

Stanislaus County Public Works

Annual Report 2015

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Leadership



Matthew Machado,
Public Works
Director
County Surveyor
Road Commissioner



Kathy Johnson,
Assistant Director,
Business and Finance



Chris Brady,
Deputy Director,
Road Operations and
Construction



David Leamon,
Deputy Director,
Development Services
and Traffic Engineering



Colt Esenwein,
Deputy Director,
Design Engineering,
Shop, and Survey



Eunice Lovi,
Transit Manager



Peou Khiek,
Geographic Information
System Manager



Randy Avants,
Road Operations Manager



Tate Hoffman,
Morgan Shop Manager

Mission

Manage and improve infrastructure through safe and efficient use of resources and assets for the benefit of our citizens.

Vision

Strive to be the leading Public Works Department through innovative stewardship of infrastructure and environment.

Administration / Finance

The Administration Division provides divisional support in all areas of the Public Works Department with more focus in the areas of clerical and finance. Clerical support is provided in the areas of board agenda items, maintaining and organizing lead staff, human resources, training, and other ongoing daily needs necessary for the smooth running of the department. Financial support is provided by the way of budgeting, payroll processing, accounts payables, and accounts receivables.



Left to right: Dena Davis, April Henderson-Potter, Joann Schmidt, Julie Serrano, Sharon Andrews, Bianca Valdovinos, Peou Khiek, Eunice Lovi, Matthew Machado, Annette Borelli, Aron Harris, Darla Moen, Sylvia Jones, Ross Campbell, Keimi Espinoza, and Kathy Johnson

Finance

The Finance Division is responsible for accounting, budgeting, contracting, lighting districts, accounts payable, accounts receivable, purchasing, and payroll for all divisions. The

employees in Finance ensure that the department is following all County financial policies and safeguarding public funds.

The Finance Division has five full-time staff overseeing Public Works \$90 million budget. They perform the day to day functions that keep the department running smoothly.

In Fiscal Year 2015-2016, there were over 3,000 time cards (1,500 paychecks) processed for the Roads Division, and approximately 2,600 timecards (1,300 paychecks) from Administration, Engineering, Shop, and Transit.

Also, there were 148 street light repair requests in the Customer Response Management (CRM) System that were taken care of.

Paid 373 invoices for Roads projects, 1,703 in Roads and 810 invoices for special projects (County Service Area, Lighting Districts, and Landscape Lighting District).

Clerical

The Administrative Support Division provides clerical support to other Public Works' divisions. Their role includes the preparation of board agenda items, human resources, training records maintenance, safety program strategic planning, first point of contact by greeting lobby customers and answering phones, processing mail, and a variety of other miscellaneous, but highly necessary tasks that ensure the department operates smoothly. In the past year these individuals: Processed 70 board agenda items, conducted recruitments and processed new employees' packets, maintained office supplies inventory, coordinated janitorial and building maintenance services, logged and followed up on 1,142 customer comments and/or concerns through Stanislaus County's Customer Response Management (CRM) System.

Development Services



Pictured left to right: Paul Saini, Andrew Malizia, Rich Brown, Steve Song, Francis Baldonado, Les Stachura, Matthew Machado, Darla Moen, Angie Halverson, David Leamon, and Dhyan Gilton

Stanislaus County submitted an application for funds to the United States Department of Agriculture (USDA) for the Empire Pedestrian Safety Project. The purpose of the Empire Pedestrian Project is to provide a modern, low maintenance, cost effective, and safe pedestrian facilities for the disadvantaged rural community of Empire.

The Pacific Gas and Electric (PG&E) Pipeline Pathways Tree Removal Project was completed in 2015. This project consisted of vegetation removal work and a mitigation plan for trees located above the natural gas transmission pipeline on County-owned/franchise properties within the County of Stanislaus. The encroachment work will now allow PG&E to better maintain, inspect, and continue to safely operate their natural gas transmission pipeline in the County's right-of-way. Tree and plant roots were causing damage to PG&E's underground gas facilities by damaging the pipeline's protective coating and exposing it to corrosion. Trees and plants growing near the facilities were also impeding pipeline access for routine leak surveys, and ensuring ready access to the area above the pipeline.

The Development Services staff also assisted the Building/Planning department with processing multiple building permit applications. There were 12 off-site improvement plans, 4 rezone applications, 11 parcel maps, 7 staff approvals, and 15 use permits processed.

The Erosion Sediment Control Plan checklist and frequently asked questions (FAQs) were added into our Encroachment and Development permitting process.

Monument Preservation requirements were incorporated into our Encroachment and Development Permit programs.

Development Services had an increase of 61% for Encroachment Permits this last fiscal year over Fiscal Year 2013-2014. We had two transportation moves that required major coordination with California Highway Patrol (CHP) and utility companies (a house and a dairy tank).



PERMITS ISSUED:

Annual Transportation Permits - 309 issued	Daily Transportation Permits - 856 issued
PG&E Encroachment Permits - 259 issued	Non-PG&E Encroachment Permits - 229 issued
Encroachment Permits - 488 issued	Pipeline Maintenance Agreements - 25 processed and recorded



Storm Water

County of Stanislaus Stormwater Program
180 South Street, Suite 408, Meridian, CA 95354
Tel (209) 225-7538
<http://www.stanislauscounty.com/publicworks/index.shtml>



A storm water consultant was retained to implement the County's 2013 National Pollutant Discharge Elimination System (NPDES) Phase II Municipal Separate Storm Sewer System (MS4) 5-Year Storm Water Management Plan.



2015 POST-CONSTRUCTION STANDARDS PLAN

A GUIDANCE DOCUMENT ON STORM WATER POST-CONSTRUCTION DESIGN MEASURES FOR DEVELOPERS AND PLAN CHECKERS

The County's post development design standards titled: "2015 Post Construction Standards Plan" (Plan) was approved and adopted by the Board of Supervisors. This Plan is a guidance document that walks engineers, land developers, citizens and County staff through the process of designing and plan-checking development projects that meet the requirements of the County's 2013 NPDES Phase II MS4 Permit. The Plan is located on the County Public Works Development Services website.

Title 14 Chapter 14 of Stanislaus County Code relating to Storm Water Management and Discharge Control was updated to meet

the requirements of the County's 2013 NPDES Phase II MS4 Permit. Updates included: Increased construction site inspection frequencies, submittal of erosion and sediment control plans, implementation of Low Impact Development standards and increased enforcement authority.

Community outreach for the Empire Neighborhood Storm Water Low Impact Development & Greening Study was completed. The outreach efforts discussed concerns, recommendations, design alternatives, and options for sidewalks, underground storm drainage facilities, railroad crossings, school crossings, and a mini-roundabout at the A Street and C Street intersection. The objective and need for the proposed facilities are to improve access for pedestrians and bicyclists; encourage school-aged children to walk to school; reduce the occurrences of speeding and running STOP signs; reduce the noise caused by vehicles accelerating and decelerating at intersections; increase intersection capacity; and improve overall intersection and pedestrian safety.

The County completed and began to implement the 2015 Comprehensive Storm Water Education & Outreach Plan (Plan). The Plan will be used to educate the public and internal staff on ways to conserve storm water as a valuable resource and prevent pollution related to urban runoff. The Plan offers opportunities for public involvement and participation in the County's Storm Water Program.

Continued study and efforts for the Airport Neighborhood Urban Greening Storm Drain Master Plan was made. The study is approximately 80% complete.

A Geographic Information Systems (GIS) map layer was created to denote the areas of Stanislaus County that are covered under the NPDES Phase II MS4 Permit.

County of Stanislaus Stormwater Program
180 South Street, Meridian, CA 95354
Tel 209-225-7538
www.stanislauscounty.com/publicworks/index.shtml



2015 COMPREHENSIVE STORM WATER EDUCATION & OUTREACH PLAN

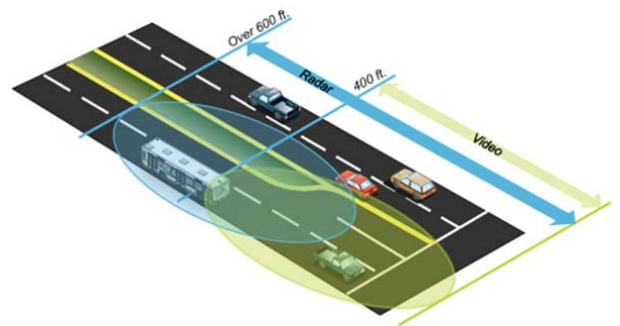
A PLAN FOR EDUCATING THE PUBLIC AND THE COUNTY OF STANISLAUS INTERNAL STAFF ON STORM WATER POLLUTION PREVENTION AND PUBLIC INVOLVMENT OPPORTUNITIES

Traffic Engineering

The Traffic Engineering division provides support for other divisions in Public Works including Design Engineering, Construction Engineering, the Survey Office, Development Services, and Road Maintenance. Traffic Engineering's main purpose is to move vehicles safely and efficiently throughout the County. The Traffic Engineering division performs traffic control plan checks for Development Services as well as ensuring that new development has safe and reasonable access. In addition to the work done for the other departments, the division performs traffic studies for signs, signals, and roundabouts. The division also tracks traffic volumes throughout the County, monitors speed, and regulates parking zones.

