

District 10 Mobility Performance Report

2016 Second Quarter

DEPARTMENT OF TRANSPORTATION

August 3, 2016
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District 10 Mobility Performance Report

2016 Second Quarter

EXECUTIVE SUMMARY

Overview

Caltrans District 10 contains eight counties located within the Central Valley (San Joaquin / Stanislaus / Merced) and the Sierra Nevada (Amador / Calaveras / Tuolumne / Mariposa / Alpine). Over the years detection in Alpine and Calaveras Counties has been sparse, so the District 10 Mobility Performance Report (MPR) no longer includes these two counties in the quarterly or annual analysis.

The MPR quarterly analysis compares information in the current quarter to that of the previous quarter and the quarter one year prior. The following are the performance measures reported in the MPR:

- Vehicle Miles Traveled (VMT)
- Vehicle Hours of Delay (VHD)
- Lost Lane Miles (LLM)
- Detector Health (DH)

This information is based on data collected every day of the quarter, twenty-four hours a day, by automated vehicle detector stations deployed on urban-area freeways where congestion is regularly experienced. The MPR presents congestion information at two speed thresholds: delay from vehicles traveling below 35 miles per hour (mph), and delay from vehicles traveling below 60 mph. The delay at the 35 mph threshold represents severe congestion while delay at 60 mph

represents all congestion, both light and heavy. These thresholds are set by Caltrans and are based upon engineering experience and District input.

FINDINGS

In the second quarter, total delay equaled 134 thousand Vehicle Hours of Delay (VHD) at the 35 mph speed threshold (2% increase over one year ago; 57.5% increase over last quarter), and 494 thousand VHD at the 60 mph threshold (20.1% increase over one year ago; 29.2% increase over last quarter). The average weekday delay experienced in this quarter was approximately 1,705 VHD at 35 mph (12.3% decrease over one year ago; 31.2% increase over last quarter), and 6,749 VHD at 60 mph (15.2% increase over one year ago; 20.5% increase over last quarter). The increases in VHD can be attributed to current construction projects throughout the District that require day and night work.

Top Ten Bottlenecks for 2016 Quarter 2

FWY	COUNTY	LOCATION	SHIFT	ABS. PM	CA PM	# DAYS ACTIVE	AVG. EXTENT (MILES)	TOTAL DELAY (VEH-HRS)	TOTAL DURATION (MINS)
I205-W	SJ	East of Hansen Road	AM	3.310	2.380	53	4.9	1866	156
SR99-S	STA	Hammett Road	PM	235.307	24.272	19	3.2	72	64
SR99-S	STA	Maze Boulevard	PM	227.325	16.290	40	3.3	63	66
SR99-N	SJ	South of Arch Road	PM	250.328	14.518	14	0.7	60	68
SR99-S	SJ	South of Route 120	PM	241.202	5.417	44	0.5	58	95
SR99-S	SJ	North of On Ramp from Jack Tone Road	PM	237.866	2.081	12	0.9	47	58
SR99-S	SJ	South of Austin Road Over Crossing	PM	240.425	4.640	35	0.2	42	146
I5-N	SJ	North of French Camp Road	PM	468.140	R22.648	38	0.2	16	114
I5-N	SJ	Hammer Lane Under Crossing	PM	478.188	32.696	13	2.4	6	29
I5-N	SJ	South of French Camp Road	PM	467.930	R22.438	7	0.2	2	79

The following District 10 projects are currently being constructed or are scheduled for construction effective August 2016. These current and future (planned) projects will relieve congestion in District 10:

MERCED COUNTY

MER 99 PLAINSBURG ROAD FREEWAY; EA 10-41580

Convert from 4 lane expressway to 6 lane freeway on an 8 lane right of way

Approve Construction Contract Date – 07/27/2012

End Project – 12/30/2016

MER 99 MISSION AVENUE INTERCHANGE / FREEWAY; EA 10-36311

Convert from 4 lane expressway to 6 lane freeway on an 8 lane right of way
Approve Construction Contract Date – 04/07/2008
End Project – 04/02/2018

MER 99 ATWATER FREEWAY; EA 10-41481

Convert from 4 lane expressway to 6 lane freeway on an 8 lane right of way
Approve Construction Contract Date – 11/28/2005
End Project – 09/05/2016

MER 99 LIVINGSTON FREEWAY STAGE 2; EA 10-3169E

Convert from 4 lane expressway to 6 lane freeway on an 8 lane right of way
Approve Construction Contract Date – 03/28/2008
End Project – 06/30/2017

MER 99 NB LIVINGSTON MEDIAN WIDENING; EA 10-0Q121

Lane widening from 2 to 3 lanes
Approve Construction Contract Date – 08/01/2021
End Project – 10/02/2023

