SHOPP Asset Management Pilot Request Form

SHOPPCPR: Ver 3 11/14

Submittal Date 08/14/2015

Caltrans

Division of Transportation Programming
State Highway Operation and Protection Program (SHOPP)

Project Manager: Curt Hatton

Phone: (559) 243-3445

Dist	County	Route	Prefix	PM	Prefix	PM	EA	PPNO	Project ID
06	Tulare	216				1	TBD	TBD	TBD

☒ Includes Multiple Locations (Complete Page 2 of this Form)

MPO: TCAG

Project Location/Description (Include the nearest city, town or landmark)

In the City of Visalia at State Route 198/State Route 216 (Lovers Lane).

Need for project and proposed improvements (Elaborate using PID language)

The purpose of this project is to improve operational efficiency and safety on SR 216 (Lovers Lane) and SR 198 on and off ramps. The existing deficiencies include excessive queuing and spillback caused from inadequate spacing and volume capacity; ineffective signal coordination; and limited access supporting cross freeway circulation making this a heavily concentrated area. The project proposes to preserve pavement along SR 216 from Mineral King Avenue to Houston Avenue and operational improvements at the connecting intersections. Operational improvements include relocating sidewalks behind curtain walls of existing bridge; removing raised curb median; adding dual left-turn lanes and dedicated right turn lanes; and adding Maintenance Vehicle Pullouts, gore paving, bike lanes, ADA curb ramps, and vegetation control along SR 216 and SR 198 on and off ramps. This project will address the existing traffic congestion, "Complete Streets," ADA access, roadside safety, signage and pavement preservation.

PA&ED / M200	12/01/2016	R/W Cert / M410	02/01/2019	CCA / M600	05/01/2020
PS&E / M380	10/01/2018	RTL / M460	02/01/2019	END Project / M800	07/03/2023

Capital ($1,000)
(Escalated to FY of Programming)

	FY	Cost
R/W	2018/19	$580
Construction	2018/19	$8,550
	Total Capital	$9,130

Support ($1,000)

	FY	Cost
PA & ED	2018/19	$659
PS & E	2018/19	$1,751
R/W	2018/19	$278
Construction	2018/19	$1,573
	Total Support	$4,261

Legislative District Numbers
(Separate multiple Districts with a comma)

State Assembly	26
State Senate	16
Congressional	22

☐ Approved ☐ Denied

CAPITAL CONSTRUCTION COST ESCALATION RATE: 3%

District SFP (Print)	Samer Shaath	District SFP (Sign)	Samer Shaath	Phone	(559) 243-3421
District Director (Print)	Sharri Bender Ehlert	District Director (Sign)	[illegible]	Phone	(559) 488-4057
SHOPP Exec. (Print)	Marco Sanchez	SHOPP Exec. (Sign)	Frank Cosg for MS	Phone	(559) 444-2559

SHOPP Long Lead Request Form Attachment

06 -	Tulare	- 216
EA: TBD	PPNO: TBD	
EFIS: TBD		

Multiple Locations Listing

Location	Perf Measure #	Performance Measure	County	Route	Prefix	PM	Prefix	PM	Bridge Number If Applicable
1			Tulare	198	R	10.5	R	12	46-0216
2									
3									
4									
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Asset Management Pilot Project Nomination

Lovers Lane Operational Improvements

TUL – 216 – 0.0/1.0
TUL – 198 – R10.5/R12.0

August 14, 2015

This pilot project proposes the use of asset management principles to address the overall transportation needs of a major transportation project on State Routes (SR) 198 and 216 in Tulare County from post-miles R10.5/R12.0 and 0.0/1.0 respectively (See Attachment #1). This pilot project will quantify the operational improvements, safety, and rehabilitation needs and will propose the corresponding programming for each need. This pilot project is proposed to be a partnership between the Tulare County Association of Governments (TCAG) and Caltrans.

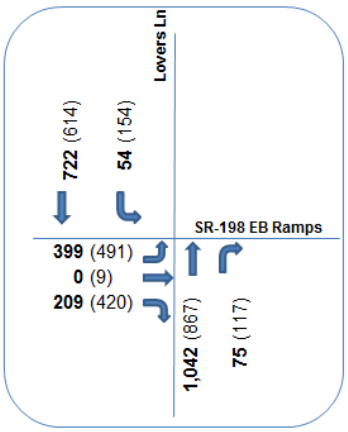
Project Background

Lovers Lane serves as State Route (SR) 216 from the eastbound off ramp of SR 198 through Houston Avenue. It is a four-lane divided arterial with a raised median. The interchange consists of tight diamond (Type L-1) for the eastbound ramps and hook ramps (Type L-6) for the westbound movements. Along Lovers Lane the land use north of Mineral King is residential, immediately south of Noble Avenue it is commercial. There are sidewalks on both sides of Lovers Lane through the interchange. The major deficiencies at these locations include short spacing which causes spillback and long queues.