Claribel Road Widening Project:

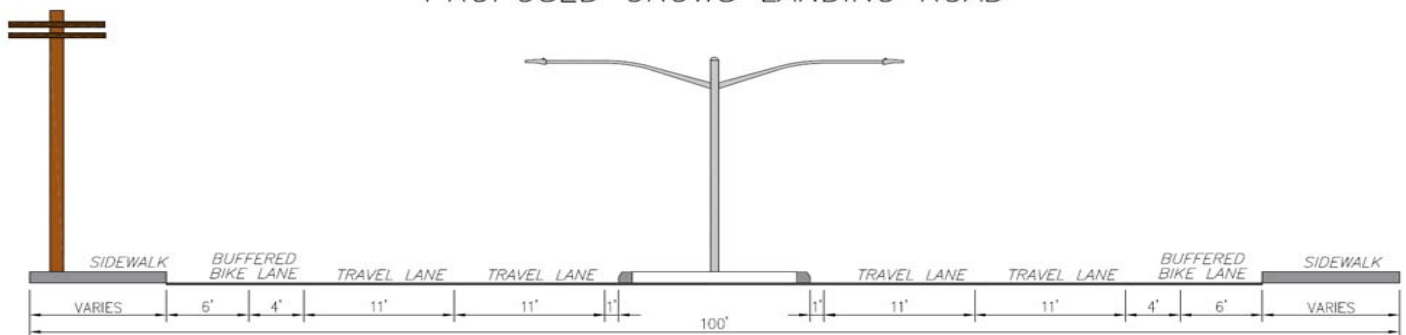
The Project was completed and included the installation of Video/Radar hybrid detectors to replace traditional in-ground inductive wire loops. The units detect vehicles advancing the intersection with radar technology which helps detect vehicles in poor weather conditions. The video portion detects closest to the intersection. The radars are configurable via PC or iPad.



Crows Landing Road Corridor Safety Project:

The Traffic Engineering division was also responsible for receiving 2.7 million dollars in safety funding for Crows Landing Road between School Avenue and Whitmore Avenue. The County will be working with the City of Modesto to improve the Corridor from SR99 to Whitmore Avenue. The planned safety improvements include a raised median in the center, street lighting, pedestrian crosswalks, bicycle lanes, and signal modifications.

PROPOSED CROWS LANDING ROAD



This year, **Judy Lindsay** retired in April of 2015. She worked in the Traffic Engineering division for the past five years. We wish Judy the best in her retirement!

Del Gann joined us in December from the City of Davis where he worked in Traffic Signal Maintenance. His knowledge of traffic signal systems is a great asset to the traffic engineering division. Del will primarily be responsible for maintaining and coordinating traffic counts, speed surveys, and maintaining our collision database. Del lives in Oakdale with his wife Lisa and two boys, Del (11) and Caden (8). Welcome aboard Del!

Construction Engineering



The Construction Engineering division manages all construction related elements of the Public Works Department's capital improvement projects, which include roadway, utility, and bridge improvements. Through contract administration and construction inspection, it is the goal of the Division to ensure that each project is built according to the plans, specifications, on schedule, and within budget.

Construction Engineering experienced another busy year for project delivery. The Division successfully delivered eight projects throughout the year, totaling \$16.3 million of improvements. With an inspection staff of only four individuals, it was imperative for the division to utilize on-call construction management services to deliver all the projects this year. Harris & Associates and Caltrop Corporation successfully supplemented the division's staff, managing the daily inspection, and administration duties for several projects.

This season brought the delivery of two bridge seismic retrofit projects. It's been over four years since the last retrofit project. The Pete Miller Road and Geer Road bridge projects were both successfully delivered on time and within budget.

The 2015 construction season was highlighted by the completion of the Claribel Widening project, which added a travel lane in each direction to Claribel Road from McHenry Avenue to Oakdale Road. The project also included adding traffic signals at the Claribel Road and Coffee Road intersection.



Claribel Roadway Widening

Improvements: Roadway reconstruction, drainage swales, shoulder backing, pavement delineation, Modesto Irrigation District canal culvert installation, total traffic signalization at Coffee Road intersection.

Cost: \$6,980,789.81 (Approx. \$3,086,345 constructed in 2015)

Start Date: May 19, 2014

Completion Date: December 23, 2015

Contractor: George Reed, Inc.

Resident Engineer/Construction Inspector: Mark Hamblin, Barlow Taylor



Central Avenue @ East Taylor Intersection

Improvements: Roadway reconstruction, shoulder backing, pavement delineation, and roadside signs

Cost: \$571,974.97

Start Date: October 5, 2015

Completion Date: November 9, 2015

Contractor: George Reed, Inc.

**Resident Engineer/
Construction Inspector:** Harris & Associates, Chris Brady

Construction Engineering (cont'd)

State Route 99/State Route 219 (Kiernan Avenue) Interchange

Proposed Improvements: Reconstruction of a storm drain pump station, reconstruction of the bridge overcrossing and off/on ramps, construction of auxiliary lanes between the Kiernan Avenue interchange and the Pelandale Avenue interchange, surface road widening and storm drain improvements, and replacement of traffic signal systems at ramp intersections and associated local road intersections.

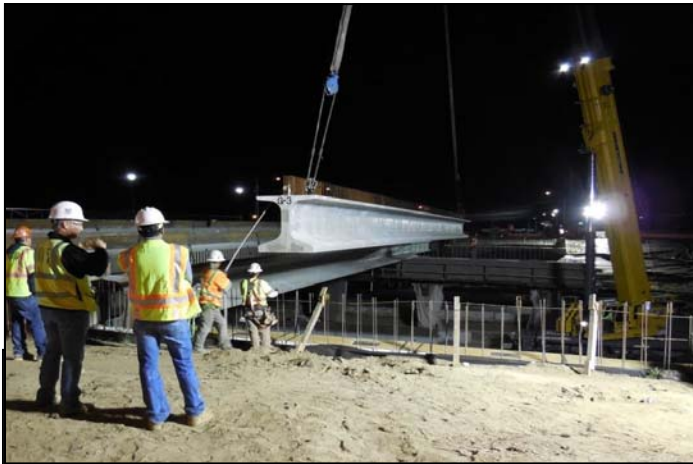
Cost to Date: \$22,695,080.16 (Approx. \$6,170,720 constructed in 2015)

Start Date: April 15, 2013

Expected Completion Date: May 2016

Contractor: O.C. Jones & Sons, Inc.

Resident Engineer/Construction Inspector: Nolte Vertical Five, Bryan Voyles



Geer Road Bridge @ Tuolumne River - Seismic Retrofit

Improvements: Construction of two reinforced piers, hinge restrainers, seismic blocking at abutments, and joint seal replacements

Cost: \$1,481,641.47

Start Date: August 3, 2015

Completion Date: November 17, 2015

Contractor: MCM Construction, Inc.

Resident Engineer/Construction Inspector: Caltrop Corporation, Chris Brady



Crows Landing Road @ West Main Street Traffic Signals

Improvements: Pavement reconstruction/roadway widening, pavement delineation, and traffic signal installation

Cost: \$3,349,620.58

Start Date: June 15, 2015

Completion Date: January 2016

Contractor: George Reed, Inc.

Resident Engineer/Construction Inspector: Caltrop Corporation, Mark Hamblin

Construction Engineering (cont'd)



Pete Miller Road Bridge @ Delta Mendota Canal – Seismic Retrofit

Improvements: Pipe key joint retrofit, barrier rail replacement, approach slab construction, joint seal replacement, and access road re-alignment

Cost: \$637,281.90

Start Date: September 1, 2015

Completion Date: December 9, 2015

Contractor: Viking Construction

Resident Engineer/Construction Inspector: Caltrop Corporation, Chris Brady



Hatch Road Channelization – Phase 2

Improvements: Roadway widening, asphalt concrete overlay, roadside signage, and pavement delineation

Cost: \$427,931.00

Start Date: October 26, 2015

Completion Date: December 3, 2015

Contractor: George Reed, Inc.

