

District 10 Mobility Performance Report

2017 Third Quarter

DEPARTMENT OF TRANSPORTATION

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: Jaime Q. Quesada

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2017 Third 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 third quarter, total delay equaled 115 thousand vehicle hours of delay (VHD) at the 35 mph speed threshold (44.9% decrease over one year ago; 56.6% increase over last quarter),

and 474 thousand VHD at the 60 mph threshold (27.5% decrease over one year ago; 48% increase over last quarter). The average weekday delay experienced in this quarter was approximately 1,507 VHD at 35 mph (43.7% decrease over one year ago; 48.9% increase over last quarter), and 6,590 VHD at 60 mph (25.5% decrease over one year ago; 45.8% increase over last quarter). The decreases in VHD over one year ago can be attributed to completion of the I5 widening which included HOV lanes, SR 99 South Stockton Widening, and SR 99 Manteca Widening projects. The increases in VHD over last quarter can be attributed to improved detection as shown in the Average Number of Good and Bad Detectors summary chart on Page 6 of this report

Top Ten Bottlenecks for 2017 Quarter 3

FWY	COUNTY	LOCATION	SHIFT	ABS. PM	CA PM	# DAYS ACTIVE	AVG. EXTENT (MILES)	TOTAL DELAY (VEH-HRS)	TOTAL DURATION (MINS)
I205-W	SJ	E-O Hansen Rd	AM	3,310	2,38	59	4.9	122,533	9,265
SR99-S	STA	Kansas Ave	PM	227,834	16,799	53	1.1	10,790	5,955
SR99-S	SJ	S-O Rte 120	PM	241,202	5,417	49	0.5	4,890	5,930
SR99-S	SJ	N-O Jack Tone Rd	PM	238,974	3,189	52	0.4	4,665	7,685
SR99-N	STA	N-O Carpenter Rd-Briggsmore Ave	PM	229,580	18,52	10	3.0	4,220	735
SR99-S	SJ	S-O Austin Rd OC	PM	240,425	4,64	59	0.2	3,364	8,575
SR99-N	STA	Crows Landing Rd OC	PM	225,533	14,473	30	0.4	3,022	3,560
SR99-N	STA	Whitmore Ave OC	AM	222,968	11,908	20	2.3	2,855	1,410
SR99-N	STA	Crows Landing Rd OC	AM	225,533	14,473	33	0.4	2,280	2,950
I5-N	SJ	N-O French Camp Rd	PM	468,140	22,648	45	0.2	1,007	3,305

The following District 10 projects are currently being constructed or are scheduled for construction effective January 2018. These current and future (planned) projects will further relieve congestion in District 10:

MERCED COUNTY

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 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

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

I-205 SMART CORRIDOR PHASE 2; EA 10-1C330

Install ramp meters and ITS elements along I205 from MacArthur to Grant Line Road
Currently in PA&ED
End Project – 11/01/2021

STANISLAUS COUNTY

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

Improve Mainline and Ramp Operations; Standardize Structure Clearance; Add Auxiliary Lane
Currently in PA&ED
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 2017 Q3 Quarterly Mobility Statistics.

2017 Q3 Quarterly Mobility Statistics - District 10

Data may change in coming months due to on-going data reconciliation process

Measure	Graph	Percentage Change									
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <table border="1"> <tr><th>Quarter</th><th>VMT (Billions)</th></tr> <tr><td>2016 Q3</td><td>1.2</td></tr> <tr><td>2017 Q2</td><td>1.3</td></tr> <tr><td>2017 Q3</td><td>1.3</td></tr> </table>	Quarter	VMT (Billions)	2016 Q3	1.2	2017 Q2	1.3	2017 Q3	1.3	Over one year ago	Over last quarter
		Quarter	VMT (Billions)								
2016 Q3	1.2										
2017 Q2	1.3										
2017 Q3	1.3										
		3.1% ↑	-4% ↓								
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Quarter</th><th>VHD (Thousands)</th></tr> <tr><td>2016 Q3</td><td>208</td></tr> <tr><td>2017 Q2</td><td>73</td></tr> <tr><td>2017 Q3</td><td>116</td></tr> </table>	Quarter	VHD (Thousands)	2016 Q3	208	2017 Q2	73	2017 Q3	116	Over one year ago	Over last quarter
		Quarter	VHD (Thousands)								
2016 Q3	208										
2017 Q2	73										
2017 Q3	116										
		-44.9% ↓	56.6% ↑								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours</p> <table border="1"> <tr><th>Quarter</th><th>VHD (Hours)</th></tr> <tr><td>2016 Q3</td><td>2679</td></tr> <tr><td>2017 Q2</td><td>1012</td></tr> <tr><td>2017 Q3</td><td>1607</td></tr> </table>	Quarter	VHD (Hours)	2016 Q3	2679	2017 Q2	1012	2017 Q3	1607	Over one year ago	Over last quarter
		Quarter	VHD (Hours)								
2016 Q3	2679										
2017 Q2	1012										
2017 Q3	1607										
		-43.7% ↓	48.9% ↑								
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Quarter</th><th>VHD (Thousands)</th></tr> <tr><td>2016 Q3</td><td>663</td></tr> <tr><td>2017 Q2</td><td>320</td></tr> <tr><td>2017 Q3</td><td>474</td></tr> </table>	Quarter	VHD (Thousands)	2016 Q3	663	2017 Q2	320	2017 Q3	474	Over one year ago	Over last quarter
		Quarter	VHD (Thousands)								
2016 Q3	663										
2017 Q2	320										
2017 Q3	474										
		-27.5% ↓	48% ↑								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours</p> <table border="1"> <tr><th>Quarter</th><th>VHD (Hours)</th></tr> <tr><td>2016 Q3</td><td>8848</td></tr> <tr><td>2017 Q2</td><td>4620</td></tr> <tr><td>2017 Q3</td><td>6680</td></tr> </table>	Quarter	VHD (Hours)	2016 Q3	8848	2017 Q2	4620	2017 Q3	6680	Over one year ago	Over last quarter
		Quarter	VHD (Hours)								
2016 Q3	8848										
2017 Q2	4620										
2017 Q3	6680										
		-25.5% ↓	45.8% ↑								