MER 99 SB LIVINGSTON MEDIAN WIDENING; EA 10-0Q122

Lane widening from 2 to 3 lanes
Approve Construction Contract Date – 01/19/2019
End Project – 10/01/2021

MER 152 – LOS BANOS BYPASS SEGMENT I; EA 10-41911

Convert 4 lane expressway to 6 lane freeway
Approve Construction Contract Date – 05/15/2018
End Project – 10/01/2020

SAN JOAQUIN COUNTY

SJ 4 RAMP METERING IMPROVEMENTS; EA 10-1F180

Install ramp meters along SR 4 between the I-5 and SR 99 Connectors
Currently in PRS/PDS; PA&ED Scheduled for mid-2016
End Project – Estimated to be mid 2020

I-5 NORTH STOCKTON WIDENING AND HOV LANES; EA 10-0G470

Widen bridges and freeway lanes, HOV lane
Approve Construction Contract Date – 6/15/2011
End Project – 8/29/2016

SJ 99 – SOUTH STOCKTON WIDENING; EA 10-3A100

Widen existing freeway from 4 to 6 lanes
Approve Construction Contract Date – 12/3/2012
End Project – 12/5/2017

SJ 120 RAMP METERING IMPROVEMENTS; EA 10-1F040

Install ramp meters along SR 4 between the I-5 and SR 99 Connectors
Currently in PRS/PDS; PA&ED Scheduled for mid-2016
End Project – Estimated to be mid 2020

STANISLAUS COUNTY

STA 99 – PELANDALE INTERCHANGE; EA 10-47210

Modify Existing Interchange
Approve Construction Contract Date – 4/15/2014
End Project – 12/1/2018

STA 99 – KIERNAN INTERCHANGE; EA 10-0L330

Reconstruct Interchange
Approve Construction Contract Date – 2/1/2013
End Project – 11/30/2017

STA 99 / SJ 99 RAMP METERING & MAINLINE IMPROVEMENTS; EA 10-1C300

Improve Mainline and Ramp Operations; Standardize Structure Clearance; Add Auxiliary Lane
Currently in PSR/PDS; PA&ED Scheduled for mid-2016
End Project – Estimated to be mid 2020

The above capacity increasing, ramp metering, interchange improvement, and interchange construction projects are located on the routes, in the cities, and in the counties that experience the most congestion in District 10. It is expected that the projects will help increase the Vehicle Miles Traveled while reducing congestion and delay as the population and demand in District 10 grows over the next 10 years.

The next section of this report summarizes the District 10 2016 Q2 Quarterly Mobility Statistics.

2016 Q2 Quarterly Mobility Statistics – District 10

Measure	Graph	Percentage Change													
		Over one year ago	Over last quarter												
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <table border="1"> <tr><th>Year</th><th>Q2</th><th>Value</th></tr> <tr><td>2016</td><td>Q2</td><td>1.1</td></tr> <tr><td>2018</td><td>Q1</td><td>1.1</td></tr> <tr><td>2018</td><td>Q2</td><td>1.2</td></tr> </table>	Year	Q2	Value	2016	Q2	1.1	2018	Q1	1.1	2018	Q2	1.2	8.4%	6.8%
Year	Q2	Value													
2016	Q2	1.1													
2018	Q1	1.1													
2018	Q2	1.2													
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Q2</th><th>Value</th></tr> <tr><td>2016</td><td>Q2</td><td>131</td></tr> <tr><td>2018</td><td>Q1</td><td>85</td></tr> <tr><td>2018</td><td>Q2</td><td>134</td></tr> </table>	Year	Q2	Value	2016	Q2	131	2018	Q1	85	2018	Q2	134	2%	57.5%
Year	Q2	Value													
2016	Q2	131													
2018	Q1	85													
2018	Q2	134													
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Q2</th><th>Value</th></tr> <tr><td>2016</td><td>Q2</td><td>1844</td></tr> <tr><td>2018</td><td>Q1</td><td>1299</td></tr> <tr><td>2018</td><td>Q2</td><td>1705</td></tr> </table>	Year	Q2	Value	2016	Q2	1844	2018	Q1	1299	2018	Q2	1705	-12.3%	31.2%
Year	Q2	Value													
2016	Q2	1844													
2018	Q1	1299													
2018	Q2	1705													
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Q2</th><th>Value</th></tr> <tr><td>2016</td><td>Q2</td><td>412</td></tr> <tr><td>2018</td><td>Q1</td><td>383</td></tr> <tr><td>2018</td><td>Q2</td><td>484</td></tr> </table>	Year	Q2	Value	2016	Q2	412	2018	Q1	383	2018	Q2	484	20.1%	29.2%
Year	Q2	Value													
2016	Q2	412													
2018	Q1	383													
2018	Q2	484													
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours</p> <table border="1"> <tr><th>Year</th><th>Q2</th><th>Value</th></tr> <tr><td>2016</td><td>Q2</td><td>5859</td></tr> <tr><td>2018</td><td>Q1</td><td>5801</td></tr> <tr><td>2018</td><td>Q2</td><td>6748</td></tr> </table>	Year	Q2	Value	2016	Q2	5859	2018	Q1	5801	2018	Q2	6748	15.2%	20.5%
Year	Q2	Value													
2016	Q2	5859													
2018	Q1	5801													
2018	Q2	6748													