Resident Engineer/Construction Inspector:
Peter Song





Claribel Road @ Burlington Northern Santa Fe Railroad Crossing

Improvements: Roadway widening/asphalt concrete overlay, pavement delineation, and traffic signal installation

Bid Amount: \$544,444.00

Start Date: September 8, 2015

Estimated Completion Date: March 2016 (delayed due to utility/railroad conflicts)

Contractor: George Reed, Inc.

Resident Engineer/Construction Inspector: Mark Hamblin/Barlow Taylor



2016 Forecasted Projects:

- ◆ *State Route 99/State Route 219 (Kiernan Avenue) Interchange*
- ◆ *Morgan Road Vehicle Maintenance Shop & Administrative Building Project*
- ◆ *RSTP Program J – Emerald Avenue, Baldwin Avenue, Sperry Road*
- ◆ *RSTP Program K – Claribel Road, Milnes Road, Faith Home Road*
- ◆ *Hatch Road @ Santa Fe Avenue Traffic Signals*
- ◆ *Woodward Reservoir – Muir Point and T-Island Campground Improvements*
- ◆ *Modesto Reservoir Marina – Fueling Facility Upgrade*
- ◆ *St. Francis Road over MID Canal Bridge Replacement*
- ◆ *Schiells Road Bridge over CCID Canal Bridge Replacement*
- ◆ *Tegner Road over TID Lateral #5 Bridge Replacement*

Geographic Information Systems (GIS)

2010



GIS Accomplishments:

- ◆ Updated our servers to VM Ware
- ◆ Obtained 2015 6" aerial
- ◆ Upgraded to JavaScript Viewer for the Internet
- ◆ Supporting City of Riverbank GIS program
- ◆ Using County Strategic Business Technology's (SBT) HelpDesk to track any GIS related inquiry
- ◆ Streamlined parcels update with the City of Modesto
- ◆ Added North County Corridor on-line on GIS website

2015



County Surveyor's Office

The County Surveyor's Office had a busy 2015. We've been revamping our focus on becoming a better resource for our in-house projects. With that in mind, we've been participating in construction staking and field topography surveys to include the following projects:

CONSTRUCTION STAKING:	TOPOGRAPHY:
Central-Taylor re-construction	McHenry Avenue
Pete Miller Bridge	Monte Vista\Lester
Claribel-Terminal signal	Keyes Road @ Hwy 99
Geer Road Bridge	Vivian\Grayson Roads
Hatch Road Channelization	
Claribel Widening monuments	
McHenry Bridge	

Additionally we continue to provide our review and checking services for records of survey, parcel maps, lot line adjustments, and corner records. We also process certificates of compliance, abandonments, and irrevocable offers of dedication.

2015 BY THE NUMBERS:

- 50 Records of Surveys checked
 - 9 Parcel Maps
- 43 Lot Line Adjustments
- 18 Irrevocable Offers of Dedication
 - 9 Certificates of Compliance
 - 2 Road Abandonments
- 73 Corner Records

One of the highlights for 2015 was the purchase of the new survey truck! (Photo on right).



We also updated the GIS Central website with the recorded maps and corner records and

provide monument preservation of the government corners and monument conservation as part of our roads projects. We continue to provide right-of-way and survey information for all other divisions within Public Works, other County departments, and the general public.

LOOKING AHEAD FOR 2016:

- ◆ Provide construction staking for the new Public Works Vehicle Maintenance Shop and Administration Building
- ◆ Research and purchase a survey grade drone (also known as an unmanned aerial vehicle)
- ◆ Continue with our mandated surveying indexing map checking and other assigned duties

State Legislators with Highway Users Tax Account (HUTA)

By Matt Machado, PE, LS, MBA – Public Works Director for Stanislaus County



Stanislaus County Public Works is responsible for the maintenance of more than 1,500 miles of roads and 230 bridges. Typical maintenance of our roadways include: shoulder maintenance, dirt road grading, pothole repair, crack sealing, resurfacing of pavements, and roadway rehabilitation or reconstruction. A proper maintenance schedule which would maintain the County's roads in good condition consists of:

- ◆ Asphalt overlay of 45 miles per year
- ◆ Chip resurfacing of 160 miles per year

During fiscal year 2014-2015, we were able to complete 11 miles of asphalt overlay and about 100 miles of chip resurfacing. This is far below meeting the basic needs of our transportation infrastructure.

The County's annual infrastructure maintenance needs fall short by \$14 million per year in a typical year such as fiscal year 2014-2015. Currently, Stanislaus County roads have a Pavement Condition Index (PCI) rating of 55, far below the State average of 66. This will continue to decline due to a lack of funding. **Currently, Stanislaus County has a backlog of deferred maintenance valued at \$73 million!**

Fiscal year 2015-2016 saw a dramatic 23% reduction of roadway maintenance funding. This loss of funding meant that we eliminated our chip resurfacing program, our urban slurry seal program, and two road maintenance positions. Fiscal year 2016-2017 appears to be even worse requiring even deeper cuts to our roadway maintenance program including the loss of four more staff positions. By the end of fiscal year 2016-2017, annual deferred maintenance will be nearly \$20 million. Stanislaus County roads are disintegrating before our very eyes due to the lack of action by our State legislature to resolve this ongoing funding catastrophe.



Roads and Bridges

With many successful projects completed in 2014 the Roads Division focused their attention on more routine maintenance for the spring of 2015. In comparison, the striping crew restriped a total of 742.2 total miles of roadway centerline/edge line in 2014. This year, our striping crew combined for a total of 878.25 miles of centerline/edge line in spring of 2015. In addition to the striping maintenance, the Traffic Crew also increased production in re-painting the roadway legends (stop, stop ahead, RxR crossings, and crosswalks). This year our traffic crew painted a total of 1,632 pavement legends, 1,076 of those were "Stop" legends. Also included



Blade Patching



within the traffic crew's responsibilities are traffic signs. In spring of 2015, 3,862 signs were replaced/installed. Of those 895 were custom made in-house. Additionally, 525 of the 3,862 were "street name" signs. With a continued effort being focused on budget savings, the sign shop personnel have entered into a partnership with "ZAP" sign refurbishing. This will provide the opportunity to have our used signs

recovered, then returned for restocking in inventory. The estimated cost savings is approximately 30% in comparison to purchasing new signs.



Rogers Road Bridge Scour



In preparation for our new Public Works facility to begin construction soon, our bridge/underground crew undertook a major installation of an under-

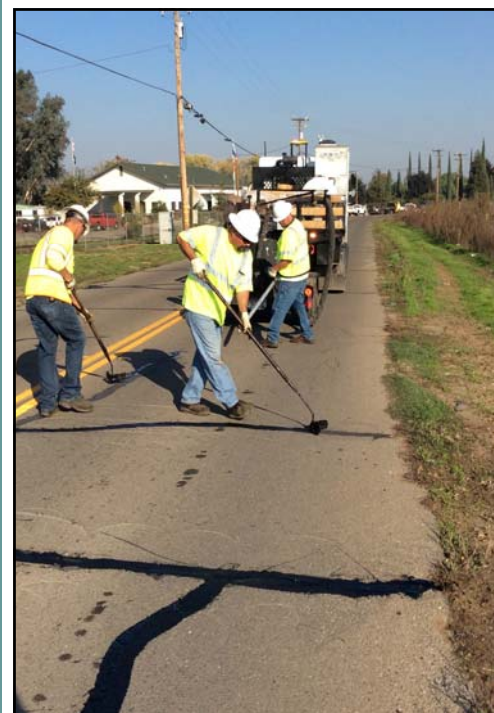
ground "horizontal drain." The 500' of 48" perforated pipe was installed at a depth of 9'. The trench however, was dug at a depth of 12'x 20' wide at a 2-1 slope. The 500' of pipe included 4 manhole risers and 2,800 tons of drain rock.

The bridge crew also addressed roadway flooding at various locations throughout the County. Some of the flooding locations included Morgan Road at the north end of our corporate yard. Covered horizontal drains were installed on the

west and east side of Morgan Road to prevent standing water on the newly reconstructed section. In the spring of 2015, a total of 700' of horizontal drains were installed.

Bridge repairs were also a large part of maintenance work for this crew including guard rail replacement due to accident/maintenance. A total of 468' of wooden guard rail and 440' of steel w-rail were replaced. The bridge crew also took an aggressive approach addressing the State Bridge Inspection reports. A dozen bridges were repaired and checked off the list. With a list of various repairs required, the beginning of "Methyl Methacrylate" treatment to the listed bridge decks began. The bridge crew treated five concrete decks in the spring of 2015. Other repairs/improvements included cleaning/excavating three bridge channels to ensure proper water flow and eliminate erosion. This also included pouring/pumping concrete floors under a bridge on Cooperstown Road over Dry Creek Tributary and the Shirley Creek Bridge on Dunton Road. A new method of erosion control was installed under Rogers Road Bridge which spans Del Puerto Creek. A product known as "Baselite," which is preformed concrete blocks anchored together with cabling was installed after grading was completed.

