Chapter Two

CIRCULATION ELEMENT

INTRODUCTION

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 roadways and state highways because sufficient capacity has been available on the existing system to absorb the traffic generated by new growth. However, 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 one-fifth of the workers living in Stanislaus County commute to jobs outside the County each day placing greater demand on freeways, county roadways and bridges that provide access to adjacent counties.

From 1990 to 2000, 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 (U.S. Census Bureau, 2014). Although some growth has been in unincorporated communities, most of this growth has occurred within the incorporated cities of Stanislaus County. Consequently, the County must plan for new urban and rural roadways to be built as part of development proposals and expansion of existing roadways to connect major traffic generators (i.e., incorporated cities). These roadways 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, 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 communities 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. One of these high priority regions is the Central Valley region, which includes Route 99, Interstate 5, the Union Pacific Railroad, and other important east-west corridors, which are all major international trade routes that traverse Stanislaus County. 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.

The Circulation Element of the General Plan identifies goals, policies, and implementation measures that ensure compatibility between land use, infrastructure, and transportation modes. The Circulation Element also 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 roadways 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. These roadways 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. 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 intersections; in effect, traffic

demand on the roadway exceeds the roadway's capacity. As a matter of policy, Stanislaus County strives to maintain LOS D or better for motorized vehicles on all roadway 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. The LOS criteria for roadway segments are depicted in Table II-1.

Traffic Analysis

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 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. A traffic analysis, incorporating the forecasts, was prepared as part of the environmental review for the adoption of this Circulation Element and its recommendations have been incorporated.

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STREETS AND ROADS

Roadway Classifications

A hierarchy of adequately sized roadways 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 II-1 identifies the functional classification of key roadways. The typical right-of-way required for each roadway classification is depicted in Table II-3. The classifications, as well as their required design and access standards, are defined in the following index of road classifications. Special circumstances and exceptions to these standards are also noted.

A. **Interstate Freeway.** The function of an 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 roadways via interchanges, and typically to Expressways and Majors at minimum of 2-mile spacing along the mainline. Interstate Freeways in Stanislaus County are planned, constructed, and operated by Caltrans and are 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 is the only Interstate Freeway that traverses Stanislaus County.

   Interstate Freeways are designated on the Circulation Diagram by the "Interstate/Expressway" roadway classification. Right-of-way and building setback requirements for this facility shall be determined by Caltrans.

B. **Freeways and Expressways.** 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 roadways 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.

   State Route 99, North County Transportation Corridor, and State Route 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. North County Transportation Corridor, running from Highway 99 north of Modesto to Highway 120 east of Oakdale, and the realignment of State Route 132, from Highway 99 to Dakota Avenue, are planned to be Expressways.

   Freeways and Expressways are also designated on the Circulation Diagram by the "Interstate/Expressway" roadway classification. Right-of-way and building setback requirements for these facilities are determined by Caltrans.

C. **Principal Arterials (Rural and Urban).** The function of a 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. 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 Principal Arterials. The design features of Principal Arterials are determined by the level of access control and the number of lanes designated for each Principal Arterial route segment. Pedestrian and bicycle facilities may be provided on these types of roadways. Farm machinery is permitted on these types of roadways. The number of lanes that are required will be determined at project build time for the 20-year design life of the roadway. The access restrictions of Principal Arterials are defined as:

(1) Partially access-controlled Principal Arterial roadways (See Figure II-2 – Arterial Access Designation), are traffic-controlled intersections at Principal and Minor Arterials. Collectors and Locals are permitted right-in, right-out access only at 1/4- to 1/2-mile intervals.

(2) Limited access-controlled Principal Arterial roadways (See Figure II-2 – Arterial Access Designation), are traffic-controlled intersections at Expressways and Principal or Minor Arterials. Intersections at Collectors and Locals may or may not be controlled by a traffic signal.

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, and 132 along its existing Maze Blvd. alignment and east of Modesto) are planned to be Limited Access Principal Arterials, 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 4-lane Limited Access Principal Arterial 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.

Principal Arterials (Rural & Urban) are designated on the Circulation Diagram by the “Other Principal Arterial”, or “OPA”, roadway classification.