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		Thursday -26.2%	Thursday -2.6%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Friday 58.6%	Monday 52.2%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Weekday Decrease over one year ago	Largest Magnitude Weekday Decrease over last quarter
		8 AM -53.9%	4 PM -36.1%
		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
		1 PM 172.6%	7 AM 393.8%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago	Largest Magnitude Saturday Decrease over last quarter
		5 AM -85.2%	2 PM -10.1%
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		12 AM 13451%	-
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays		Largest Magnitude Sun./Holiday Decrease over one year ago	Largest Magnitude Sun./Holiday Decrease over last quarter
		9 PM -93.3%	10 PM -68.2%
		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		11 AM 9570.7%	11 AM 3169.2%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		Stanislaus -81.1% ↓	-
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		San Joaquin 123.8% ↑	San Joaquin 63% ↑
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph		Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		Off-Peak Night -44.1% ↓	-
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		PM Peak 15% ↑	AM Peak 63.7% ↑
Average Number of Good and Bad Detectors		Change in Good over one year ago	Change in Good over last quarter
		16% ↑	5% ↑
		Change in Bad over one year ago	Change in Bad over last quarter
		-3% ↓	-8% ↓

Congestion by Route											
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2016 Q2-2015 Q2		Difference 2016 Q2-2016 Q1		Rank		
		2015 Q2	2016 Q1	2016 Q2	Absolute	Percentage	Absolute	Percentage	2015 Q2	2016 Q1	2016 Q2
ID05	San Joaquin	103,482	65,911	285,784	182,302	176.2%	219,873	333.6%	1	2	1
SR99	San Joaquin	16,301	20,973	47,605	31,304	192.0%	26,632	127.0%	4	3	2
IS80	San Joaquin	1,916	75,654	16,416	14,500	756.8%	-59,239	-78.3%	9	1	3
SR99	Stanislaus	71,546	8,914	13,575	-57,971	-81.0%	4,660	52.3%	2	5	4
SR4	San Joaquin	27,976	11,054	9,798	-18,178	-65.0%	-1,255	-11.4%	3	4	5
SR99	Merced	2,366	2,960	7,099	4,733	200.0%	4,140	139.9%	7	7	6
I5	San Joaquin	2,629	1,866	2,745	116	4.4%	879	47.1%	6	8	7
I5	Stanislaus	5,259	4,334	973	-4,286	-81.5%	-3,361	-77.5%	5	6	8
SR152	Merced	2,341	460	835	-1,505	-64.3%	375	81.6%	8	9	9
SR49	Mariposa	96	57	205	109	113.8%	148	261.2%	10	10	10
I5	Merced	44	43	5	-40	-89.2%	-39	-88.9%	12	11	11
SR132	San Joaquin	45	0	0	-45	-99.8%	0		11		12
SR104	Amador	0	0	0	0		0				
SR108	Tuolumne	0	0	0	0		0				
SR12	San Joaquin	0	0	0	0		0				
SR120	San Joaquin	0	0	0	0		0				
SR120	Tuolumne	0	0	0	0		0				
SR219	Stanislaus	0	0	0	0		0				
TOTALS		234,000	192,225	385,039	151,039	64.5%	192,814	100.3%			

SR 132: No delay detected in 2016 Q1 and 2016 Q2

SR 104 Amador: No delay detected in 2015 Q2, 2016 Q1, and 2016 Q2

SR 108 Tuolumne: No delay detected in 2015 Q2, 2016 Q1, and 2016 Q2

SR 12 San Joaquin: No delay detected in 2015 Q2, 2016 Q1, and 2016 Q2

SR 120 San Joaquin: No delay detected in 2015 Q2, 2016 Q1, and 2016 Q2

SR 120 Tuolumne: No delay detected in 2015 Q2, 2016 Q1, and 2016 Q2

SR 219 Stanislaus: No delay detected in 2015 Q2, 2016 Q1, and 2016 Q2