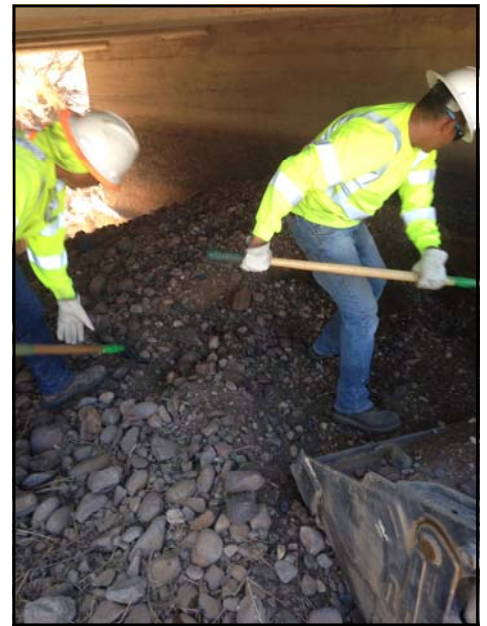
In addition to all of these accomplishments, the bridge crew developed a method of tracking storm drain maintenance to assist in improved drainage maintenance records. This will not only improve maintenance scheduling, but also incorporate the required tracking and inventory of



Crack-sealing

drainage structures to comply with current Water Board MS4 requirements.

With some of the roads in the County showing signs of deterioration, many of these are in relation to heavy truck traffic. Two of these were Koster Road and Gaffery Road. The recycling plants on Gaffery Road receive their product by trucks. By using an existing mitigation fund developed for these plants to assist in the maintenance of the roads that service them, the asphalt crew inquired as to the priorities



Dunton Road Bridge Scour Repair

Roads and Bridges (cont'd)

of these businesses. It was decided that the majority of attention needed to be directed to Koster Road with the remaining funds used on Gaffery Road. The asphalt crew reconstructed and widened Koster Road to match width with the existing portion entering San Joaquin County. In order to achieve the desired results, Koster Road required two leveling courses and geo-fabric with another finish lift. The result was terrific! This improved the ride-ability, drainage, and safety for trucks and automobiles. The section of Gaffery Road from Koster Road to a point east of the Delta Mendota Canal was also repaired and overlaid.

This same crew developed road shoulders eliminating dangerous drop-off's on 83.5 miles of roadway. Some of the road surface repairs were accomplished by using road graders to "blade patch" areas too large or labor intensive for hand patching (2 miles total). The asphalt crew's paving machine was also used on Monte Vista Avenue in preparation for future chip seal as well as Koster Road and Gaffery Road. Scheduling various types of road maintenance included pavement grinding of which 2.25 miles of roadways were milled. Crack seal was another area of concern to eliminate moisture from under the roads. The asphalt crew crack sealed 12.66 miles of roadway.



Koster Road / Gaffery Road before



Koster Road / Gaffery Road during and after



Monte Vista Avenue Paving



Morgan Road drain project



Gratton Road shoulder fill before and after

Potholes are the most obvious of all road issues to the public. They are also responsible for the majority of vehicle damage claims.

In the spring of 2015, the patch crew, which is also a part of the asphalt crew, distributed 2,840 tons of asphalt by hand.

Roads and Bridges (cont'd)

In 2015 we accomplished many endeavors and improved production in many areas. These are just a few of those improvements:

Roadway Striping	Increase of 136 miles
Traffic Signs Repaired	Increase of 782 signs
Shoulder Maintenance	Increase of 63.5 miles
Pavement Legends	Increase of 1046 legends

This year also brought many changes to Public Works. In the Roads and Bridges division, we saw six long time employees retire. As this was a challenge to replace the amount of experience lost, we feel confident in the employees who were promoted and new employees that were selected. Those who retired are Larry McCormick, Mike Tackett, Jeff Chilton, Roger Cole, Tim Morris, and John Ramazzina.

Among the new Road Maintenance Workers employees are Zachary Ramsdell, Garrett Anderson, Chad Anderson, Garrett Smith, Gus Farias, Ryan Downey, and Noe Valles.

Those who were promoted to Senior Road Maintenance Worker are:

- Eric Moore Traffic
- Bill Martins Bridge Maintenance
- Joe Duarte Bridge Maintenance, Street Sweeping, and Roadside Mowing
- James Sanchez Pothole Repair and Asphalt Maintenance

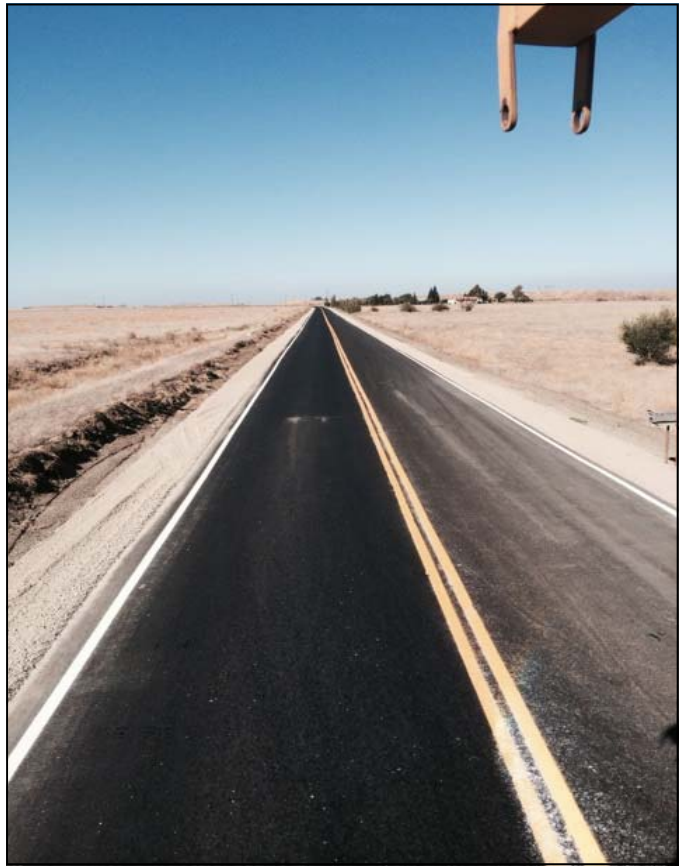


Garrett Anderson lives in Oakdale. He is 36 years old and is engaged to Alexandra Grass. They have two children; Grayson 2 years old and Brooklynn who is 7 years old. He loves fishing and anything outdoors.



Noe Valles lives in Modesto. He is 31 years old and has a daughter that is 3 years old that is his everything. Hobbies are playing and watching soccer.





Design Engineering



2015 Staff Updates



MEET SANG NGUYEN — I moved to California in 2012 and worked for the City of San Jose in the sanitary sewer department working on waste water capital improvement projects. Prior to that, I worked for consultants as a designer in Minnesota and Texas working on designing horizontal and vertical geometry for roadways and light rail, and developed plans and specifications for projects. In August 2015, I started working for the Stanislaus County as a Senior Engineering Technician in the Design Engineering division. I am responsible for developing and preparing plans and specifications for proposed projects, ensuring road improvements design meet County standards and regulations, and performing engineer estimates for projects.

I live in Elk Grove, and commute to Stanislaus County daily. I have a two year old son. I watch a lot of sports and like fishing. My teams are the Minnesota Vikings, Twins, and Timberwolves.

MEET NATE TUMMINELLO — I started my career in Fresno working for a consulting firm designing intersection improvements and traffic signals. In 2014, I began working for Calaveras County as a project manager overseeing various projects including bridge reconstruction and intersection improvements. In October 2015, I started working for Stanislaus County as an Associate Civil Engineer in the Design Engineering division.

I am happily married with a 1-1/2 year old daughter and live in the City of Riverbank. I enjoy snowboarding and watching a lot of sports. Go A's!





Milton Road Bridge

Stanislaus County Department of Public Works, with Federal Highway Administration funding, is planning to replace the existing Milton Road Bridge over the Rock Creek Tributary. The existing bridge built in 1918 was originally a 7 span, reinforced concrete, “T”-Beam bridge approximately 143 feet long by 18 feet wide. In 1968, both sides were widened to bring the bridge to its current width of approximately 34 feet. In 1990, supplemental concrete columns were added.

The bridge has many structural deficiencies including shallow deck spalls, wide soffit cracks on all spans, and exposed longitudinal reinforcement. The spread footing at both sides of all piers is heavily abraded with exposure and undermining. In addition, the structure is classified as scour critical.

