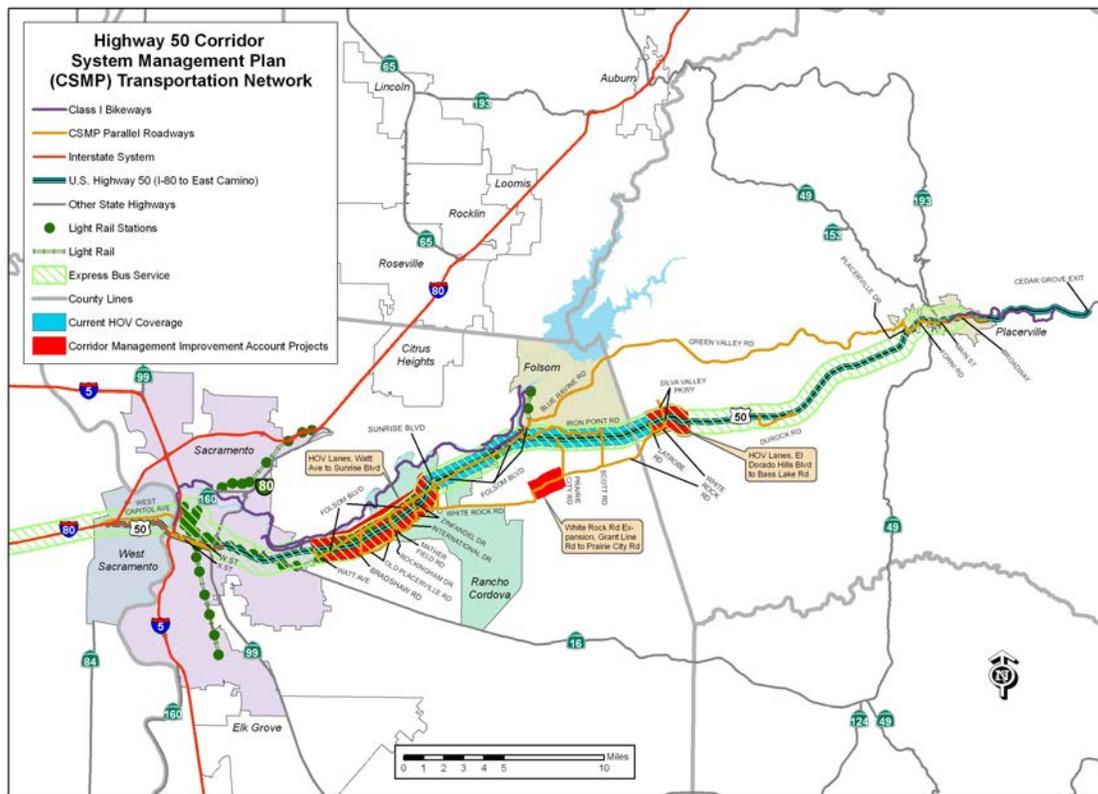




CALTRANS DISTRICT 3

State of the Corridor Report

2010 Report on the US 50 Corridor System Management Plan



Overview

Corridor System Management Plans (CSMP) are comprehensive operations and management plans intended to maintain and enhance corridor mobility through the integrated management of all major transportation modes within the corridor. This includes highways and freeways, parallel and connecting local and regional roadways, public transit (bus, bus rapid transit, light rail, intercity rail) and bikeways, along with intelligent transportation technologies, which could include ramp metering, coordinated traffic signals, changeable message signs for traveler information, such as incident management, bus/carpool lanes and car/vanpool programs, and transit strategies. Together, these facilities comprise the CSMP managed network. CSMP success is based on the premise of managing a selected set of transportation components within a designated corridor as a system rather than as independent units. Each CSMP identifies current management strategies, existing travel conditions and mobility challenges, corridor performance management, proposed management strategies, and needed capital improvements.

Purpose of the State of the Corridor Report

The annual State of the Corridor (SOTC) Report maintains the momentum started by the completion of the first CSMP by reporting on the ongoing implementation of CSMP strategies and movement towards true integrated multimodal corridor system management, as well as anticipated corridor mobility challenges, and impediments to CSMP implementation. It is important to note that the analysis of performance in this first report since the completion of the CSMP is limited to the State Highway System (SHS) only due to the lack of performance data for the non-SHS transportation modes. Future editions of this report will include a more comprehensive report on the performance of the various transportation modes within the corridor, regardless of ownership, as we move toward integrated performance measurement, management and operations.