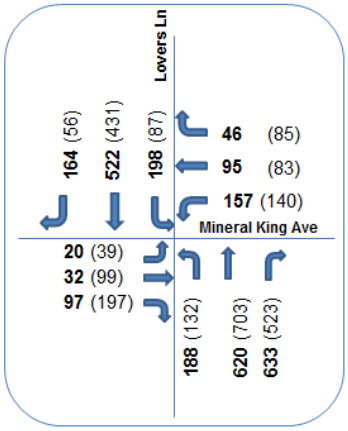
This project proposes to make operational improvements at four intersections and preserve pavement along SR 216 from Mineral King Avenue to Houston Avenue. Operational Improvements include relocating sidewalks behind curtain walls of existing bridge; removing raised curb median; adding dual left-turn lanes and dedicated right turn lanes; and adding Maintenance Vehicle Pullouts, gore paving, bike lanes, ADA curb ramps, and vegetation control along SR 216 and SR 198 on and off ramps. This project will address the existing traffic congestion, “Complete Streets,” ADA access, roadside safety, signage and pavement preservation.

Safety

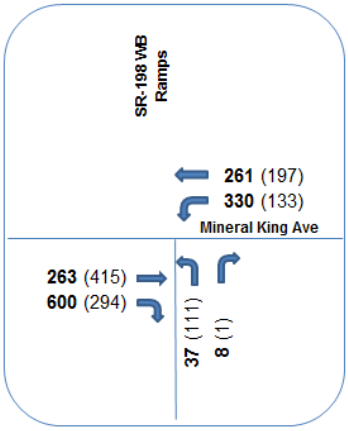
The existing conditions analysis included collection of existing actuated signal timing, vehicle turn counts, pedestrian counts, queue length observations, large truck estimates, origin-destination analysis and general observations. Traffic data was collected between 7:00 AM and 9:00 AM, and 4:00 PM and 6:00 PM. Schools were in session. The following Figure illustrates the existing AM and PM peak hour intersections traffic volumes.



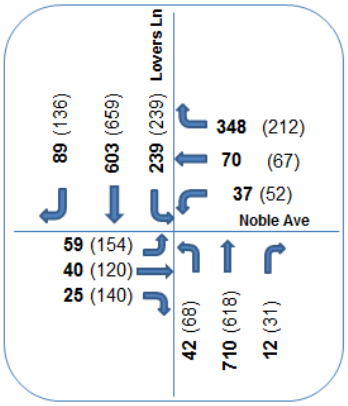
2 Lovers Ln/SR-198 EB Ramps



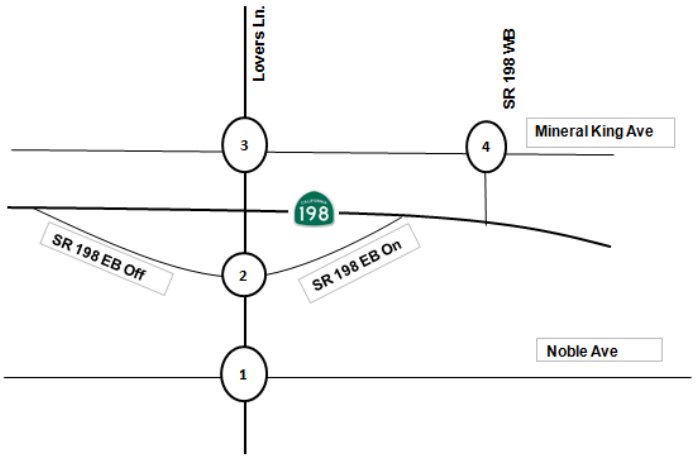
3 Lovers Ln/Mineral King Ave



4 SR-198 WB Ramps/Mineral



1 Lovers Ln/Noble Ave



Automobile safety improvement elements include adding continuous shoulders on both sides of Lovers Lane and restripe Lovers Lane; new left turn channelization at Mineral King westbound to SR198 westbound onramp; additional left turn lanes at Lovers Lane southbound to Mineral King Avenue and Noble Avenue and Lovers Lane northbound to Noble Avenue; and new crash cushions on both directions of Lovers Lane at existing curtain walls (Br No. 46-0216).

Other modal safety improvements include adding new bike lanes along the three intersections on Lovers Lane; improved safety of pedestrians by moving sidewalks behind curtain walls on both sides of Lovers Lane (See Attachment #3); crosswalks in the intersections of Lovers Lane and Mineral King Avenue, Noble Avenue and SR 198 eastbound Ramps; and upgrading existing transit facilities. These are not only safety elements, but they also maximize active transportation access on facilities to encourage use.

Various roadside safety elements will be added that promote worker safety. CAPM surface treatment on Lovers Lane (SR 216) from Mineral King Avenue to Houston Avenue will help prevent further deterioration, and excessive costs that could be associated with severe deterioration, of the pavement and reduce exposure of maintenance personnel. At Lovers Lane UC, it is proposed to move the two existing sidewalks behind the curtain walls and add retaining walls with slope paving

which helps with maintenance and pedestrian exposure. Adding Maintenance Vehicle Pullouts near the ramps and controller cabinets will minimize the frequency and duration of worker exposure to daytime traffic. Gore paving and vegetation control will also be added for weed and litter control that are not easily accessible to maintenance personnel.