In order to improve public safety, this project will replace the existing bridge with a new bridge. The new bridge will be placed upstream of the existing bridge to allow for construction to take place while both directions of traffic remain open. The existing bridge will be removed once construction of the new bridge is complete.

Stanislaus County has selected Quincy Engineering, a consulting firm, to assist with the design and environmental assessment, clearance, and permitting of the project. The County and consulting team are responsible for the design and compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

The project is being funded in part by the Federal Highway Bridge Program (HBP). The design and environmental clearance effort is anticipated to be completed by late summer 2017. Construction is anticipated to begin in the spring of 2018 and completed by fall of 2018.

Design Engineering (cont'd)



Existing Bridge Pier No. 6 prior to retrofit



Existing Bridge Pier No. 6 after the retrofit

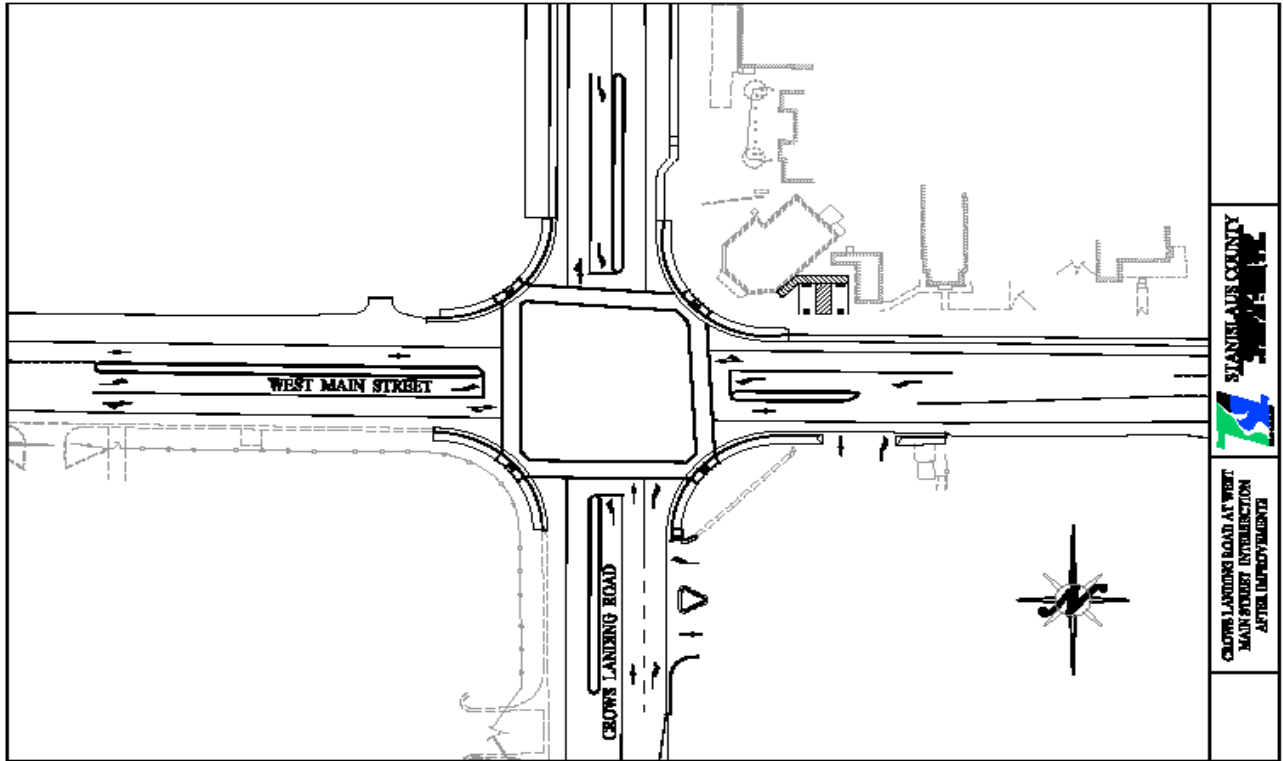


Geer Road Bridge over the Tuolumne River Seismic Retrofit

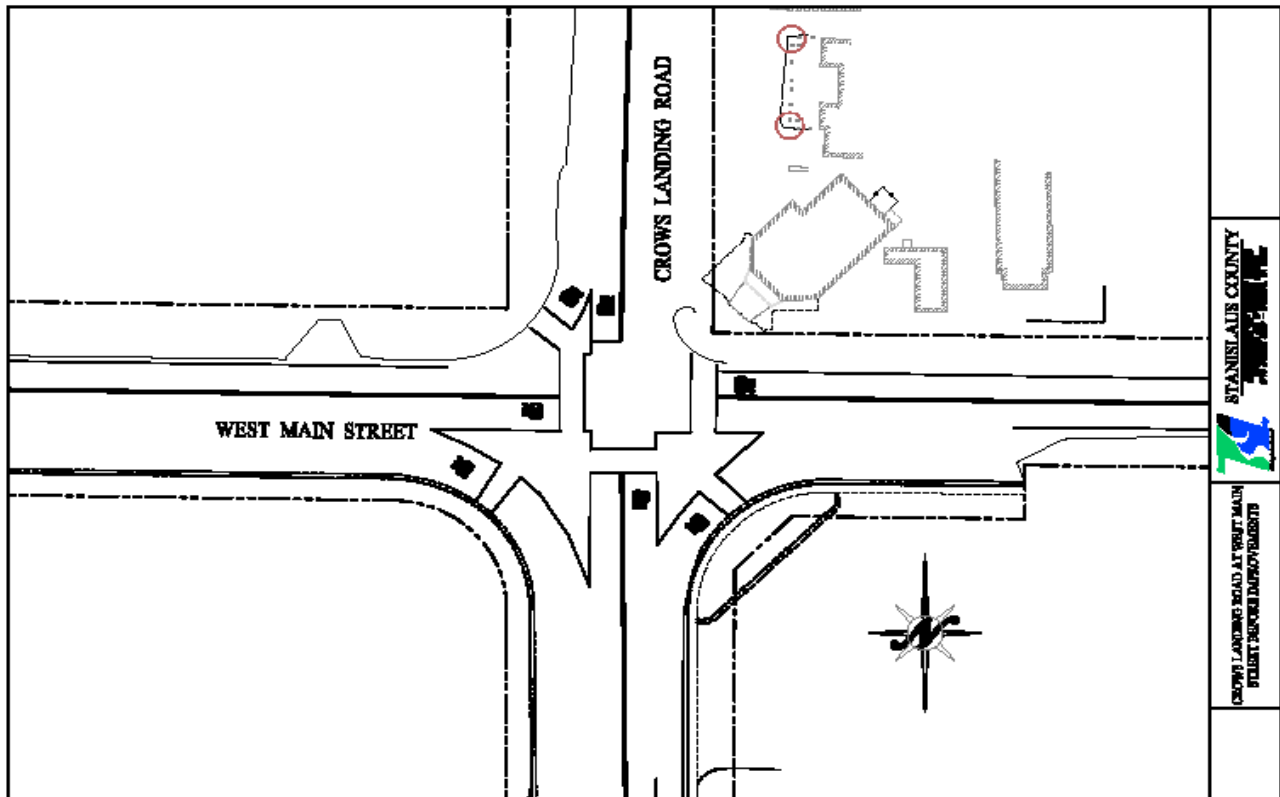
The purpose of the project is to improve the Geer Road Bridge to meet current seismic design standards. The project is needed because the existing bridge is deemed to be structurally deficient and seismically inadequate. The project consists of retrofitting two out of the six existing piers, abutment retrofits, and retrofit of two of the six hinges.

The construction window was very tight with this project due to many various environmental constraints such as the work windows for the Central Valley Flood Protection Board, National Marine Fisheries Service, swallow and Swainson Hawk nesting season, and walnut harvesting.

MCM Construction was selected to contract with the County to perform the work. They were able to work within all the environmental constraints and finish the project on schedule and within budget.



West Main intersection improvements—Before and after



Interlocking Concrete Pavement as an Alternative to Asphalt Concrete for Howard Road, Westley, California

*By Matt Machado, PE, LS, MBA – Public Works Director for Stanislaus County and
Ron Illium, PE – Regional Engineer for Basalite Concrete Products, LLC*

The implementation of interlocking concrete pavement in heavily loaded applications has gained significant popularity in recent years. From 1993 to 2008, the Port of Oakland completed eight berths with over 6.5 million square feet of concrete pavers for container handling and storage areas. In 2014 Stanislaus County used 170,000 square feet of interlocking concrete pavement to replace poorly performing asphalt on Howard Road in Westley, California. This article provides background to this solution which has broad appeal and decades of applications around the world. This is evidenced by over 3 billion square feet that are installed annually in Europe for pedestrian, municipal, industrial, and port applications.