Proposition 1B Bond Project Status

CSMPs were developed for corridors associated with the Corridor Mobility Improvement Account (CMIA) and Highway 99 Bond Programs, supported by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, Proposition 1B. Three projects on US 50 in District 3 were awarded CMIA funds. The status of these projects are as follows:

High Occupancy Vehicle (HOV) Lanes on US 50 from Watt Avenue to Sunrise Boulevard: The California Transportation Commission (CTC) allocated construction funding in summer 2009 for the construction of High Occupancy Vehicle (HOV) Lanes on US 50 from Watt Avenue to Sunrise Boulevard. The project was advertised in the summer 2009 and bids were opened in the fall 2009. The contract for this project was awarded in October 2009. Construction began in January 2010 and the project will be completed in winter 2013.

White Rock Road Expansion from Grant Line Road to Prairie City Road: The CTC allocation for construction funding is anticipated to be requested in January/February 2011 for the White Rock Road expansion from Grant Line Road to Prairie City Road. The project is expected to be advertised in March/April 2011 and bids opened in April/May 2011. The contract for this project is expected to be awarded in May/June 2011. Construction will begin approximately in spring 2012 and be completed in the fall 2012/spring 2013.

HOV Lanes on US 50 from El Dorado Hills Boulevard to Bass Lake Road: The CTC allocated construction funding September 2008 for the HOV Lanes on US 50 from El Dorado Hills Boulevard to west of Bass Lake Road. The project was advertised in September 2008 and bids opened in October 2008. The contract for this project was awarded and construction began in November 2008. Construction is anticipated to be completed in the summer 2011. The CTC approved additional funding from the CMIA cost savings to extend the eastbound HOV lane an additional 1.5 miles to east of Bass Lake Road. Construction is anticipated to be completed in the summer 2011.

Major Corridor Accomplishments

Placerville Operational Improvement Project: The US 50 Operational Improvements Project located in Placerville was completed in September 2009. The project constructed several improvements to increase capacity and improve traffic circulation on and around US 50 through Placerville including:

- A direct connection between Placerville Drive and Main Street under US 50 and over Hangtown Creek, including bike lanes and a sidewalk
- An eastbound auxiliary lane along US 50 from the Placerville Drive westbound onramp to Bedford Avenue
- New signals and improved traffic signal coordination
- Widening of the bridges over Hangtown Creek at Canal Street, Spring Street, and Bedford Avenue

- Reconstruction of the pedestrian overcrossing at Bedford Avenue
- Relocation of the sewer line in Hangtown Creek
- Aesthetic enhancements were included throughout the project, including stamped and stained concrete and decorative railings.

The completion of this project is a major accomplishment for the corridor. Potential alternatives were explored over the course of many years to find a solution that meets the needs of the community while making necessary improvements to address mobility needs at a major bottleneck location.

El Dorado Trail Bike Path Extension - Forni Road to Ray Lawyer Drive: This project constructed 2.75 miles of Class I bike path within the Sacramento-Placerville Transportation Corridor. The project provides a non-motorized connection between the communities of Placerville and Diamond Springs from Forni Road to Missouri Flat Road and includes the rehabilitated historic Weber Creek Trestle Bridge. The project was completed in October 2009. The unique section of the El Dorado Trail recently received two regional awards; The Sacramento Area Council of Governments (SACOG) Salutes Special Recognition Award and the Sacramento Chapter of the American Society of Civil Engineers 2009 History and Heritage Project of the Year award.

Missouri Flat Phase 1A/1B Interchange Projects: Phase 1A consists primarily of improvements to Missouri Flat Road and was completed in 2008 and won a national American Public Works Association "Project of the Year" award. In May 2009, the CTC allocated \$35,456,000 to the Missouri Flat Interchange Project Phase 1B, including \$5 million in federal economic stimulus funding. Construction began in January 2010 and is scheduled to be complete in the fall of 2011. The El Dorado County Department of Transportation is the lead agency for construction of Phase 1B of the Missouri Flat Interchange Project.