Stewardship and Efficiency Needs

The following SHOPP related needs exist within the project limits of Tul-216-0.0/1.0 and Tul-0198-R10.5/R12.0:

The existing pavement condition on SR 216 (Lovers Lane) from Mineral King Avenue to Houston Avenue ranges from fair to poor and triggers for a Capital Maintenance (CAPM) strategy. By providing a CAPM strategy while the pavement is still in fair condition, the life of the existing pavement will be extended approximately 10 years. Additionally, dedicated bike lanes are not continuous within these limits. Bike lanes will be added to provide continuity with Houston Avenue (which has existing bike lanes) along with a bicycle detection system at Millcreek Parkway and Douglas Avenue using the "Context Sensitive Solutions" approach.

Operational improvements will occur at 4 intersections and the immediate streets connecting (Noble/Lovers Lane, SR 198 eastbound ramps, Mineral King Avenue/Lovers Lane, and SR 198 westbound ramp). Insufficient storage length, unchannelized left-turn movements, and close intersection spacing are issues contributing to spillback and long queues. No local road under or overcrossings to support cross freeway circulation exists which concentrates cross freeway traffic on Lovers Lane and Mineral King Avenue. The improvements include relocating sidewalk behind curtain wall of bridge, adding retaining wall and slope paving to allow for sidewalk, remove existing raised median to allow for left-turn channelization and dedicated right turns along with restriping the project area.

Three of the four intersections currently have existing signals. There are a total of 10 signals that will be affected and will be determined at the design phase on their existing condition and if upgrades or replacements are needed. Upgraded signals will be more energy efficient and reduce electrical usage. Signage on the project will be upgraded to new reflectivity standards which could lead to reduced electrical usage because some sign lighting will be reduced/removed.

Due to left-turn channelization being added as well as the overlay, vehicle loop detectors will need to be replaced or added. Curb ramps will also be upgraded to meet ADA compliance along with making the necessary electrical modifications for pedestrian signalization.

Currently, there is not a dedicated space for maintenance vehicles to park along side of the SR 198 on and off-ramps. Four maintenance vehicle pullouts have been added for reduced risk to exposure.

Asset	Total Quantity	Pre-Project Condition				Post- Project Condition		
		Good	Fair	Poor		Good	Fair	Poor
Pavement	4 lane miles	0	4			4	0	0
Existing Sidewalk	160 LF	160	0	0		0	0	0
Sidewalk	160 LF	0	0	0		160	0	0
Existing Raised Median	0.1 lane mile	0	0.1	0		0	0	0
Left-Turn Channelization	0.1 lane mile	0	0	0		0.1	0	0
Dedicated Right Turn Lane	0.2 lane mile	0	0	0		0.2	0	0
Existing Traffic Signals	10 Each	0	10	0		10	0	0
Existing Loop Detectors	31 Each	0	31	0		31	0	0
ADA Curb Ramps	12 Each	0	12	0		12	0	0
Maintenance Vehicle Pullouts	4 Each	0	0	0		4	0	0

Item (Program)	Performance Measures	Description of Work	Cost
Pavement Rehab (121)	4 lane-miles of distressed pavement	Costs include: cold plane removal of existing friction course, overlaying existing two lanes, shoulder, bike lane, and traffic control.	$1,000,000
Operational Improvements (310)	Vehicle Hours/Day of Delay Reduced	Cost include: relocating sidewalks, adding bike lanes, transit facility upgrades, removing raised median, adding turn lanes, striping and traffic control.	$7,050,000
Signs & Lighting Rehab (170)	9 Lights	Costs include: sign structures, sign panels, removal of existing signs, electrical work associated with signs and traffic control.	$900,000
Loop Detectors (315)	31 traffic loops	Cost include: Installation of 8 new traffic sensing loops and 23 traffic sensing loops will be replaced in kind.	$150,000
Roadside Safety Improvements (235)	4 MVPs	Costs include: base, paving and traffic control.	$200,000
ADA Curb Ramps (263)	12 ADA Curb Ramps	Costs include: sign structures, sign panels, removal of existing signs, electrical work associated with signs, maintenance vehicle pullouts and traffic control.	$200,000
		Total	**$9,500,000**

Sustainability, Livability and Economy

SR 198 is the primary commuter route linking the cities of Coalinga, Huron, Lemoore, Hanford and Visalia and serves commercial, agricultural and recreational traffic along the corridor. Visalia is the oldest town in the San Joaquin Valley between Los Angeles and French Camp. Visalia is the largest City in Tulare County, with a population over 125,000. The four main streams, Four Creeks, that run through the city was significant to settlers. The major streams are the St. John's River, which begins at the diversion dam in the Kaweah River and is largely seasonal; Mill Creek; Cameron Creek and Packwood Creek. These creeks and the resulting watershed contributes to the magnificent oak forest that marks the community. Visalia serves as the economic and governmental center to one of the most productive single agricultural counties in the country. Visalia is a rich and vibrant community that fosters and retains the small town feel and promotes a high quality of life for its residents. The project location itself is surrounded by residential, commercial, educational and agricultural areas. To the north of the project area contains an educational compound with an adult school, high school, middle school and elementary school. There is also another elementary school to the southeast of the project location. This project will uphold and protect the community's sustainability by improving livability, safety, mobility and accessibility. It will also enhance the community's economic vitality through construction of a better integrated transportation system.