D. **Minor Arterial (Rural & Urban).** The function of a Minor Arterial is to carry moderate- to high-volume traffic to and from collectors to other Minor Arterials, Principal Arterials, Expressways, and Freeways with a secondary function of land access. 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 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. There are different design standards associated with the Urban and Rural Minor Arterial classifications, as depicted in Table II-3.

State Route 165 from State Route 99 to the Merced County line is planned to be a Minor Arterial, 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 measured from the railroad right-of-way.

Minor Arterials (Rural & Urban) are designated on the Circulation Diagram by the "Minor Arterial", or "MA", roadway classification.

E. **Major Collector (Rural, Urban & Industrial).** Major Collectors serve a dual function by providing 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 roadways. Most Major Collectors are two-lane roadways, 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. The typical right-of-way for Rural and Urban Major Collectors is 80 feet (2 lanes). However, there are different design standards associated with the Urban and Rural Minor Collector classifications, as depicted in Table II-3. 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 roadways.

Major Collectors (Rural, Urban and Industrial) are designated on the Circulation Diagram by the "Major Collector", or "MJC", roadway classification.

F. **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 Rural and Urban Minor Collectors is 60 feet (2 lanes). However, there are different design standards associated with the Urban and Rural Minor Collector classifications, as depicted in Table II-3. Under certain circumstances, 80 feet of right-of-way may be required for Rural Minor Collectors to provide additional capacity due to non-ideal environments. Table II-2 lists the roadways requiring 80 foot right-of-ways. Within 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 roadways located within unincorporated County industrial zones.

Minor Collectors (Rural, Urban and Industrial) are designated on the Circulation Diagram by the "Minor Collector", or "MC", roadway classification.

G. **Rural Local.** Rural Local roadways serve as land access facilities in the agricultural areas of the County by providing direct access to abutting property and movement of small volumes of people and goods for medium length trips. Rural Local roadways are two-lane roadways with a typical right-of-way of 60 feet that safely accommodates drainage, utilities, and other physical improvements that may be located within the public right-of-way. In agricultural areas of the County, roadways 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 roadways 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 Roadways is 60 feet (2 lanes). Under certain circumstances, 80 feet of right-of-way may be required for Rural Local roadways to provide additional capacity due to non-ideal environments. Table II-2 lists the roadways requiring 80 foot right-of-ways.

Rural Locals are designated on the Circulation Diagram by the “Local” roadway classification.

H. **Urban Local.** Urban Local roadways serve as land access facilities in the urban and industrial areas of the County by providing direct access to abutting property and movement of small volumes of people and goods for short trips. In urban subdivisions, roadways not shown on the General Plan Circulation Diagram or as an Official Plan Line, shall be deemed Urban Local roadways unless otherwise designated by the Department of Public Works. Urban Local roadways are two-lane roadways with a typical right-of-way of 50 feet (2 lanes). Within areas zoned for heavy or light industrial or which are expected to carry large or heavy trucks, the Minor Collector standard shall have a typical right-of-way of 70 feet. This classification also includes cul-de-sac and dead-end roadways 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 roadways.

Urban Locals are designated on the Circulation Diagram by the “Local” roadway classification.

I. **Private.** Private roadways serve as land access facilities and are not maintained by the County. Two types of Private roadways are permitted in the County. These roadways 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 roadways in the State Responsibility Area as designated by the California Department of Forestry and Fire Protection. New roadways under this category shall not exceed a 12% slope nor be less than 30 feet in width.

Private roadways 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 roadways shall be constructed to the same standards as County-maintained roadways or other standard approved by the Department of Public Works.

Where a conflict between the roadway classifications of the Circulation Element and the most current Public Works Plans and Specifications may exist, the Director of Public Works shall determine the appropriate street section to be used for roadway design and construction. Zoning Ordinance standards will continue to be enforced using the previously adopted roadway classifications until a zoning ordinance amendment, reflecting the roadway classifications above, is completed.

TABLE II-1
ROADWAY SEGMENT LEVELS OF SERVICE (LOS) 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
	110 Ft Minor Arterial	6	3,400	5,625	7,875	9,450	11,250
	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

Other Requirements

Within the sphere 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 local 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. The Planning Commission and the Board of Supervisors must identify and make findings supporting this presumption when an application for development is being considered.