The project includes seismic retrofits of the eastbound and westbound Weber Creek Bridges, widening each bridge to three lanes, construction of auxiliary lanes between Missouri Flat Road and Placerville Drive, and a bicycle/pedestrian facility cantilevered off the eastbound bridge. The seismic retrofit of the Weber Creek bridges will bring the bridges into compliance with current seismic standards and auxiliary lanes will improve safety and traffic operations on US 50 and the Missouri Flat and Placerville Drive interchanges. The bicycle/pedestrian facility, funded in part by the \$5 million in federal economic stimulus funds, will provide a non-motorized connection between Missouri Flat Road and Placerville Drive.

Harbor Boulevard Interchange: The Harbor Blvd. Interchange project began construction in the summer 2009. The project is expected to be completed in the fall 2010. The project scope includes widening Harbor Blvd. from four to six lanes between Evergreen Ave and Beacon; left and right-turn pockets; widening the bridge structure; adding auxiliary lanes in both directions between the I-80 connector ramps and Harbor Blvd; and constructing three ramps, removing one ramp, and modifying the remaining three ramps.

US 50 Ramp Meters: Funds were allocated for the US 50 Ramp Meters Project. The project will place ramp meters and HOV bypass lanes at various eastbound locations from Stockton Boulevard to the Natoma Overhead Bridge in Sacramento County. The project was advertised in spring 2010 and will be awarded and will go to construction in the summer 2010. The project is anticipated to be completed in the Winter 2011/2012.

US 50 Silva Valley Parkway Interchange: A Supplemental Environmental Impact Report and updated Project Report are currently being prepared. Phase 1 is planned to go to construction in 2011. The Project will construct a new Silva Valley Parkway Interchange on US 50 in El Dorado County between the existing El Dorado Hills Boulevard and Bass Lake Interchanges. The Project will include eastbound and westbound auxiliary lanes on US 50 between the existing El Dorado Hills Interchange and the proposed Silva Valley Parkway Interchange. The Project will also include that portion of an eastbound US 50 truck climbing lane that is located within the Project area.

US 50 Rural Safety Innovation Project: The project consists of two types of actively illuminated warning signs located on the east and westbound directions of US 50 and a vehicle-detection pavement loop located on Still Meadows Road. As drivers on Still Meadows Road approach US 50 the system will automatically activate signs to graphically advise drivers on east and westbound US 50 of the presence of approaching cross traffic entering the highway from Still Meadows Road. Construction began in May 2010 and is scheduled to be completed in July 2010.

Performance Measures

Continuous corridor monitoring and performance measures are an integral part of corridor management and investment decision making to help identify immediate, efficient, and effective system operational strategies and capital improvements. Performance measures provide the important, dynamic daily information needed to rapidly address operational problems caused by recurrent and non-recurrent traffic congestion.

The 2009 CSMP identified performance measures for the SHS, local roadways, and transit to be used as part of the corridor system management process. As noted previously, there is limited or a lack of current performance data for city and county streets, and there is a need to develop additional transit and new bicycle performance measures. As such, this Report only includes SHS performance measures. As we continue to strive to establish a multi-modal CSMP, future iterations will include local roadways, transit, and bicycle performance measures

Table 1 includes the performance measures that were initially identified in the 2009 CSMP and have been updated using 2009 PeMS and Tach Run data. The 2009 CSMP used 2007 data from a number of different sources because of inconsistent and unreliable PeMS coverage. Since the completion of the 2009 CSMP, additional detection has been completed offering better PeMS coverage and more reliable data. As a result, we will use this Report and the 2009 performance measures as our baseline to track system performance and future annual “State of the Corridor” reports will include run-charts indicating changes in the performance measures in logical time increments.