Background

An early version of interlocking concrete pavement dates back to the Roman Empire when The Appian Way was built from stone paving on an aggregate base in 312 B.C. Used as a main route for military supplies, it connected Rome to Brindisi, Apulia, in southeast Italy. The road is 350 miles long about 20 feet wide and has held up for more than 2,000 years. The entire ancient Roman road system servicing their empire was longer than the interstate highway system in the United States.



The Appian Way is crowned in middle for storm water flow.

Pavement Characteristics

The interlocking concrete pavement system offers the advantages of the high compressive strength of concrete and the flexibility of asphalt pavement. The pavers are attractive and provide a traffic calming effect. Research in the United States and overseas has shown that the combined paver and sand layers stiffen or interlock as they are exposed to greater numbers of traffic loads. The resulting resilient modulus is equivalent to the same thickness of asphalt. In other words, the 3.125 inch (80mm) thick pavers and 1-inch thick bedding sand have an American Association of State Highway and Transportation Officials (AASHTO) layer coefficient equivalent to the same thickness of asphalt.



Main Street in historic downtown Ripon, California

Ripon Experience

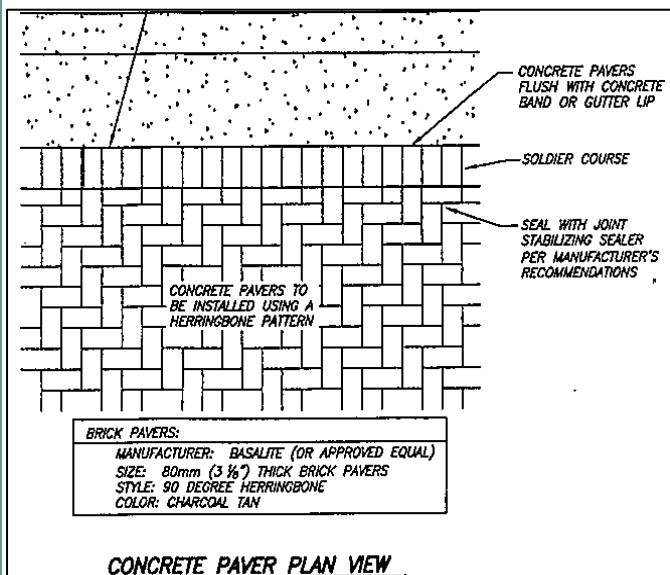
As City Engineer with the City of Ripon, Matt Machado developed interlocking concrete pavement as a roadway standard, adopted by City Council for all new roads and for some pavement rehabilitations. With the standard in place, the City constructed more than 1.3 million square feet between 2005 and 2008. This total included the high-profile Main Street in historic downtown Ripon with 50,000 square feet of interlocking concrete pavement.

Based on a life-cycle cost analysis, for Ripon, California streets, concrete pavers are approximately 75% of the cost of asphalt concrete over a 100-year period. Maintenance costs for concrete pavers for the same period are approximately 20% the cost of asphalt concrete.

Heavier loaded interlocking concrete pavement streets can have a lower life-cycle cost and shorter return on investment as maintenance is generally higher for roads paved with asphalt concrete.



Failed asphalt on Howard Road



Howard Road in Westley, California

Located in Westley, California at exit 441 on Interstate 5, Howard Road handles a tremendous amount of heavy truck traffic. The Stanislaus County Public Works Department was faced with the challenge of designing a long-term, economical pavement solution for the frontage road. Given that the asphalt pavement had failed, the Department looked at interlocking concrete pavers as the innovative solution.



The concrete pavers were machine set by Earth Shelter Developers.

In-House Design

Given design parameters of an R-value of <math><5</math> for the subgrade soils and a Traffic Index of 11, the Public Works staff designed the pavement section that called for the 80 millimeter thick concrete pavers in a herringbone laying pattern. The pavement section required 14 inches of compacted Caltrans Class 2 aggregate and a layer of biaxial geogrid installed over the compacted subgrade for additional structural support.

Construction

Stanislaus County received six bids ranging from \$4.50 to \$6.00/square feet to install the concrete pavers. Earth Shelter Developers was awarded the concrete paver installation. With businesses such as Denny's, Chevron, and Joe's Travel Plaza open 24 hours per day, an extensive traffic control plan was implemented



Businesses along Howard Road were open 24 hours per day during the construction.

allowing the contractor to maintain open drive aisles to accommodate the truck traffic during construction. The project went smoothly and was completed in fall 2014.

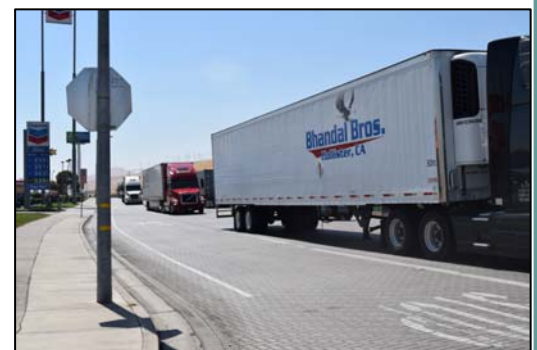
Follow Up Pavement Inspection

A follow up visit conducted by Stanislaus County in August 2015 showed that the concrete pavers are performing well, even with the extreme conditions in Westley, California. In the heat of the summer, it is not unusual for temperatures to reach 110° F, which can weaken asphalt concrete pavement. Truck traffic on the reconditioned road was non-stop during the site visit.

After finding success in Ripon in lighter load applications, interlocking concrete pavement presents a durable pavement rehabilitation project for Stanislaus County. The innovative pavement is cost-effective, attractive and can hold up to even the toughest loading conditions.



Typical traffic on Howard Road 24/7.



Transit

In 2015, the Public Works Transit Division completed a number of transit projects including successful implementation of service improvements throughout the service area. Service improvements and change approved by the County Board of Supervisors and implemented in August 2015 entailed adjusting running times on most fixed routes to address long waiting times for passengers. In addition, some fixed routes such as the Route 45-W was realigned to better serve residents of the cities of Newman, Patterson, and Gustine as well as the community of Crows Landing. Compared to Fiscal Year 2013-2014 where more than 384,000 passengers used transit services offered by the County; ridership increased by 3% in Fiscal Year 2014-2015 indicating a gain of more 30,480 passengers.

Use of the transit system increased in ridership on most with the most notables gains as follows: 14% increased ridership on Route 15; 3% increased ridership on route 40; 18% gain in ridership on the Route 45-East; and 7% rise in ridership on Route 45-West. Other high performing routes include a 4% gain in ridership on Route 60; an increase of 10% in ridership on Route 70; 13% increased usage of service on the Waterford/Modesto Runabout; and 3% ridership increase on the Newman Dial-A-Ride. Additional gains were also recorded on the Newman and Patterson Dial-A-Ride services.

Compared to Fiscal Year 2013-2014, StaRT operated over one million revenue miles, 60,412 revenue hours, and generated \$536,153 in passengers' fare revenue indicating an increase of \$21,845 in passenger fares collected for the period ending in June 2015 when compared to June 2014.

Here is a list of noteworthy accomplishments in 2015:

- Participated in more than 20 County-wide events to promote and market transit services provided by StaRT including attendance at the following:
 - Healthy Aging Summit
 - Rideshare Week Activities
 - Stanislaus County Probation Open House
 - Senior Awareness Day
 - Earth Day Festivities in the City of Modesto
 - Senior Events throughout the County
- Completed the Annual Transportation Development Act and the State Controllers Audits;
- Participated in the annual Unmet Transit Needs public meetings and hearings held by the Stanislaus Council of Governments in Patterson and Oakdale and attended meetings at Congregate meal sites;
- Installed 32 solar-powered lighting in selected bus shelters throughout the County (*pictured on right*);
- Completed and submitted grant applications and reports as well as the National Transit Database (NTD) Reporting to Federal and State agencies;
- Issued two Request for Proposals for the Marketing and Branding as well as the Data Management and Reporting projects;
- Awarded contract to Never Boring marketing firm to assist with efforts to rebrand and market StaRT's transit services;



Transit (cont'd)

- Received approval from Caltrans to amend existing Storer contract to include planned Americans with Disabilities Act (ADA) Complementary Paratransit service;
- Acquired new transit planning software program to assist with the County's service planning activities;
- Began working on service planning activities for new commuter service to the Dublin BART station;
- Implement Mystery Shopping program to improve on-time performance; and
- Began procurement of three fixed route buses and six paratransit buses as part of StaRT's Bus Replacement Program.