This project proposes to increase multimodal modes of transportation, using the complete streets method per Caltrans Deputy Directive DD-64-R2, including transit, bicycle and pedestrian or upgrades in balance with community goals, plans and values. Deputy Directive DD-64-R2 states "The California Department of Transportation views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system." Bike lanes will be included throughout the entirety of the project to provide continuity with existing bike lanes. Sidewalks, transit facility bus bay upgrades and ADA compliant ramps will also be included in the project design in order to provide safe mobility for all users and comply with this directive.

Air quality is expected to improve over the existing conditions with the construction of the proposed project. Long term greenhouse gas emissions are expected to be reduced through improved Traffic Operational Strategies by increasing the volume capacity and reducing delay time, spillback and queueing.

This project proposes widening the ramp shoulders and will not be impacting previously undisturbed areas outside of the existing roadway prism. By widening the shoulder fully developed vegetated slopes can remain unaffected, promoting erosion control and leaving intact the visual screening benefits of existing vegetation.

The existing friction course will be cold planed from the existing roadway and will be evaluated to whether it can be recycled in the structural section of the rehabbed highway.

Vegetation control treatment will be added to areas with existing irrigation to not add to water usage to minimize invasive species. Drought resistant native plants will also be taken into consideration for planting in the proposed areas.

At the southeast corner of Lovers Lane and Mineral King resides a water preservation well. There will be no disturbance to the well.

There are no sound mitigation requirements on this project.

System Performance

SR 198 eastbound Ramps at Lovers Lane (SR 216) has an overall intersection level of service D. The northbound through movement is LOS "F" due to long queue, delay time and Volume/Capacity ratio (0.81) mainly caused by close spacing with downstream intersection. Queue observed on eastbound left-turn movements due to spillback and overflow volumes from adjacent permitted left-turn lane. Queues observed on southbound left-turn movement with LOS "E" due to insufficient storage length and close spacing with the downstream signalized intersection. The southbound through movement is level of service D with long queue due to insufficient storage length for the left-turn movement. Queues observed on westbound left-turn movement with level of service E caused by permitted signal phase.

At Noble Avenue and Lovers Lane, excessive queuing is the dominant problem. The westbound right turn movement experienced significant delay and drivers waiting through multiple signal cycles. The observed queue extends 800-1200 feet during peak hours.

Mineral King Avenue and Lovers Lane has southbound through movement LOS "D" with long queue due to insufficient storage length for the left-turn movement. Queues observed on the westbound left-turn movement with LOS "E" was caused by permitted signal phase.

The SR 198 westbound Ramps at Mineral King Avenue includes an unsignalized "T" intersection with stop-sign control on the northbound movement. Long travel time was observed for the northbound left movement due to free control on the east-west direction of Mineral King Avenue and for the westbound through movement due to unchannelized left turn movement. The Intersection Capacity Utilization (ICU) level of service is "F."

Widening the roadway under the SR 198 overcrossing will allow for additional space for capacity increasing measures on Lovers Lane. This will allow increased widening on Lovers Lane for left-turn channelization and dedicated right turn lanes while pedestrians have full use on both sides of the facilities. If the improvements are not made, the LOS in these intersections will continue to deteriorate.

The existing pavement condition on SR 216 (Lovers Lane) from Mineral King Avenue to Houston Avenue is exhibiting sever shoving, rutting and cracking (See Attachment #4). The continuing deterioration of the pavement could become a safety issue for both maintenance and the traveling public. By applying a CAPM strategy to preserve the pavement, it is expected to add 10 years of traveling life.

Funding Plan

The following table depicts all of the anticipated programmed and unprogrammed needs by component. There will be partnering with Tulare County Association of Governments (TCAG) utilizing Local Measure R funds. There is a verbal agreement with TCAG to use $3.0M for Construction capital on the project. There will be a written agreement by October 15, 2015 for this amount. An additional $6.5M in construction capital and $500K right of way capital is needed to fund the project. All of the support components will not be programmed through Measure R and are proposed to be funded through the SHOPP funds, currently estimated to be $4.05M.