Table 1: US 50 CSMP Highway Performance Measures Summary

County	Location	Post Miles	Distance (Miles)	Average Annual Daily Traffic ¹	Performance Measures (2009 Data)							2006-2009 Reported Collision Rate Comparison (%) ⁵
					LOS ¹	Total Vehicle Hours of Delay ²	Total Vehicle Hours of Delay ²	Minutes of Delay per Vehicle ²	Minutes of Delay per Person ²	Vehicle Travel Time (Minutes) ²	Distressed Pavement (lane miles) ⁴	
						Daily	Peak Hour ³	Peak Hour ³	Peak Hour ³	Peak Hour ³		
Yolo	I-80 to Yolo/Sacramento County Line	0.00 – 3.16	3.16	177,000	E	148	47	0.20	0.22	3.04	1	6%
SAC	Yolo/Sacramento County Line to SR 99 and SR 51	L0.00 – L2.48/R0.00	2.48	242,000	F	802	322	1.15	1.27	3.60	1	0%
	SR 99 and SR 51 to Watt Avenue	R0.00 – R5.34	5.34	215,000	F	1,791	528	1.91	2.10	7.24	5	13%
	Watt Avenue to Zinfandel Drive	R5.34 – R10.92	5.58	177,000	F	855	224	0.77	0.85	6.27	5	-41%
	Zinfandel Drive to Sunrise Boulevard	R10.92 to 12.50	1.58	143,000	E	256	110	0.63	0.70	2.20	0	-53%
	Sunrise Boulevard to Folsom Boulevard	12.50 – 17.01	4.51	120,000	D	437	148	1.18	1.41	5.66	2	-27%
	Folsom Boulevard to Sacramento/El Dorado County Line	17.01 – 23.14	6.13	93,000	D	216	57	0.47	0.56	6.54	0	-38%
ED	Sacramento/El Dorado County Line to Cameron Park Drive	0.00 – R6.57	6.57	68,000	E	457	64	0.98	1.18	7.55	1	-35%
	Cameron Park Drive to Missouri Flat Road	R6.57 – R15.06	8.49	60,000	D	312	32	0.37	0.40	8.69	1	-57%
	Missouri Flat Road to End of Freeway in Placerville	R15.06 – 17.25	2.19	58,000	D	71	15	0.49	0.54	2.68	0	26%
	End of Freeway in Placerville to Bedford Avenue	17.25 – 18.11	0.86	51,000	D	129	27	0.36	0.39	1.65	0	168%
	Bedford Avenue to Cedar Grove Road	18.11 – R25.95	7.84	31,000	C	109	23	0.70	0.77	8.54	2	6%
Total		--	54.73	--	--	5,583	1,597	9.21	10.39	63.66	18	--

¹ Average Annual Daily Traffic and Level of Service (LOS) based on the 2008 Caltrans Traffic Volumes on California State Highways and Highway Capacity Manual. LOS Calculations based on 2008 Peak Hour Volumes.

² Delay is the average additional travel time by vehicles/persons traveling under 60 mph. Data derived from 2009 PeMS and Tach Run data.

³ Peak Hour is during the hour in which the most hourly delay occurs.

⁴ Source: 2009 Caltrans' Division of Maintenance *Pavement Summary Report*. Distressed pavement is categorized as (1) "Major Structural Distress" which indicates the pavement has severe cracking and is likely to have a poor ride, (2) "Minor Structural Distress", which indicates the pavement has moderate cracking and may have a poor ride, and (3) "Poor Ride Quality (Only)", which indicates the pavement exhibits few cracks but has a poor ride condition.

⁵ Source: 2006 through 2009 Caltrans' *Traffic Accident Surveillance and Analysis System (TASAS)* summary data of the percentage above, or below, the statewide average for fatal, injury and property damage-only collisions on comparable facilities.

Moving Forward

The following key opportunities and challenges should be addressed as we move forward to implement system management within this corridor.

Transit and Bicycle Performance Measures

The analysis of transit performance was limited to one performance measure – Available Daily/Peak Hour Capacity (%). This measure compares ridership with capacity on a daily and peak hour basis. The intent was to indicate how well transit was performing relative to ridership increases over time. However, the usefulness of this measure has proven questionable, since some of the routes and schedules have changed and data availability is limited. In addition, the 2009 CSMP did not include bicycle performance measures, though, committed to working with stakeholders to establish them. In an effort to establish additional performance measures for transit and bikes, we will continue to work with our local and regional partners to develop useful performance measures for alternative transportation modes, including consideration of the performance measures being developed by the SACOG as part of the Metropolitan Transportation Plan update process.

Sacramento Regional Transit Service Cuts

In response to an estimated \$25 million budget shortfall for Fiscal Year 2011, the Sacramento Regional Transit District (SacRT) Board of Directors approved major service reductions to bus, light rail, and paratransit service.