New fixed route bus at the New Flyer Manufacturing Plant in St. Cloud, Minnesota



Paratransit Bus Manufacturing Plants in Kansas and California

Goals for 2016:

1. Implement new commuter service from Stanislaus County to the Dublin BART station;
2. Implement the Data Management and Reporting software program to begin planning activities for proposed commuter service;
3. Complete phase three of solar-powered lighting installation;
4. Continue service improvements throughout the service area;
5. Begin marketing and outreach efforts to brand the County transit system; and
6. Implement new ADA complementary paratransit service.

Morgan Shop

Morgan Shop is an Internal Service Fund (ISF) whose primary function is to provide maintenance and repair services to a large variety of equipment and vehicles operated by the Road and Bridge Division. Morgan Shop also supplies technical and mechanical services to other County departments and municipalities.



Mission Statement

We will provide prompt quality maintenance and repair of our County customers' equipment to keep them running efficiently. We will provide useful equipment for our customers to do their jobs effectively.



Top row: Olivia Tanner-Staff Services Analyst
Bottom row from left to right: Tate Hoffman-Manager III, Rick McElligott-Heavy Equipment Mechanic (HEM), Roger Nelson-HEM, Phil Harley-Lead HEM, Eddie Soares-HEM, Dave Stacy-HEM, and Brett Ernest-HEM

Some of What We Do:

- Vehicle and equipment maintenance
- Vehicle and equipment repairs
- Safety checks
- Vehicle procurement
- Yard maintenance and repair
- Compressed natural gas station training
- Maintenance of building keys, gate cards, and vehicle and equipment keys
- Compliance for Environmental Protection Agency, San Joaquin Valley Air Pollution District, State Board of Equalization, and Internal Revenue Service
- Provide compressed natural gas, biodiesel, diesel, and unleaded fuel to County departments
- Fuel station maintenance and repair
- Currently, Morgan Shop consists of five Heavy Equipment Mechanics, one Lead Heavy Equipment Mechanic, one Staff Services Analyst, and one Manager III.



Morgan Shop (cont'd)



Morgan Shop Manager III,
Tate Hoffman

Morgan Shop owns and maintains a multiplex fueling station, which includes diesel fuel #2, biodiesel 20% blend, unleaded and compressed natural gas.

In 2014 and 2015, Morgan Shop installed an electrical docking station for three electric vehicles.



Converted Crown Victoria



2015 Prius Hybrid Electrical Car



2015 Self-Propelled Broom



Electrical Docking Station

In 2015 Morgan Shop issued:
172,347 gallons of unleaded
1,486 gallons of diesel
55,072 gallons of biodiesel
207,115 gallons of compressed natural gas fuel

New equipment that was added to the fleet in 2015 included:

- Three standard cab pickups
- One grader
- One 10 ton steel drum-roller
- One self-propelled broom
- One hybrid electrical car
- One tilt bed equipment trailer
- One street sweeper



2015 Motor Grader



2015 Steel Ton Roller

Large Projects Completed in 2015 by Morgan Shop Included:

- Relocated tools, vacated the welding and fabrication part of the Shop, and disconnected the electricity, water, and gas to that part of the building in preparation for demolition to create room for the new Shop
- Repurposed one trailer to haul Class 3 barricades
- Fabricated spray bar for the bitsy pot
- Rebuilt the second compressed natural gas (CNG) compressor for the fuel station
- Fabricated removable mower skids and chemical spray skids for easy transport between equipment
- Surplused and delivered eight CNG pickups and one CNG car whose tanks were expired, one shoulder machine that was no longer functional for the Department, and one flat bed truck whose transmission was non-repairable to auction
- Repaired and replaced tires in house instead of sending them out to vendors to decrease Shop expenses
- Converted one new F250 truck for survey crew to improve performance with their daily tasks
- Converted three Crown Victoria's that were no longer functional for the Sheriff's department to one cone vehicle, one flag vehicle, and one pool vehicle that benefited the Public Works department.
- Completed 2,152 repair work orders during 2015 (20% increase from 2014)



Chemical Spray Skid



Portable Wheel Lifts



Mower Skids

Out with the Old, In with the New

Morgan Shop has been working to reduce the size of the current Shop in preparation of the construction of the new Shop since 2013. This has created tight work spaces for mechanics to perform their tasks. In 2014, the Shop converted the stationary lift rack into an outdoor steam rack removing it from the Shop. The stationary lift rack limited the mechanics to the types of tasks that could be completed in two work bays. In 2015, Morgan Shop purchased portable wheel lifts. The portable wheel lifts improved the function and efficiency of Morgan Shop by allowing the heavy duty mechanics to perform a wide variety of tasks in any work bay and created more functional work space in a constrained sized Shop.

Morgan Shop (cont'd)

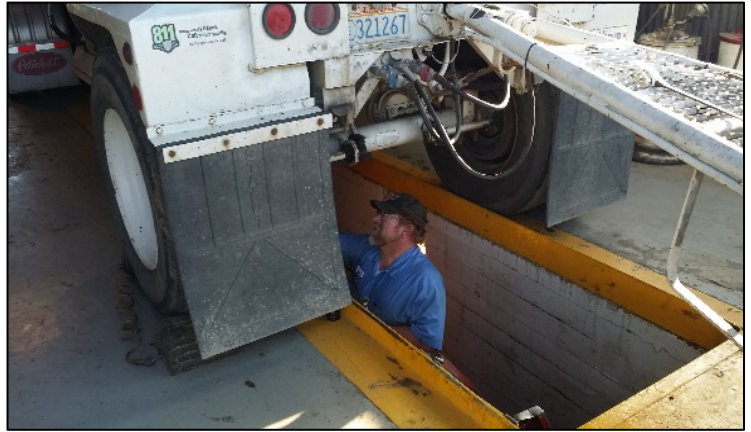
Preventative Maintenance

Morgan Shop is not just about equipment repair. One of our main functions is to perform preventative maintenance on equipment for Public Works and other departments. This involves safety checks and bit inspections. The tasks include checking tires, brakes, hoses, engines, lights, and fluids and replacing them if they are low or damaged. These types of work orders are entered as lube work orders.

In 2015, Morgan Shop completed 523 lube work orders. We also have a mobile lube truck that performs preventative maintenance on equipment housed throughout Stanislaus County. The Shop has one mechanic and one work bay dedicated to such work orders. This bay is called the lube bay. Preventative maintenance ensures that some equipment does not break down unexpectedly and safety for the drivers. It also reduces future costly repairs. The Shop's preventative maintenance schedules run hourly, monthly, and sometimes yearly depending upon the type of equipment and how often it is used.



Lube Bay



Dave Stacy, Lube Bay



Downsized Shop



Dave Stacy performing preventative maintenance

“Our experience working with Morgan Shop employees is a great one every time. Any of our needs are always met and completed within a timeline manner. The communication with the Shop employees is awesome and appreciated. Thanks Morgan Shop folks for making doing business with y’all awesome!!”

**Cheryl Jackson, Manager, Woodward Reservoir
Stanislaus County Parks Department**



Phil Harley charging parts to a work order



Robert Sinner, Alliance Worknet

“The Heavy Equipment Shop at Morgan Road has been a great team to work with. They do an excellent job of tracking all of our services and notifying us when a particular piece of equipment is due for service. Tate, Phil, Olivia, Dave and all of the staff there are always very accommodating, and on more than one occasion have stopped what they were working on to see that our equipment needs are addressed. Thank you!”

**James Pursley, Manager I,
Stanislaus County Parks and Recreation Department**



Andrey Malygin, Alliance Worknet



Morgan Shop continued to partner with Alliance Worknet in the year 2015 by utilizing their jobseekers in vehicle cleanliness and low level maintenance. Some honorable mentions include: Robert Sinner, Donovan Acevez, Mathew Anderson, Paul Carranco, and Andrey Malygin.

Thank you for your assistance!

Morgan Shop (cont'd)



2001 Striper

Morgan Shop's main focus for 2016 will be providing assistance in the preparation and construction of the new Shop.

Tate Hoffman, Fleet Manager

"The Morgan Shop has provided great service for the Sheriff's Department Mobile Command Unit. They have always been able to notify me in plenty of time so I can bring the vehicle in for service. They have always completed the repairs or maintenance very quickly, and if not able to do the work referred us out to a local vendor who was able to do the repair."

**Doug Ferguson, Deputy,
Sheriff's Mobile Command Unit**

"We here at the support services Sheriff's Kitchen have had a great and wonderful experience with Morgan Shop. The crew there are outstanding.

They always work around our needs and with great speed. I would like to thank each and everyone there..."