	Total Need	Anticipated funds from Measure R	Remaining Unprogrammed SHOPP Needs	Escalated Unprogrammed SHOPP Needs
PAED	$640K	$	$640K	$659K
PS&E	$1.70M	$	$1.70M	$1.751M
Right of Way Support	$270K	$	$270K	$278K
Right of Way Capital	$500K	$	$500K	$580K
Construction Support	$1.44M	$	$1.44M	$1.573M
Construction Capital	$9.5M	$3.0M	$6.5M	$8.55M
Total Project Cost	$14.05M		$11.05M	$13.391M

	SHOPP Funded
	Measure R Funded

Recommendation

In an effort to promote asset management, it is proposed to program from the 2018 SHOPP $8.55M (Construction Capital Escalated), $580K (Right of Way Capital Escalated) and $4.261M (Project Support Escalated); along with $3.0M in Measure R funds (Construction Capital).

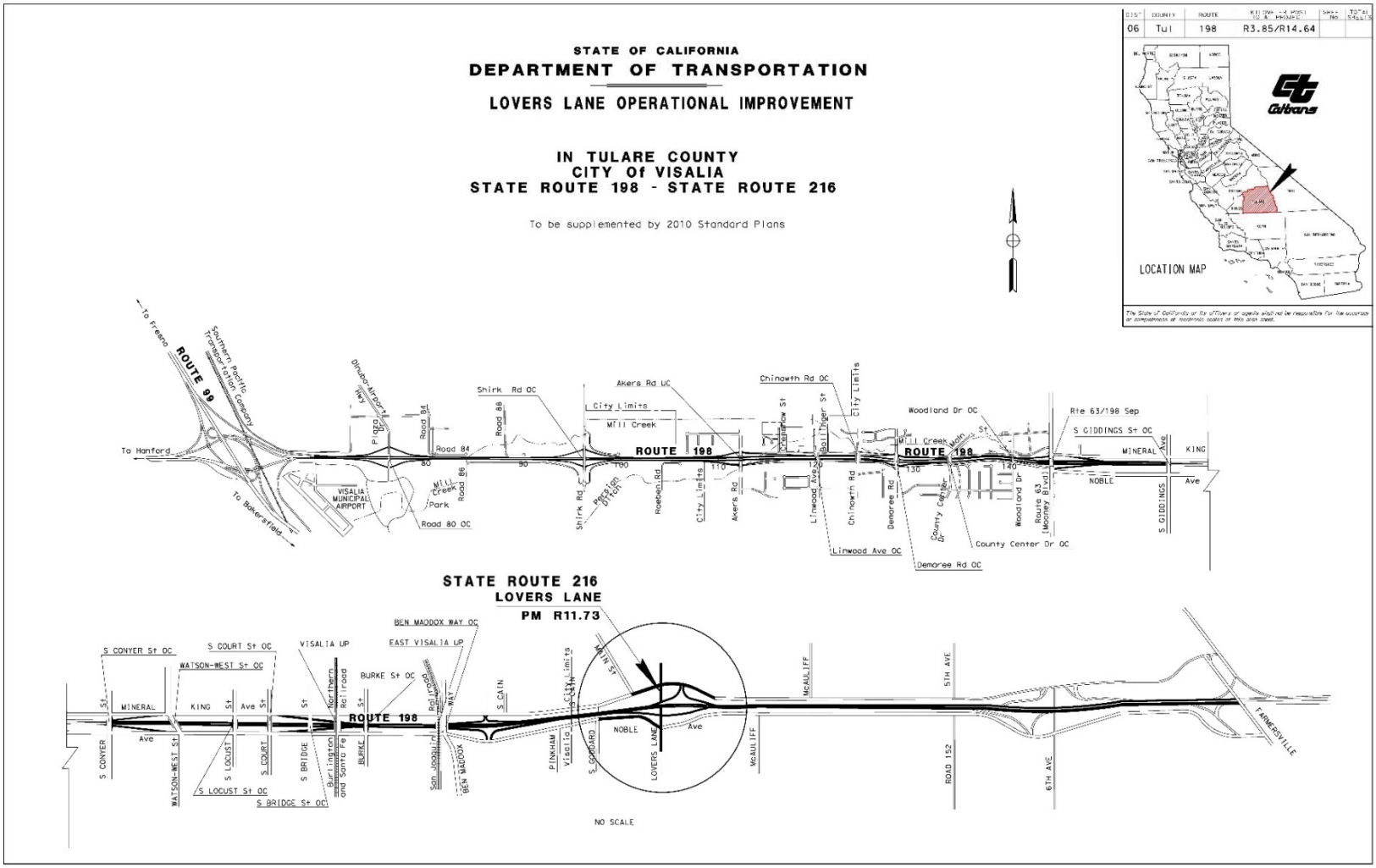
Attachments:

Attachment #1: Title Sheet

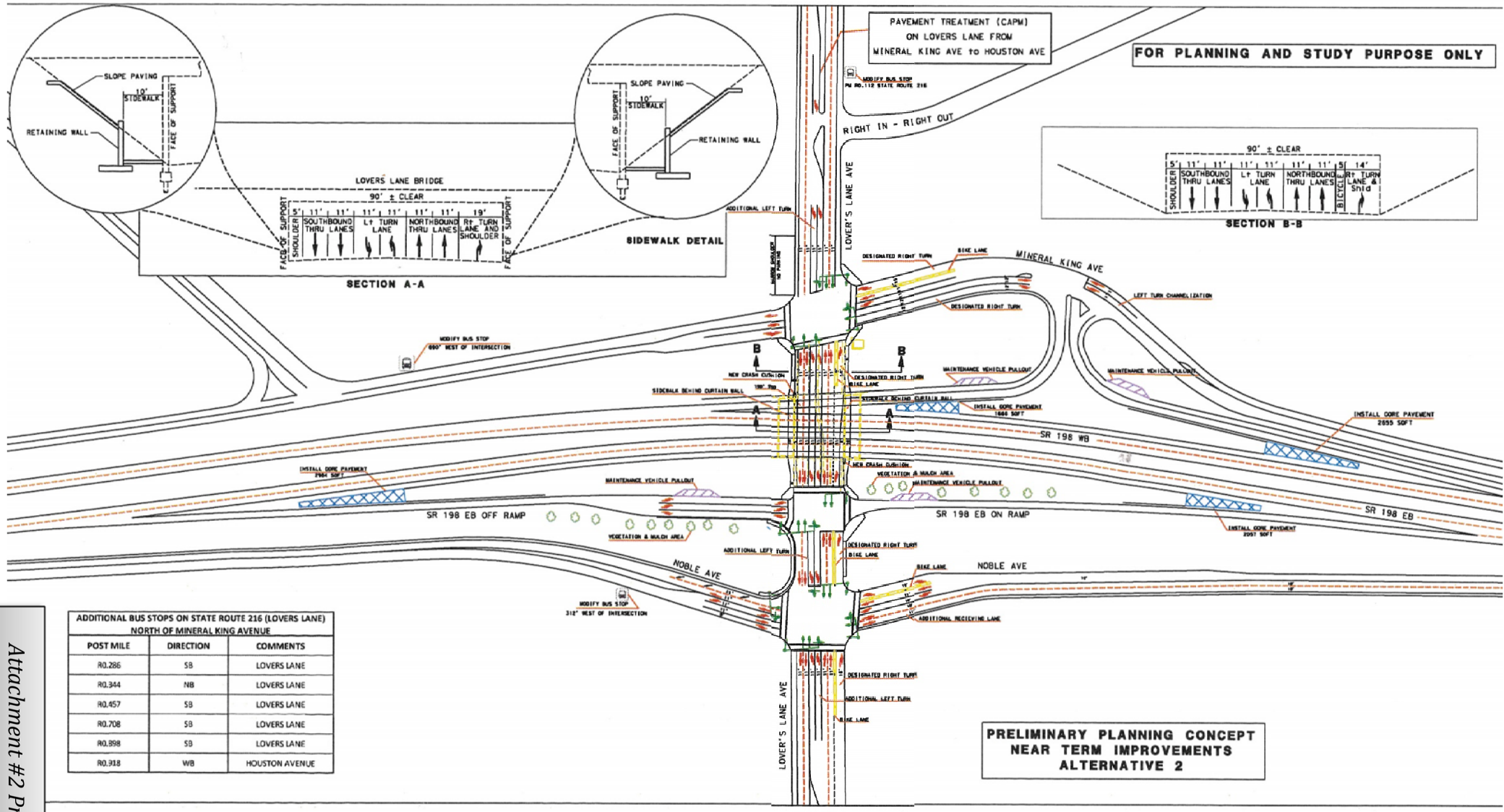
Attachment #2: Project Improvements

Attachment #3: Sidewalk Modifications

Attachment #4: Existing Pavement



Attachment #1 Title Sheet



ADDITIONAL BUS STOPS ON STATE ROUTE 216 (LOVERS LANE) NORTH OF MINERAL KING AVENUE		
POST MILE	DIRECTION	COMMENTS
R0.286	SB	LOVERS LANE
R0.344	NB	LOVERS LANE
R0.457	SB	LOVERS LANE
R0.708	SB	LOVERS LANE
R0.898	SB	LOVERS LANE
R0.918	WB	HOUSTON AVENUE

Attachment #2 Project Improvements

Figure 1a. Existing Lovers Lane Bridge:

Figure 1b. Example from Kingsburg on SR 201: The "return wall" has been removed, a retaining wall added and the sidewalk reconstructed behind the "curtain wall."

