

District 10 Mobility Performance Report

2017 Second Quarter

DEPARTMENT OF TRANSPORTATION

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: Jaime Q. Quesada

District 10 Mobility Performance Report

2017 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 73 thousand vehicle hours of delay (VHD) at the 35 mph speed threshold (45.3% decrease over one year ago; 11.3% decrease over last quarter), and 320 thousand VHD at the 60 mph threshold (35.3% decrease over one year ago; 7.8% increase over last quarter). The average weekday delay experienced in this quarter was approximately 1,105 VHD at 35 mph (40.6% decrease over one year ago; 8.4% decrease over last quarter), and 4,170 VHD at 60 mph (25.5% decrease over one year ago; 32.4% decrease over last quarter). The decreases in VHD can be attributed to completion of the I5 widening which included HOV lanes, SR 99 South Stockton Widening, and SR 99 Manteca Widening projects.

Top Ten Bottlenecks for 2017 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	E of Hansen Rd	AM	3.310	2.380	54	4.9	120872	8410
SR99-S	STA	Kansas Ave	PM	227.834	R16.799	45	1.5	9665	4000
SR99-S	SJ	N/O Jack Tone Rd	PM	238.974	3.189	49	0.4	4146	6265
SR99-S	SJ	S/O Austin Rd OC	PM	240.425	4.640	52	0.2	3974	7360
SR99-S	SJ	S/O Rte 120	PM	241.202	5.417	45	0.6	3798	5065
SR219-W	STA	E/O SR 99	PM	0.092	0.168	24	2.3	1158	1720
I5-N	SJ	N/O French Camp Rd	PM	468.140	R22.648	34	0.2	502	1975
SR219-W	STA	E/O SR 99	AM	0.092	0.168	13	2.3	408	445
SR99-N	SJ	N/O E.Hammer Lane OC	AM	258.860	23.050	23	0.6	398	1780
I5-S	SJ	N/O French Camp Rd OC	AM	468.057	R22.565	10	0.4	301	385

The following District 10 projects are currently being constructed or are scheduled for construction effective August 2017. 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 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

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 – PELANDELE INTERCHANGE; EA 10-47210

Modify Existing Interchange
Approve Construction Contract Date – 4/15/2014
End Project – 12/1/2017

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 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 Q2 Quarterly Mobility Statistics.

2017 Q2 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 Q2</td><td>1.2</td></tr> <tr><td>2017 Q1</td><td>1.2</td></tr> <tr><td>2017 Q2</td><td>1.3</td></tr> </table>	Quarter	VMT (Billions)	2016 Q2	1.2	2017 Q1	1.2	2017 Q2	1.3	Over one year ago	Over last quarter
		Quarter	VMT (Billions)								
2016 Q2	1.2										
2017 Q1	1.2										
2017 Q2	1.3										
		12.5% ↑	8% ↑								
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 Q2</td><td>184</td></tr> <tr><td>2017 Q1</td><td>83</td></tr> <tr><td>2017 Q2</td><td>73</td></tr> </table>	Quarter	VHD (Thousands)	2016 Q2	184	2017 Q1	83	2017 Q2	73	Over one year ago	Over last quarter
		Quarter	VHD (Thousands)								
2016 Q2	184										
2017 Q1	83										
2017 Q2	73										
		-45.3% ↓	-11.3% ↓								
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 Q2</td><td>1706</td></tr> <tr><td>2017 Q1</td><td>1106</td></tr> <tr><td>2017 Q2</td><td>1012</td></tr> </table>	Quarter	VHD (Hours)	2016 Q2	1706	2017 Q1	1106	2017 Q2	1012	Over one year ago	Over last quarter
		Quarter	VHD (Hours)								
2016 Q2	1706										
2017 Q1	1106										
2017 Q2	1012										
		-40.6% ↓	-8.4% ↓								
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 Q2</td><td>494</td></tr> <tr><td>2017 Q1</td><td>297</td></tr> <tr><td>2017 Q2</td><td>320</td></tr> </table>	Quarter	VHD (Thousands)	2016 Q2	494	2017 Q1	297	2017 Q2	320	Over one year ago	Over last quarter
		Quarter	VHD (Thousands)								
2016 Q2	494										
2017 Q1	297										
2017 Q2	320										
		-35.3% ↓	7.8% ↑								
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 Q2</td><td>8748</td></tr> <tr><td>2017 Q1</td><td>4170</td></tr> <tr><td>2017 Q2</td><td>4620</td></tr> </table>	Quarter	VHD (Hours)	2016 Q2	8748	2017 Q1	4170	2017 Q2	4620	Over one year ago	Over last quarter
		Quarter	VHD (Hours)								
2016 Q2	8748										
2017 Q1	4170										
2017 Q2	4620										
		-33% ↓	8.4% ↑								