Figure II-1
Road Circulation Diagram

Text

Roadway Classification

- Interstate/Expressway
- Principal Arterial (OPA)
- Minor Arterial (MA)
- Major Collector (MJC)
- Minor Collector 80' (MC80)
- Minor Collector (MC)
- Local
- NCC Alignment Alternatives
- City Limits
- Sphere of Influence
- County Boundary
- Inset

Note: North County Corridor alignment alternative has not been adopted; South County Corridor is currently being studied and alignment alternatives are under development. South County Corridor is a planned arterial connecting State Route 99 to Interstate 5 near the City of Patterson.

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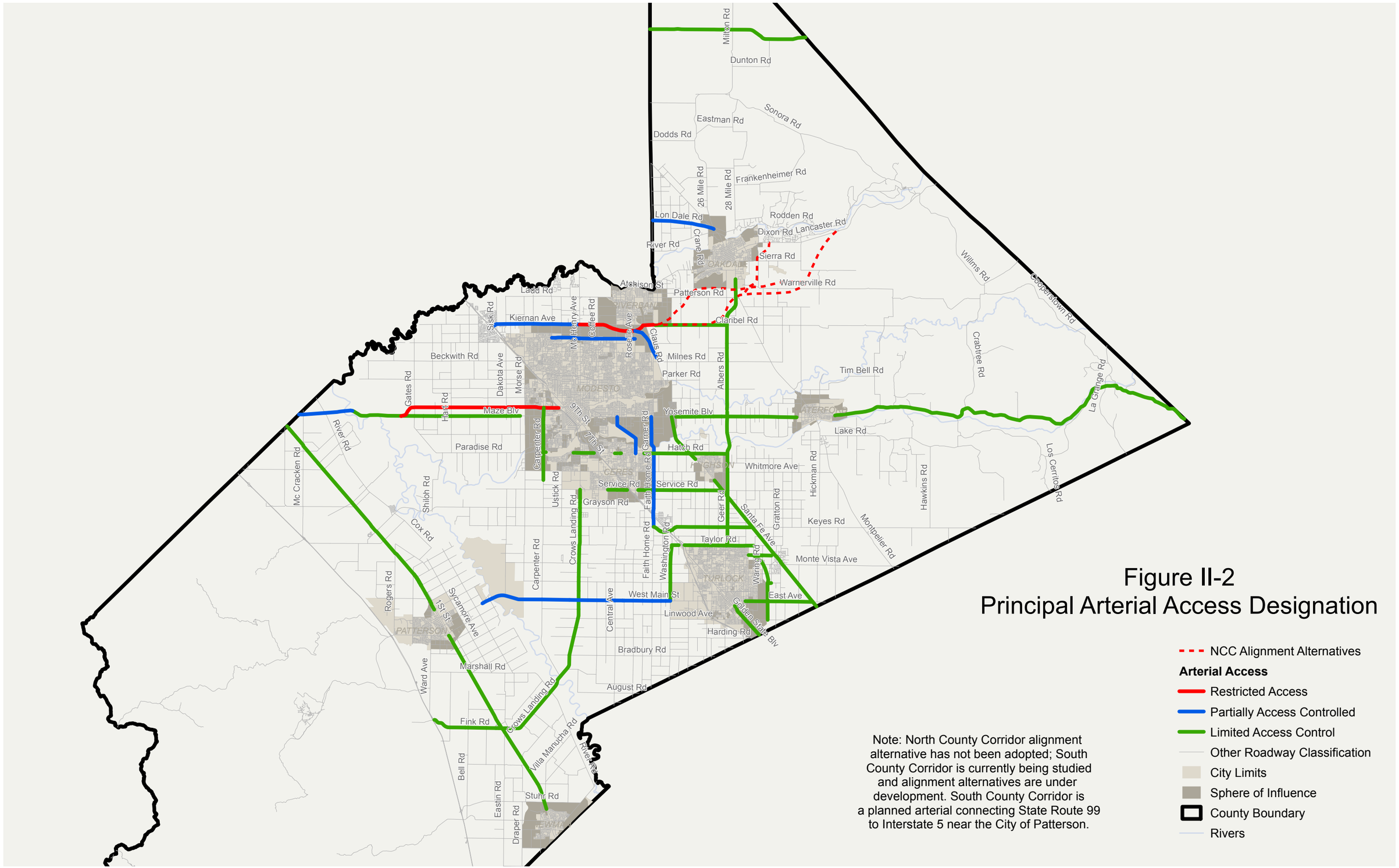