Highway 50 Corridor Mobility Partnership

The Highway 50 Partnership is a cooperative public-private effort among the County of Sacramento, City of Rancho Cordova, City of Folsom, County of El Dorado, and several major landowners that recognize the need to consider corridor mobility needs holistically. The Partnership has collaborated effectively to develop a Plan to improve mobility in the US 50 Corridor from Rancho Cordova to El Dorado Hills, an area identified as appropriate for growth in the SACOG Blueprint.

Recognizing the need to generate private investment, the Partnership is seeking to implement a regional Highway 50 Corridor fee program to help fund the identified short-term and long-term projects. Implementation of the plan is an on-going critical effort that will require well-organized, focused effort by all public jurisdictions and private partners.

Capital SouthEast Connector

The Capital SouthEast Connector is a proposed 35-mile roadway that will link communities in El Dorado and Sacramento Counties and the cities of Folsom, Rancho Cordova and Elk Grove. It spans from Interstate 5, south of Elk Grove, to Highway 50 in El Dorado County, just east of El Dorado Hills. The Connector is intended to alleviate traffic congestion on US 50, Interstate 5, and State Route 99. It will allow drivers to completely bypass downtown Sacramento, reducing the distance traveled and helping minimize additional travel delays during rush hour. More information can be found at: <http://connectorjpa.net/>.

Southeast Sacramento County Aggregate Mining Truck Management Plan

Multiple aggregate mining projects are being planned in southeast Sacramento County, approximately four miles to the south of US 50 near the Prairie City Interchange. The projects will generate estimated daily truck volumes of 2,620, west of Prairie City Road and 1,100, east of Prairie City Road which will significantly impact the US 50 mainline and freeway ramp operations. Sacramento County, the Cities of Folsom and Rancho Cordova, the quarry operators, and Caltrans are coordinating to develop a Truck

Management Plan (TMP) that will identify the required mitigation on US 50 and State Route 16, potentially including auxiliary lanes, ramp widenings, and intersection improvements.

Operational Improvement Projects

The US 50 CSMP recognizes that with the construction of California’s state highway system virtually complete in the Sacramento region, major emphasis has largely shifted to focused capacity expansions, system maintenance, and operational improvements such as ramp meters, ramp widening, auxiliary lanes, and ramp merge extensions. To address these needs, Caltrans is currently developing Project Study Reports (PSRs) for certain high priority operational improvement projects that will be the most effective in relieving congestion. Caltrans will seek funding for these projects through all available means, including SACOG regional discretionary funding programs. These projects include:

- US 50 westbound auxiliary lane from northbound Howe on-ramp to southbound Howe on-ramp – EA#1F190K
- US 50 westbound and eastbound auxiliary lanes from Bradshaw to Mather Field

In addition, the following additional operational improvement needs have been identified to optimize system performance. To help facilitate the implementation of these projects, Caltrans will include these projects in our 3 Year PSR Program in anticipation of the pursuit of regional discretionary funding.

- Eastbound US 50, extend #4 outside lane starting at Sunrise Blvd. ending at Folsom Blvd. off-ramp
- Westbound US 50, auxiliary lane starting at Sunrise Blvd. slip off-ramp ending at Sunrise Blvd. slip on-ramp
- Eastbound and westbound US 50, add #4 outside lanes from Folsom Blvd. to Scott Rd.
- Westbound US 50, auxiliary lane starting at the Howe Ave. loop on-ramp and ending at the Howe Ave. slip on-ramp

Intelligent Transportation Systems

Intelligent Transportation Systems (ITS) are a key system management component. ITS provides an opportunity to improve mobility through the corridor by using lower cost strategies to improve overall efficiency without adding capacity. An array of technologies are used to detect and manage transportation activities in the corridor such as Closed Circuit Television System (CCTV), Changeable Message Signs (CMS), Extinguishable Message Signs (EMS), Electronic Tag Reader (ETR), Highway Advisory Radio (HAR), Ramp Meters (RMS), Roadside Weather Information System (RWIS), and Traffic Monitoring Stations (TMS), typically spaced every ½ miles in the urbanized areas of District 3.