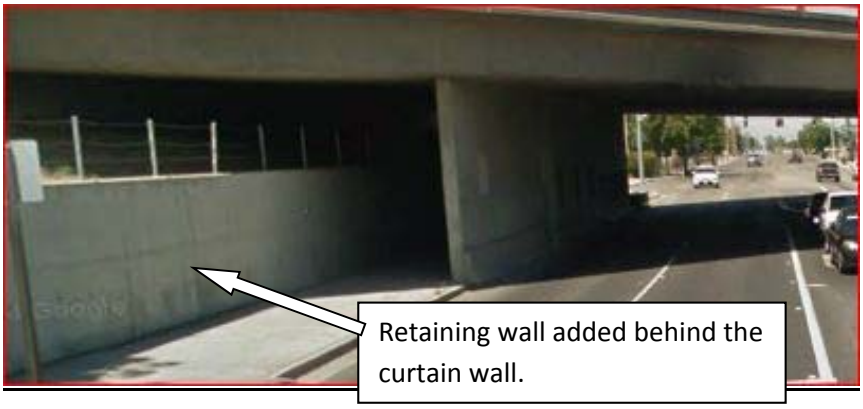


Figure 2: Existing pavement conditions on SR 216 (Lovers Lane) at Douglas Avenue showing shoving, rutting and sealed cracks.

Attachment #4 Existing Pavement

SHOPP Nomination Sustainability Contacts:

Gina Moran (916) 651-8164
Amy Bailey (916) 651-8166
Mary Beth Herritt (916) 653-4166
Melissa Thompson *(out July 29-Aug 11)* (916) 653-7569

Complete 20 question below: Sections in Green

Please answer these 20 question to help develop sustanability components (highlighted in Green) for your SHOPP Pilot project. This will be used for the project sustainability score as it relates to the Department's Strategic Goals for Sustainabilit, Livability and Economy (See Tab on Sustainability Goal for reference). For further background you can see the Envision Guidance tab.

	Sustainability Goal measures	Project Title: Lovers Lane Operational Improvements	Yes/No	Description (of Yes responses)
Quality of Life				
		Stimulate Sustainable Growth and Development *(Envision QL 1.2)*		
		Intent: Support and stimulate sustainable growth and development, including improvements in job growth, capacity building, productivity, business attractiveness and livability.		
1	Prosperity	Will the project enhance the community's quality of life and economic prosperity?	Yes	Along SR 198 there are no local road under or overcrossings that support strictly local cross freeway circulation. This lack of crossings concentrates cross freeway traffic to this location, where there are already deficiencies, that lead to high delay time, spillback and queueing. This project will ease traffic congestion, delay time and queue while increasing multimodal modes of transportation. The project location is surrounded by residential, commercial, educational and agricultural areas.
		Improve Community Mobility and Access *(Envision QL 1.2)*		
		Intent: Locate, design and construct the project in a way that eases traffic congestion, improves mobility and access, does not promote urban sprawl, and otherwise improves community livability.		
2	Access	Will the project provide good, safe access to adjacent facilities, amenities and transportation hubs, including appropriate wayfinding signage?	Yes	Transit facilities exists in the project limits which will be upgraded.
3	Non-Auto Mode Share	Will the project encourage the use of transit and/or non-motorized transportation?	Yes	Upgrading ADA curb ramps, sidewalks and bike lanes will promote safe mobility for all users.
4	Non-Auto Mode Share	Has the project team coordinated the design with other infrastructure assets to improve walkability and livability?	Yes	Pedestrians will be protected by a curtain wall under the bridge on both sides of the overcrossing, while allowing additional width to the traveled way. There is an educational compound to the north and middle school to the south of SR 198, which these improvements will be more appealing to pedestrians.
		Preserve Historic and Cultural Resources *(Envision QL 3.1)*		
		Intent: Preserve or restore significant historical and cultural sites and related resources to preserve and enhance community cultural resources.		
5	Env	Will the project minimize impacts on historic and cultural resources? (Consulted the tribal, historic and cultural resource staff in Environmental (PQS)?	Yes	Visalia is a historical town with a creek and historical Oak Trees located in the project limits. These resources will be preserved with little to no impact.
		Enhance Public Space *(Envision QL 3.3)*		
		Intent: Improve existing public space including parks, plazas, recreational facilities, or wildlife refuges to enhance community livability.		
6	Livability	Will the proposed project make meaningful enhancements to public space or address Section 4(f) properties, (examples include parks, plazas, recreational facilities, or wildlife refuges) to enhance community, livability, and quality of life?	Yes	Bike lanes will be added for better accessibility to surrounding parks and recreational facilities. Some native vegetation will be placed to improve the visual aesthetics of the interchange.
Leadership				
		Foster Collaboration and Teamwork *(Envision LD 1.3)*		
		Intent: Eliminate conflicting design elements, and optimize system by using integrated design and delivery methodologies and collaborative processes.		
7	Sustainable Corridor Master Plan (SCMP)	Are the project owner and the project team intending to take a Context Sensitive Solutions view of the project?	Yes	The "Complete Streets" method will be encorporated into the design maximizing multimodal transportation in collaboration with the Locals to using innovative and inclusive approaches.
		Improve Infrastructure Integration *(Envision LD 2.2)*		
		Intent: Design the project to take into account the operational relationships among other elements of community infrastructure which results in an overall improvement in infrastructure efficiency and effectiveness.		
8	Livability	Will the project team seek input from local stakeholders regarding how the project impacts or enhances the community infrastructure?	Yes	Local stakeholders are dedicated to improving the area and are contributing to the funding of the project.
9	Freight	Will the project address the needs on the priority freight network included in the Freight Mobility Plan?	No	
Resource Allocation				
		Use Recycled Materials *(Envision RA 1.3)*		
		Intent: Minimize transportation costs and impacts and retain regional benefits through specifying local sources.		