Figure II-2
Principal Arterial Access Designation

NCC Alignment Alternatives

Arterial Access

- Restricted Access
- Partially Access Controlled
- Limited Access Control
- Other Roadway Classification
- City Limits
- Sphere of Influence
- County Boundary
- Rivers

Note: North County Corridor alignment alternative has not been adopted; South County Corridor is currently being studied and alignment alternatives are under development. South County Corridor is a planned arterial connecting State Route 99 to Interstate 5 near the City of Patterson.

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TABLE II-2
RURAL LOCAL OR RURAL MINOR COLLECTOR ROADWAYS REQUIRING AT LEAST 80' OF RIGHT-OF-WAY*

The following designated Rural Local or Rural Minor Collector roadways 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:

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 Eastman Road: 26 Mile Road to 28 Mile Road.
5. Emery Road: Warnerville Road to Fogarty Road.
6. Fogarty Road: Wamble Road to Emery Road.
7. Frankenheimer Road: 28 Mile Road to Sonora Road.
8. Hawkins Road: Lake Road to Keyes Road.
9. Hazeldean Road: Highway 132 to Tim Bell Road.
10. Hickman Road: East Avenue to Whitmore Avenue.
11. Lancaster Road: Orange Blossom Road to Highway 108/120.
12. Rock River Road: Willms Road to Tuolumne County Line.
13. Sonora Road: Milton Road to Highway 108/120.
14. Tim Bell Road: Lone Oak Road to Warnerville Road.
15. Twenty Eight Mile Road: Rodden Road to Sonora Road.
16. Wamble Road: Fogarty Road to Orange Blossom Road.
17. Warnerville Road: Albers Road to Cooperstown Road.
18. Willms Road: Cooperstown Road to Highway 108/120.

* This list only contains those Rural Local or Rural Minor Collector roadways that require 80 feet of right-of-way.

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 II-3 - Functional Classifications - Typical Roadway Characteristics. 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 roadways 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 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 II-4. Some portions of these roadways have been annexed into the spheres of influence or jurisdictional boundaries of the cities; therefore, city standards now apply to those areas. This element includes proposed streets and roadways that are necessary to support development planned within the cities' general plans. Generally, these streets and roadways 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 II-3
FUNCTIONAL CLASSIFICATIONS - TYPICAL ROADWAY CHARACTERISTICS

	Functional Classification	Typical ROW Width	ROW at Intersections	Lanes	Intersecting Roadways	Private Property Access	Mobility/ Operating Speed
Urban	Freeway/ Expressway	Varies	Varies	4 - 8	Interchange at 1 miles spacing	None	High
	Principal Arterial	135'	180'	4 - 6	1 per 1/2 mile	Very Limited	High
	Minor Arterial	110’	160'	4 - 6	1 per 1/2 mile	Limited	Medium-High
	Major Industrial	80'	140'	2 - 4	1 per 1/4 mile	Limited	Medium
	Minor Industrial	70'	100'	2	1 per 1/4 mile	Limited	Low-Medium
	Major Collector	80’	100'	2 - 4	1 per 1/4 mile	Limited	Medium
	Minor Collector	60’	90'	2	1 per 1/8 mile	Limited	Low-Medium
	Local/Private	50'	60'	2	No Limit	Controlled	Low
Rural	Freeway/ Expressway	Varies	Varies	4 - 8	Interchange at 2 mile spacing	None	High
	Principal Arterial	135'	180'	4 - 6	1 per 1/2 mile	Very Limited	High
	Minor Arterial	110’-	160'	2 - 4	1 per 1/2 mile	Limited	Medium-High
	Major Collector	80’	120'	2 - 4	1 per 1/4 mile	Limited	Medium-High
	Minor Collector	60’	100'	2	1 per 1/4 mile	Limited	Medium-High
	Local/Private	60’	80'	2	1 per 1/4 mile	Controlled	Low-High