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
		Friday -39.3%	Wednesday -18.7%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		-	Monday 37.8%
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
		5 PM -54.5%	8 AM -60%
		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
		5 AM 90%	4 PM 39.9%
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
		12 AM -97.7%	4 PM -82.5%
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		7 AM 57.6%	7 AM 232.7%
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
		11 AM -93.4%	1 PM -83%
		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		9 PM 1311.2%	9 PM 2024.3%

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 -53.8% ↓	San Joaquin -30.9% ↓
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Stanislaus 44.8% ↑	Stanislaus 225.2% ↑
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 -38.5% ↓	Off-Peak Day -16.3% ↓
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		PM Peak 27.2% ↑	
Average Number of Good and Bad Detectors		Change in Good over one year ago	Change in Good over last quarter
		-30% ↓	-4% ↓
		Change in Bad over one year ago	Change in Bad over last quarter
		93% ↑	12% ↑

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 Q2-2016 Q2		Difference 2017 Q2-2017 Q1		Rank		
		2016 Q2	2017 Q1	2017 Q2	Absolute	Percentage	Absolute	Percentage	2016 Q2	2017 Q1	2017 Q2
I205	San Joaquin	285,784	119,552	188,203	-97,581	-34.1%	68,651	57.4%	1	1	1
SR99	San Joaquin	47,605	68,896	37,376	-10,229	-21.5%	-31,520	-45.8%	2	2	2
SR99	Stanislaus	13,575	2,946	18,271	4,696	34.6%	15,325	520.1%	4	5	3
I580	San Joaquin	16,416	42,247	6,839	-9,576	-58.3%	-35,408	-83.8%	3	3	4
I5	San Joaquin	2,745	960	3,417	672	24.5%	2,457	255.8%	7	7	5
SR219	Stanislaus	0	3,522	2,797	2,797		-725	-20.6%		4	6
SR132	San Joaquin	0	476	2,582	2,582	2582200.0%	2,106	442.4%	12	8	7
SR4	San Joaquin	9,798	320	1,017	-8,781	-89.6%	697	217.7%	5	9	8
SR99	Merced	7,099	1,552	710	-6,389	-90.0%	-842	-54.2%	6	6	9
SR120	San Joaquin	0	203	502	502		299	147.7%		10	10
I5	Merced	5	0	0	-5	-100.0%	0		11		
I5	Stanislaus	973	11	0	-973	-100.0%	-11	-100.0%	8	12	
SR104	Amador	0	0	0	0		0				
SR108	Tuolumne	0	0	0	0		0				
SR12	San Joaquin	0	0	0	0		0				
SR120	Tuolumne	0	0	0	0		0				
SR152	Merced	835	10	0	-835	-100.0%	-10	-100.0%	9	13	
SR49	Mariposa	205	25	0	-205	-100.0%	-25	-100.0%	10	11	
TOTALS		385,039	240,720	261,714	-123,326	-32.0%	20,994	8.7%			

- SR 219 Stanislaus: No delay detected in 2016 Q2
- SR 132 San Joaquin: No delay detected in 2016 Q2
- SR 120 San Joaquin: No delay detected in 2016 Q2
- I5 Merced: No delay detected in 2017 Q1 and 2017 Q2
- I5 Stanislaus: No delay detected in 2017 Q2
- SR 104 Amador: No delay detected in 2016 Q2, 2017 Q1, and 2017 Q2
- SR 108 Tuolumne: No delay detected in 2016 Q2, 2017 Q1, and 2017 Q2
- SR 12 San Joaquin: No delay detected in 2016 Q2, 2017 Q1, and 2017 Q2
- SR 120 Tuolumne: No delay detected in 2016 Q2, 2017 Q1, and 2017 Q2
- SR 152 Merced: No delay detected in 2017 Q2
- SR 49 Mariposa: No delay detected in 2017 Q2