	Sustainability Goal measures	Project Title: Lovers Lane Operational Improvements	Yes/No	Description (of Yes responses)
10	Resource Consumption	Will the project team consider reuse of existing materials or recycled materials or use of materials from within 100 miles of the project site?	Yes	The existing friction course will be cold planed from the existing roadway and will be evaluated to whether it can be recycled in the structural section of the rehabbed highway.
		Reduce Energy Consumption *(Envision RA 2.1)*		
		Intent: Conserve energy by reducing overall operation and maintenance energy consumption throughout the project life cycle.		
11	Energy	Can the project incorporate reducing energy consumption or generating energy supply during the construction phase or after as a purpose for the project?	Yes	Implementing the use of multimodal strategies to reduce congestion and improve the performance of operations will help reduce greenhouse gas emmissions and energy sources.
Natural World				
		Preserve Prime Habitat and Species *(Envision NW 1.1)*		
		Intent: Avoid placing the project – and the site compound/temporary works – on land that has been identified as of high ecological value or as having species of high value.		
12	Env	Does the project concept incorporate solutions to preserve, improve or connect important natural resources (habitat, species needs, or fish and wildlife movement corridors)?	Yes	Mill Creek, a seasonal creek which runs through the project location, will be preserved in place with no disturbance.
		Protect Wetlands and Surface Water *(Envision NW 1.2)*		
		Intent: Protect, buffer, enhance and restore areas designated as wetlands, shorelines, and waterbodies by providing natural buffer zones, vegetation and soil protection zones.		
13	Water	Does the project concept address or enhance adjacent wetlands, hydraulic connection and waters functions, values, or existing deficiencies?	Yes	Immediately adjacent to the project is a water preservation well which will not be disturbed.
		Preserve Prime Farmland *(Envision NW 1.3)*		
		Intent: Identify and protect soils designated as prime farmland, unique farmland, or farmland of statewide importance.		
14	Env	Does the project concept improve or enhance the existing farming conditions or associated interface with the transportation facility (water conveyance, quality, habitat preservation, weed management, farming operation, etc.)?	No	
		Preserve Floodplain Functions *(Envision NW 1.5)*		
		Intent: Preserve floodplain functions by limiting development and development impacts to maintain water management capacities and capabilities.		
15	Water	Does the project concept allow for natural floodplain functions restored or rectified related to existing infrastructure impingements?	No	
		Manage Stormwater *(Envision NW 2.1)*		
		Intent: Minimize the impact of infrastructure on stormwater runoff quantity and quality.		
16	Water Quality	Can the project be designed to treat more than minimum stormwater treatment requirements, for example post construction or TMDL compliance units?	No	
		Roadside Vegetation Environment *(Envision NW 3.4)*		
		Intent: Use appropriate non-invasive species and control or eliminate existing invasive species.		
17	Env	Does the project concept incorporate improvements to roadside vegetation through restorative actions to native/appropriate vegetation to reduce/eliminate need for future management (maintenance, water use, pesticides, invasive species, etc.)?	Yes	Vegetation control treatment will be added to areas with existing irrigation to not increase water usage and to minimize invasive species growth. Drought resistant native plants will also be taken into consideration for planting in the proposed areas.
Climate & Risk				
		Reduce Greenhouse Gas Emissions *(Envision CR 1.1)*		
		Intent: Conduct a comprehensive life-cycle carbon analysis and use this assessment to reduce the anticipated amount of net greenhouse gas emissions during the life cycle of the project, reducing project contribution to climate change.		
18	GHG	Based on a life-cycle carbon assessment, will the project be designed in a way that substantially reduces carbon emissions?	Yes	Long term greenhouse gas emissions are expected to be reduced through improved Traffic Operational Strategies, by increasing the volume capacity and reducing delay time, spillback and queueing.
		Assess Climate Threat *(Envision CR 2.1)*		
		Intent: Develop a comprehensive Climate Vulnerability Assessment and Adaptation Plan.		
19	Resiliency	Will the project address potential risks or vulnerability deficiencies identifed in state, regional, local or site specific plans?	No	
		Manage Heat Island Effects *(Envision CR 2.5)*		
		Intent: Minimize surfaces with a high solar reflectance index (SRI) to reduce localized heat accumulation and manage microclimates.		
20	Green Infrastructure	Will the project be designed to include green infrastructure such as reducing heat island effects by reducing the percentage of low solar reflectance index (SRI) surfaces?	No	