1. *When the surrounding land use is zoned "M" - Industrial, the road classifications shall conform to the two Industrial Road Standards. Based upon future anticipated traffic volumes, the road should be either the 2-lane 70-foot 2-lane version or the 110-foot 4-lane Industrial Road. The majority of the roads will be 70-foot 2-lane Industrial Minor Collectors.*
2. *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 will be necessary at approaches to intersections to accommodate turn pockets for safety. A minimum of 200' from the cross street's ROW boundary will be required. Additional ROW beyond the 200' may be needed if*

an intersection has been studied by the County and is determined to require longer approach lanes and tapers due to the traffic operations and safety needs. A Transportation Impact Assessment for a developed project may also identify the additional needs of the intersection in accordance with current design standards. See Table II-2 for Rural Minor Collector and Rural Local Roadways that will require additional right-of-way due to other conditions.

3. *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.*
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 roadways 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.*

TABLE II-4
OFFICIAL 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
McHenry 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. The special study areas are identified in Table II-5.

TABLE II-5
SPECIAL STUDY AREAS

Study Area	Description	From	To	Source
1	South County Corridor	Interstate 5	San Joaquin River	Stanislaus County
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

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.

North County Transportation Corridor. The North County Transportation Corridor is a proposed expressway from State Route 99 in the Salida area to SR 120, east of Oakdale. 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.

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.

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 roadways, 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. Collaborative efforts have raised 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 these efforts, 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 roadways 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 roadway 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.

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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, the County offers generally flat terrain and a temperate climate, which are suitable conditions for cyclists and pedestrians. 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 roadways except Rural Local/Rural Minor Collector roadways. Marked and/or signed bicycle lanes and paths are provided in accordance with the 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.

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PUBLIC TRANSIT

Public transportation systems are being called upon to provide more services, serve more people and businesses, and satisfy more transportation needs than ever before. Fuel costs, more stringent air quality regulations, and fare affordability are making transit a more attractive alternative for both commuters and local government. At the same time, public transit agencies are 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. Transit service education, marketing efforts, and ongoing service improvements continue to be areas of focus with the end goal of promoting and increasing transit ridership; however, 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. Continued coordination efforts between land use and transportation planning may assist in mitigating transit access issues.

The Stanislaus County Public Works Transit Division manages the County's public transportation system, known as the Stanislaus Regional Transit, or StaRT. StaRT provides transit service throughout the County including cities and unincorporated communities and to the cities of Merced and 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 Transit Division has Memorandums of Understanding with the cities of Newman, Oakdale, Patterson, Riverbank, and Waterford, to operate dial-a-ride services in their respective cities.

As part of the Transit Division's long-range planning goals and objectives, StaRT will implement a "Commuter Express" service between Stanislaus County and the Dublin Bay Area Rapid Transit (BART) Station in the near future. This service will provide commuter express service to Bay Area commuters thereby providing alternative transportation choices, enhanced access to work, and will assist in reducing traffic congestion, green-house gas emissions, and will contribute toward the improvement of the region's air quality. Additionally, StaRT will provide Americans with Disabilities Act (ADA) Paratransit Service, as mandated by the Federal Transit Administration (FTA). This service provides door-to-door transportation services to seniors and people with disabilities who are unable to use fixed route transit services. Future service improvements will also be implemented to include a "connector" service that will connect more County residents to the non-emergency medical transportation service which provides public transportation service to Bay Area medical facilities.

Other public transit operators within Stanislaus County include MAX (Modesto Area Express), CAT (Ceres Area Transit), and BLAST (The Bus Line Service of Turlock). As the County's transit services provider, StaRT connects with these local transit operators and serves the transit centers in the cities of Turlock and Modesto, with service to transfer locations in the cities of Ceres, Riverbank, Oakdale, and Patterson. This enables County residents to connect with regional, intra-city and inter-city transit and to travel throughout the County. Transit services are supported through the construction and operation of transit amenities and facilities, such as bus shelters, bus benches, and bus stop signs.

The Transit Division conducts transit planning studies and other related activities to ensure that transit services provided are cost-efficient and cost-effective. By way of these studies, the County also prepares short-range and long-range transit plans to improve coordination between transit operators in Stanislaus County and establish strategic plans for future capital projects, including the purchase of additional buses and construction of transfer locations throughout the County.

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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.