Cris McNally, Sheriff's Kitchen



Phil Harley with Peter Song



Tate Hoffman with Ed Northard, Park Maintenance Worker, and Russell West, Supervisor, Parks

Morgan Shop's Projects for 2016:

- Purchase a new striper truck
- Assistance with the construction of the new Shop
- Removal of designated buildings at the Morgan Road location and part of current Shop in preparation of the construction of the new Shop
- Research and apply for local Air Board grants assisting with the purchase of alternative fuel vehicles, alternative fuel infrastructure improvements, and additional training of mechanics in alternative fuel vehicle and infrastructure repair
- Research new revenue sources
- Enhance the analysis of reports involving the distribution of unleaded fuel
- Research the expansion of Morgan Shop's repair and maintenance services to other departments and local jurisdictions

And the Survey Said:

When asked what they looked forward to with the construction of the new facility, Morgan Shop employees answered:

"Cleaner environment." Brett Ernest, Heavy Equipment Mechanic

"Organization." Phil Harley, Lead Heavy Equipment Mechanic

"County progression in goals and tasks with change." Eddie Soares, Heavy Equipment Mechanic

"I look forward to the security and efficiency of the new building." Tate Hoffman, Fleet Manager III

"Modernization and improved quality with newer technology." Olivia Tanner, Staff Services Analyst

"Updated, modern conveniences for mechanics. Also, a safer environment, and higher outgoing productivity." Rick McElligott, Heavy Equipment Mechanic

When asked a few words to sum up 2015 or words to remember 2015 by, Morgan Shop employees answered:

"2015 was the year for Public Works to move to the future with new employees, some new equipment, and plans put into motion for a new shop." Tate Hoffman, Fleet Manager III

"Keeping busy." Dave Stacy, Heavy Equipment Mechanic

"Let's get it done." Brett Ernest, Heavy Equipment Mechanic

"Banga! It was a pleasure working with others accomplishing goals and tasks with change." Eddie Soares, Heavy Equipment Mechanic

"Numbers, numbers, numbers." Phil Harley, Lead Heavy Equipment Mechanic

"Exuberant amount of change." Olivia Tanner, Staff Services Analyst

"Finally, receiving a new sweeper." Rick McElligott, Heavy Equipment Mechanic



Scott Pendleton, Roads Lead Worker with David Stacy



Roger Nelson working on reluctor wheel of a pickup truck



Eddie Soares moving from one bay to another



Tate Hoffman, Fleet Manager at work



Olivia Tanner at your service

Safety Meetings



California Highway Patrol Officer Greg Scott and Aron Harris before the “Commercial Industry Education Program—Basic Safety Presentation”



In the Community...



The Roads crew took to cleaning up the Tuolumne River Bridge area. Check out this before and after!
Great job, Roads crew!




Charity / Events...



Bring your Child to Work Day!



Cultural Awareness Week Potluck celebrating our diversity with ethnic foods



United Way

This year Public Works employees donated \$1,774 to the United Way Campaign! Way to go!



Judy Lindsay Retirement



Snuggles Project is to sew, crochet, and knit comfort blankets for shelter animals at the Thomas W. Mayfield Animal Services Center



Modesto Nuts' mascot Wally Walnut stopped by to promote Stanislaus County Night on 8-21-15



Public Works 2015 Holiday Project selected the Modesto Gospel Mission to donate barrels of food, clothing, toys, and games for the needy

Public Works Week



Artist, Christiane Beauregard

Public Works had two volunteers in 2015. They are Ross Campbell and Sandra Paz.

Lastly, service certificates were handed out to the employees listed below:

10 years: April Henderson-Potter, Sylvia Jones, and Bill Martins

15 years: Sharon Andrews, Charles Carpenter, Angie Halverson, Jason McCormick, and Norma Williams

20 years: Paul Saini

25 years: John Fitzpatrick and Steve Song

Thank you for your service!

Since 1960, American Public Works Association (APWA) has sponsored National Public Works Week. APWA chose '**Community Begins Here**' as the 2015 theme because "there would be no community to police and protect, no public to lead or represent. Public Works allows the world as we know it to be. The 2015 National Public Works Week theme '**Community Begins Here,**' speaks to the essential nature of Public Works services in support of everyday quality of life."

Our Board of Supervisors proclaimed the week of May 17th as Stanislaus County Public Works Week, which was celebrated with an Employee Appreciation Luncheon.



Employee Appreciation Luncheon



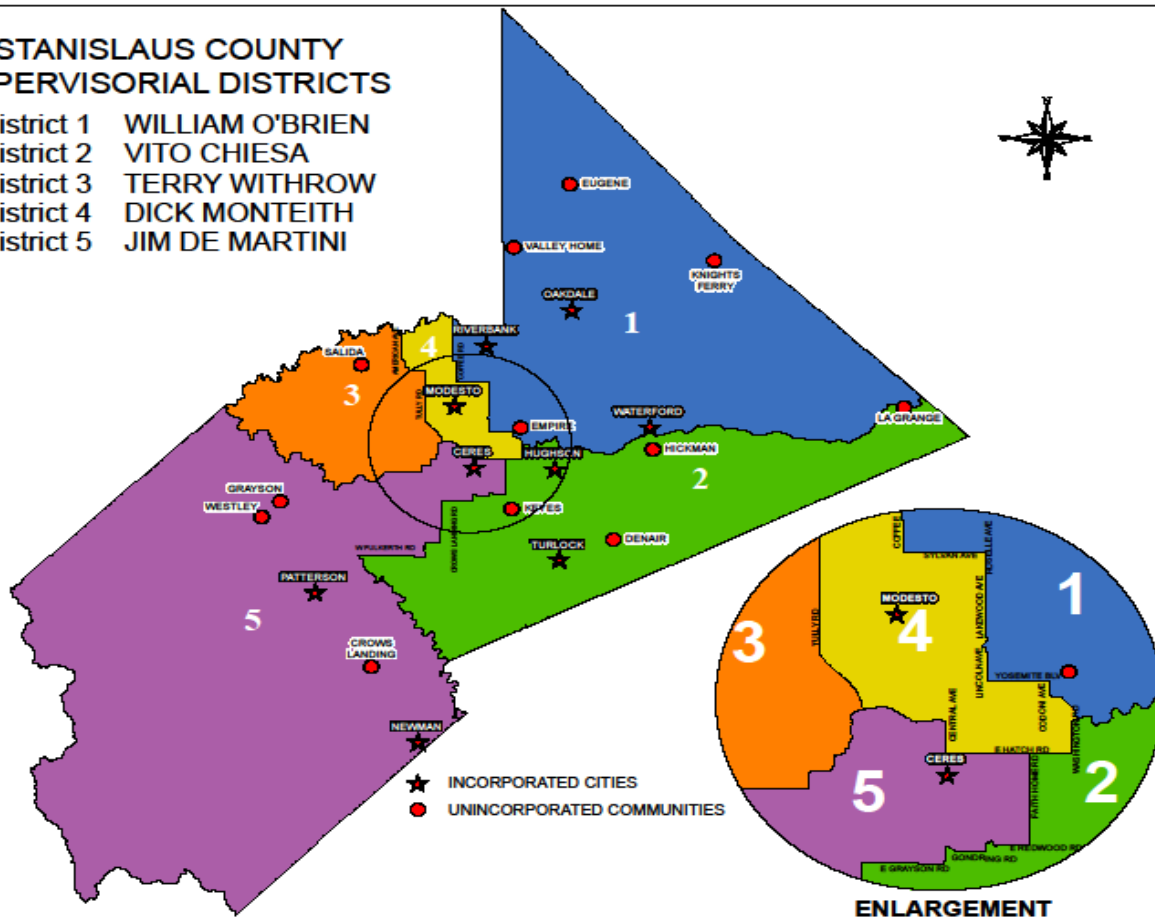
Board of Supervisors



Vito Chiesa, Chairman Terry Withrow, Jim DeMartini, William O'Brien, and Vice Chairman Dick Monteith (pictured from left to right)

STANISLAUS COUNTY SUPERVISORIAL DISTRICTS

- District 1 WILLIAM O'BRIEN
- District 2 VITO CHIESA
- District 3 TERRY WITHROW
- District 4 DICK MONTEITH
- District 5 JIM DE MARTINI



Contact



[www.stancounty.com/
publicworks](http://www.stancounty.com/publicworks)



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- Administration / Finance
- Construction Engineering
- County Surveyor's Office
- Design & Traffic Engineering
- Geographic Information System
- Morgan Shop
- Roads & Bridges



1010 10th Street, Suite 4204

Modesto, CA 95354

(209) 525-4130

(209) 525-6507 Fax

(209) 525-4332 Fax for Transit

- Development Services
- Encroachment Permits
- Transportation Permits

**You may also contact us by submitting your
questions or concerns online at:**

www.stancounty.com/customercenter

or

Stanislaus County's assistance hotline at

1 (877) 2ASSIST / 1 (877) 227-7478