The use of the ITS tools in conjunction with the Regional Transportation Management Center improve efficiency by collecting and disseminating traffic information to the travelling public. This helps reduce delay and improve safety within the corridor. The May 2009 CSMP identified a variety of system management strategies and elements currently being utilized on the managed network and their locations. The following table shows the ITS needs for the US 50 corridor.

Element	County/PM	Location
CCTV	Sac/16.80	Folsom Blvd.
CCTV	Sac/19.15	Prairie City Road
CCTV	Sac/21.40	Scott Road
CCTV	Sac/22.30	Empire Ranch Road
CCTV	ED/0.90	El Dorado Hills Blvd.
CCTV	ED/1.70	Silva Valley Parkway
CCTV	ED/3.20	Bass Lake Road
CCTV	ED/5.00	Cambridge Road
CMS	YOL/1.80	EB 2.2 miles w/o 80/5 IC
CMS	SAC/6.50	WB Mayhew
CMS	SAC/8.90	EB Routier Road
CMS	ED/7.20	WB e/o Cameron Park

CMS	ED/24.50	WB e/o Carson Road
RMS	SAC/0.43	WB 5 th Street
RMS	SAC/20.20	WB Oak Avenue Parkway
RMS	SAC/20.21	WB Oak Avenue Parkway
RMS	SAC/22.30	WB Empire Ranch Road (NB)
RMS	SAC/22.31	WB Empire Ranch Road (SB)
RMS	SAC/22.30	EB Empire Ranch Road (SB)
RMS	ED/0.90	WB El Dorado Hills Blvd. (SB)
RMS	ED/0.90	EB El Dorado Hills Blvd. (SB)
RMS	ED/0.91	WB El Dorado Hills Blvd. (NB)
RMS	ED/0.91	EB EL Dorado Hills Blvd. (NB)
RMS	ED/1.70	WB Silva Valley Parkway
RMS	ED/1.70	EB Silva Valley Parkway
RMS	ED/3.20	WB Bass Lake Road
RMS	ED/3.20	EB Bass Lake Road
RMS	ED/5.00	WB Cambridge Road
RMS	ED/5.00	EB Cambridge Road
RMS	ED/6.60	WB Cameron Park Drive (SB)
RMS	ED/6.61	WB Cameron Park Drive (NB)
RMS	ED/6.60	EB Cameron Park Drive
RMS	ED/8.40	WB Ponderosa Road (SB)
RMS	ED/8.60	WB Ponderosa Road (NB)
TMS	ED/1.70	Silva Valley Parkway
TMS	ED/24.00	Apple Hill

The following ITS projects were proposed for inclusion in the 10 Year State Highway Operation and Protection Program (SHOPP). However, it is unlikely that the majority of these projects will be programmed through the SHOPP given limited resources and other higher priority basic maintenance needs. As such, Caltrans will seek funding for these projects through all available means, including regional discretionary funding programs. These are listed in priority order.

Priority	County/PM	Description	Cost (\$1,000)
1	Various	RMS and TMS Upgrade	1,700
2	Various	CCTV Camera System Upgrade	1,400
3	Various	RWIS Upgrade	1,000
4	Various	HAR System Upgrade	1,000
5	Various	Travel Time Infrastructure	1,800
6	Various	CMS Phase II	6,750
7	Sac and ED	El Dorado ITS	2,000
8	ED	Sierra 50 ITS	3,000
9	Sac	Fiber Optic	1,000
10	Various	CCTV Cameras – Outlying Area	1,200

Micro-simulation Modeling

Since the beginning of the development of the CSMPs, Caltrans has been working in parallel with a consultant team to develop micro-simulation traffic models of select CSMP corridors so that we can better understand at a detailed level how specific operational strategies and capital projects will impact traffic flow. The models include the freeway system, ramps, interchanges and key local roads for the US 50 Corridor, the model covers US 50 between the I-80 interchange in the City of West Sacramento to Carson Road in Camino (approximately 55 miles). The models will enable Caltrans and its regional partners to test an array of operational and capital project scenarios, to identify groups of strategies and projects for simultaneous or phased implementation, and to prioritize the order of implementation. The models will also enable us to forecast what will happen after projects are implemented, whether new problems will be created, and if so, how to avoid or mitigate those new problems before they occur. The models are nearing completion and are expected to be available for use in fall 2010. Comprehensive reports for each model are being drafted and will also be available in fall 2010.