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 off Parker Road, on Held Drive, in Modesto or by traveling to stations located in the unincorporated community of Denair (by way of the StaRT Turlock-Modesto shuttle service) or the City of Stockton. Amtrak can also be accessed through MAX, which connects to the Modesto Amtrak Station.

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 inter-city 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 ACEforward Environmental Impact Report/Initial Study 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 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.

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 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. 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 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, agricultural crop dusting services, cargo services, and private business flights. There are three major facilities of concern for circulation and transportation purposes: (1) Modesto City-County Airport (Harry Sham Field); (2) Oakdale Municipal Airport; and (3) proposed Crows Landing General Aviation 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.

The former Crows Landing Air Facility served as an auxiliary landing field for NAS Alameda and later Moffett Field 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. The United States Congress conveyed 1,352 acres of the total 1,528 acre former military property to Stanislaus County in 2004 pursuant to Public Law 106-82. Since that time, the County has embraced the opportunity to revitalize the County's economy through the reuse of the former airfield to benefit County residents and the region as a whole. Conveyance of the remaining 176 acres is anticipated to occur after remediation of the remaining acreage is completed.

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WATER, PIPE, AND UTILITY CONVEYANCE SYSTEMS

Stanislaus County is threaded with a network of waterways, pipe, and utility lines used to transport oil, natural gas, water, and electrical energy. To evaluate the circulation system, it is important to consider all forms of transport including those forms which move commodities through fixed systems.

Waterways

The following are important natural and constructed waterways located within Stanislaus County:

California Aqueduct. The California Aqueduct, which begins about 30 miles east of San Francisco and passes through Stanislaus County parallel to Interstate 5, terminates near Riverside. It is the principal water conveyance facility of the State Water Project.

The principal purpose of the California Aqueduct is the delivery of water from a normally abundant source in Northern California to arid portions of Southern California to be used for irrigation and domestic purposes.

Delta-Mendota Canal. The Delta-Mendota Canal is a federally owned project which was developed to aid flood control, enhance recreation, and increase irrigation alternatives. This facility originates in San Joaquin County. It parallels I-5 and ends at the Mendota Slough in Fresno County. Several water districts within Stanislaus County contract with the Bureau of Reclamation for irrigation water from this canal.

Hetch-Hetchy. The Hetch-Hetchy Aqueduct is an underground, enclosed system carrying domestic water from the Hetch-Hetchy Reservoir through the northern portion of the County, across the valley to San Francisco, as well as neighboring communities in most of San Mateo County and parts of Santa Clara and Alameda Counties. Farmers have been given permission to farm within the Hetch-Hetchy right-of-way. However, no permanent structures are permitted within the right-of-way.

Irrigation Canals. There are many miles of canals and ditches that distribute irrigation water to the farmlands of Stanislaus County. Presently, there are nineteen (19) irrigation and/or water districts formed to use and maintain this system.

Electric

The service area boundaries for the three major electric utility providers-Pacific Gas and Electric, Modesto Irrigation District, and Turlock Irrigation District- are shown in Figure II-3. Major electrical transmission lines and substations located in Stanislaus County may be found by contacting the California Energy Commission.

Gas and Oil

Pipelines within Stanislaus County carry natural gas and crude oil, generally along highways and railroad lines. The crude oil pipelines traversing Stanislaus County are owned by Tosco, Kinder Morgan Energy Partners, Shell Pipeline, and Chevron Pipe Line companies. These lines run parallel to Interstate 5, State Route 33, and State Route 99.

Natural gas lines that traverse the County are owned and operated by Pacific Gas and Electric Company. The major supply line parallels Interstate 5. This line transports natural gas produced elsewhere to Stanislaus County residents and beyond.