Data may change in coming months due to on-going data reconciliation process

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
		Monday -40.8%	-
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		-	Friday 48.1%
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
		4 PM -53.5%	2 PM -22.8%
		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
		8 AM 134.2%	5 PM 132.6%
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
		8 PM -96.2%	8 PM -79.8%
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		7 AM 1084.9%	1 PM 263.5%
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
		10 PM -91.9%	9 PM -23.1%
		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		8 AM 1618.7%	9 AM 322.9%

Data may change in coming months due to on-going data reconciliation process

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
		San Joaquin -55.1% ↓	-
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Stanislaus 7.1% ↑	Stanislaus 103.9% ↑
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
		PM Peak -99.2% ↓	Off-Peak Day -6% ↓
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
			PM Peak 62.2% ↑
Average Number of Good and Bad Detectors		Change in Good over one year ago	Change in Good over last quarter
		-22% ↓	8% ↑
		Change in Bad over one year ago	Change in Bad over last quarter
		66% ↑	-2% ↓

Data may change in coming months due to on-going data reconciliation process

Congestion by Route												
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2017 Q3-2016 Q3		Difference 2017 Q3-2017 Q2		Rank			
		2016 Q3	2017 Q2	2017 Q3	Absolute	Percentage	Absolute	Percentage	2016 Q3	2017 Q2	2017 Q3	
TR5	San Joaquin	271,280	188,201	191,624	-79,655	-29.4%	3,421	1.8%	1	1	1	
SR99	San Joaquin	121,405	37,376	61,140	-60,265	-49.6%	23,765	65.6%	2	2	2	
SR99	Stanislaus	22,448	18,271	30,507	8,058	35.9%	12,236	67.0%	3	3	3	
SR132	Stanislaus	0	0	10,577	10,577		10,577				4	
1580	San Joaquin	10,261	6,839	5,206	-5,054	-49.3%	-1,633	-23.9%	6	4	5	
I5	San Joaquin	3,517	3,417	2,220	-1,298	-36.9%	-1,189	-35.1%	8	5	6	
SR219	Stanislaus	1,865	2,797	1,970	5	0.3%	-927	-33.1%	9	6	7	
SR99	Merced	9,902	710	1,258	-8,646	-87.3%	546	76.9%	7	9	8	
SR132	San Joaquin	422	2,582	1,131	709	168.1%	-1,451	-56.2%	12	7	9	
SR120	San Joaquin	0	502	752	752		250	49.9%		10	10	
SR4	San Joaquin	19,139	1,017	308	-18,831	-98.4%	-705	-69.7%	4	8	11	
SR12	San Joaquin	0	0	3	3		3				12	
I5	Merced	113	0	0	-113	-100.0%	0		13			
I5	Stanislaus	15,806	0	0	-15,806	-100.0%	0		5			
SR104	Amador	0	0	0	0		0					
SR108	Tuolumne	0	0	0	0		0					
SR120	Tuolumne	0	0	0	0		0					
SR152	Merced	528	0	0	-528	-100.0%	0		11			
SR49	Mariposa	528	0	0	-528	-100.0%	0		10			
SR88	Amador	0	0	0	0		0					
TOTALS		477,206	261,714	306,694	-170,613	-35.8%	44,980	17.1%				

SR 132 San Joaquin: No delay detected in 2016 Q3 and 2017 Q2.

SR 120 San Joaquin: No delay detected in 2016 Q3.

SR 12 San Joaquin: No delay detected in 2016 Q3 and 2017 Q2.

I5 Merced: No delay detected in 2017 Q2 and 2017 Q3.

I5 Stanislaus: No delay detected in 2017 Q2 and 2017 Q3.

SR 104 Amador: No delay detected in 2016 Q3, 2017 Q2, and 2017 Q3.

SR 108 Tuolumne: No delay detected in 2016 Q3, 2017 Q2, and 2017 Q3.

SR 120 Tuolumne: No delay detected in 2016 Q3, 2017 Q2, and 2017 Q3.

SR 152 Merced: No delay detected in 2017 Q2 and 2017 Q3.

SR 49 Mariposa: No delay detected in 2017 Q2 and 2017 Q3.

SR 88 Amador: No delay detected in 2016 Q3, 2017 Q2, and 2017 Q3.