residential, commercial, industrial) for 2005—PG&E
- Regional socioeconomic data (Table ES-2)

Stationary Sources

What the Sector Includes

This sector includes emissions from stationary combustion of fossil fuels (except natural gas, which is included in the building energy use sector), and industrial process emissions.

Methodology

Emissions resulting from the combustion of fuels at stationary sources were estimated using fuel consumption information for permitted sources provided by the SJVAPCD (Leland Villalvazo, SJVAPCD, pers. comm.). Data from the SJVAPCD included a list of fuel types and the amount consumed and captures those sources emitting greater than 25,000 MT CO2e per year and are required to report under California's Mandatory Reporting Rule. Fuel consumption quantities were multiplied by corresponding carbon intensity fuel emission factors from the Climate Registry to obtain GHG emissions.

Data Sources

- California Climate Action Registry General Reporting Protocol v 3.1 (January 2009)
- SJVAPCD, personal communication Leland Villalvazo

Waste Generation

What the Sector Includes

This sector includes methane emissions that will result from the decomposition of waste in landfills, from waste that was generated by in the region in 2005. These emissions are also known as the "future methane commitment" of the waste. CO_2 emissions due to waste generated in 2005 are not considered in this analysis because they are considered biogenic in origin.

Methodology

Emissions from waste generation were calculated using publicly available data from CalRecycle and emission factors based on EPA's Waste Reduction Model (WARM). ICF altered emission factors from WARM to discount emissions from waste collection vehicles, and recycling related emissions, as these are life cycles and should not be included in a community GHG inventory. Waste in the region is collected by the City of Modesto and SCRSWPA who is responsible for waste collection in the cities and unincorporated areas in Stanislaus County except Modesto.

A 1999 Stanislaus County waste profile from CalRecycle was used to estimate the total tons of each type of waste generated in the region in 2005 (California Department of Resources Recycling and Recovery 2012a and 2012b). Total waste tonnage in 2009 was obtained for Modesto and SCRSWPA, also from CalRecycle. For each material type such as used oil, paint, or lumber, the modified EPA WARM emission factor that relating CO_2e emissions per ton of waste were applied. The amount of each material type was multiplied by the material's corresponding emission factors to find emissions by material type, and the emissions from all material types were summed to estimate total emissions.

Data Sources

- California Department of Resources Recycling and Recovery (CalRecycle)
- U.S. EPA's Waste Reduction Model (WARM).

Wastewater Treatment

What the sector includes

These emissions are associated with the treatment of industrial, residential, and commercial wastewater produced by each participating jurisdiction. These emissions result from fugitive emissions of CH_4 and N_2O that occur during the chemical and biological breakdown of wastewater at the WWTP.

Methodology

Fugitive and process emissions that result from the treatment of wastewater were estimated using each of the County's jurisdiction's municipal GHG inventories. The municipal inventories were prepared prior to this analysis and quantify the GHG emissions resulting from municipal operations,

including direct and indirect emissions from individual wastewater treatment plants. For this analysis, ICF used the following data from the municipal inventories: WWTP service population and process emissions (direct emissions). In addition, ICF made several adjustments to parameters in the municipal inventories including the following changes: emissions resulting from electricity consumption at the WWTPs were omitted to avoid overlap with the building energy sector, methane emissions at aerobic plants were omitted using LGOP guidance, N_2O process emissions were added where necessary, and service populations were changed using an adjustment factor (from LGOP) to include previously unaccounted for industrial wastewater.

Per capita values for wastewater emissions were developed using the ICF-adjusted municipal inventory wastewater emissions and the WTTP service populations. To determine wastewater treatment plant related emissions, the per capita values were applied to the population that resides within the county boundary only.

Emission from septic systems were estimated and added to WWTP emissions. The amount of people using septic systems was estimated using information in communities' General Plans. A per capita septic system emission factor from the Local Governments Operations Protocol was used to determine CH_4 and N_2O emissions resulting from septic system use (Local Governments Operations Protocol 2010).

Data Sources

- Municipal GHG Inventories—all jurisdictions (available upon request from the individual cities in Stanislaus County)
- CARB. May 2010. LGOP for the quantification and reporting of greenhouse gas emissions inventories. V 1.1.

Water

What the sector includes

Emissions from water consumption were estimated based on the energy associated with the distribution of water to jurisdictions in the region.

Methodology

Emissions from the conveyance of water (i.e., the transport of water supplies from outside the inventory boundary to within the boundary) were calculated using information about total water consumption and water sources from each of the County jurisdiction's UWMPs. GHG emissions associated with the energy required to treat and locally distribute water that is supplied from other areas are captured in the building energy sector. The UWMPs for some jurisdictions were unavailable, and, in these cases, water consumption data was taken from Municipal Service Reviews (MSR) conducted by the LAFCO (Stanislaus Local Agency Formation Commission 2011). Water consumption data for the unincorporated county was estimated using 2005 data from the United States Geological Survey (USGS) (2009).

In some instances, water consumption was not available for the baseline inventory year (2005). In these cases, water consumption was scaled from an alternative year to the baseline year using population. This method assumes that water consumption changes proportionally with population. In other cases, water consumption by end use (residential, commercial, etc.) was not available. It was assumed that jurisdictions where consumption by end use was unavailable have average proportions of end use consumption as cities with similar population sizes. Alternately, end use consumption was determined using the proportions of commercial/industrial and residential acres for jurisdictions with available acreage data.

Water consumption data from the sources of water in the county, groundwater, surface water, and recycled water, were taken from the UWMPs, MSRs, and USGS. The electricity required to convey water from each source was estimated using electricity intensity factors from CAPCOA (CAPCOA 2010). Electricity consumption required for water conveyance to each jurisdiction was multiplied by carbon intensity factors from the associated utilities to arrive at GHG emissions resulting from water conveyance.

Data Sources

- CAPCOA 2010
- Municipal Service Reviews from the LAFCO
- UWMPs from the jurisdictions that have a publicly available UWMP
- USGS Water Study

Chapter 4
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Personal Communications

Villalvazo, Leland. Supervising Air Quality Specialist. San Joaquin Valley Air Pollution Control District. February 2012—email with Lindsey McAlpine of ICF International regarding amount of fuel burnt at permitted stationary sources in each jurisdiction.