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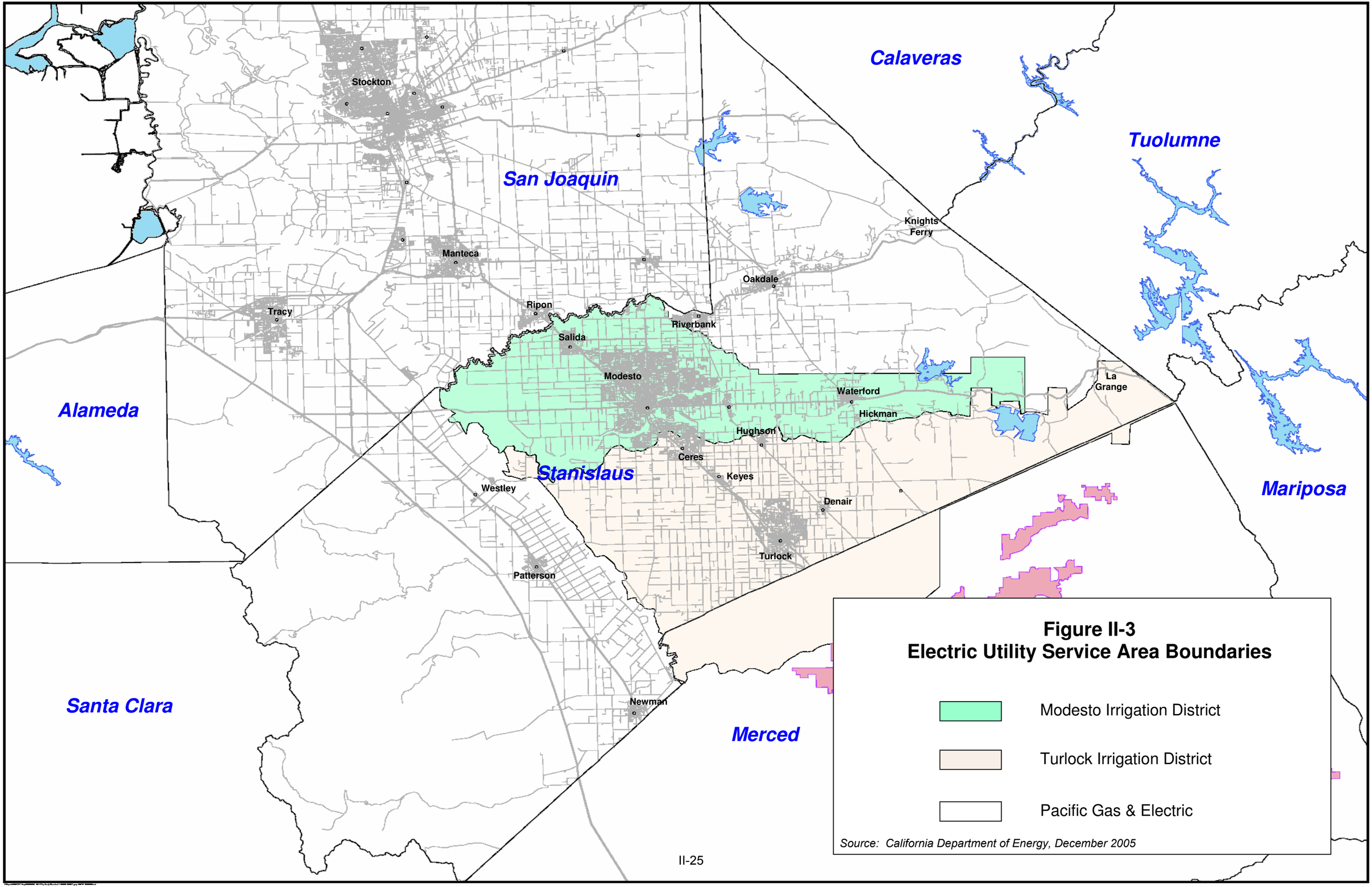
Calaveras
Tuolumne
San Joaquin
Stockton
Manteca
Tracy
Ripon
Salida
Modesto
Riverbank
Oakdale
Knights Ferry
Waterford
Hickman
La Grange
Hughson
Ceres
Keyes
Denair
Turlock
Stanislaus
Mariposa
Alameda
Westley
Patterson
Newman
Merced
Santa Clara
Figure II-3
Electric Utility Service Area Boundaries
Modesto Irrigation District
Turlock Irrigation District
Pacific Gas & Electric
Source: California Department of Energy, December 2005

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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.

Transportation Impact Studies. Transportation 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 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 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. 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 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, 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 as a normal part of the County's budgeting process and do not require amendment of the General Plan.

GOALS, POLICIES AND IMPLEMENTATION MEASURES

GOAL ONE

Provide and maintain a transportation system 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 circulation exist, or will exist as part of the development, to adequately handle increased traffic and safety needs for all modes of transportation.

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 II-4). 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 will construct or pay the cost of new roadways, including non-motorized elements, necessary to serve the development of all land uses and to mitigate impacts to the existing roadways 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, transportation 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 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. Development proposals shall identify and mitigate, at the developers sole cost, all potential operations and safety impacts to the circulation system.
   Responsible Departments: Public Works, Planning

7. To identify the potential impacts of new development on transportation service levels, the County may require the preparation of a transportation impact study at the sole expense of the developer.
Responsible Departments: Public Works, Planning

8. 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. Unless an 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. Access to Expressways, 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.
Responsible Departments: Public Works, Planning

11. 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.
Responsible Departments: Public Works, Planning

12. The Subdivision Ordinance, Zoning Ordinance, and County Standards and Specifications shall be modified to conform with the definitions and requirements of this element.
Responsible Departments: Public Works, Planning

POLICY TWO

The Circulation system shall be designed and maintained to promote safety by combining multiple modes of transportation into a single, cohesive system.

IMPLEMENTATION MEASURES

1. The County shall maintain LOS 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 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 roadways.
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).
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, 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 roadways 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. 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: Public Works Transit Division, Planning

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 by the Planning Commission for conformity with the General Plan.
Responsible Departments: Chief Executive Office, Public Works

2. The Department of Public Works shall prepare and present a report on public works projects in the County on a bi-annual basis, consistent with Section 65401 of the Government Code.
Responsible Department: Chief Executive Office, Public Works

3. Roadway, bicycle, pedestrian, transit, and aviation improvements shall be included in the Capital Improvement Program, as appropriate, to implement the policies of this element.
Responsible Department: Chief Executive Office, Public Works

POLICY FOUR

The circulation system shall provide for roadways in all classifications as necessary to provide access to all parts of the County and shall be expanded or improved to provide acceptable accessibility and mobility based on anticipated land use.

IMPLEMENTATION MEASURES

1. As required by Federal Transportation Law, the Stanislaus Council of Governments shall maintain and prepare a Congestion Management Process (CMP). The 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.
   Responsible Departments: StanCOG, Public Works, Planning

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.

IMPLEMENTATION MEASURES

1. Roadways 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 Minor Collector (Urban/Rural) and a 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 vehicle access on local roadways through residential areas is avoided.
   Responsible Departments: Public Works, Planning

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 roadways 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, to require truck parking as appropriate in new commercial and industrial developments.
Responsible Departments: Public Works, Planning

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

POLICY SIX

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

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: 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 vehicles.
Responsible Departments: Chief Executive Office, Public Works

3. Facilities to support the use of, and transfer between, alternative modes of transportation (i.e., pedestrian, rideshare, bicycle, bus, rail, and aviation) shall be provided in new development.
Responsible Departments: Public Works, Planning

4. 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, Public Works, Planning

5. Developers 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: Public Works, Planning

6. The County shall continue using Compressed Natural Gas (CNG) or another alternative energy source in its fleet vehicles and will pursue special grants and funding to offset the costs of continued-use of CNG in County-owned buses.
Responsible Departments: 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 Non-Motorized Transportation Plan 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 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. To safely accommodate bicycle traffic, adequate pavement shoulder and/or striping shall be planned and implemented 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. 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. 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

POLICY EIGHT

Promote public transit as a viable transportation choice.

IMPLEMENTATION MEASURES

1. Continue to operate existing transit systems and coordinate with other County transit operators to provide public transit serving Stanislaus County.
   Responsible Departments: Public Works Transit Division

2. 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: 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 Expressways, Principal and Minor Arterials, and Major and Minor Collectors with transit service.
   Responsible Departments: Public Works, Planning

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.
   Responsible Departments: 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 site improvements shall be paid by the developer.
   Responsible Departments: Public Works, Planning

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: Public Works, Planning

7. Financing mechanisms shall be investigated to recover the cost of providing transit service and infrastructure to support new development.
   Responsible Departments: 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 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 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 roadways 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 and aviation-compatible business park and industrial development.
   Responsible Departments: Chief Executive Office, Public Works, Planning

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.

Responsible Departments: Public Works, Planning, Planning Commission, Board of Supervisors