

District 10 Mobility Performance Report

2019 First Quarter

DEPARTMENT OF TRANSPORTATION

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: Jaime Q. Quesada

District 10 Mobility Performance Report

2019 First 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 first quarter, total delay equaled 558 thousand vehicle hours of delay (VHD) at the 35 mph speed threshold and 1.7 million VHD at the 60 mph threshold. Compared to the same quarter the

year before, there was a 168.9 percent increase in 35 mph quarterly delay and 115.6 percent increase in 60 mph quarterly delay. The average weekday delay experienced in this quarter was approximately 7,751 VHD at 35 mph and 23,793 VHD at 60 mph. The increased delay numbers can mainly be attributed to a 31 percent increase in the number of good detectors and -33% percent decrease in the number of bad detectors compared to the first quarter of 2018.

The following District 10 projects are currently being constructed or are scheduled for construction effective May 2019. These current and future (planned) projects will further relieve congestion in District 10:

MERCED COUNTY

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 – 11/01/202

I-205 – MOUNTAIN HOUSE PARKWAY INTERCHANGE PROJECT; EA 10-1E210

Improve the I-205 – Mountain House Parkway Interchange to accommodate planned future growth in and around the City of Tracy

Currently in PA&ED

End Project – Estimated mid 2022

I-580 – PATTERSON PASS ROAD INTERCHANGE PROJECT; EA 10-1E220

Improve the I-205 – Patterson Pass Road Interchange to accommodate planned future growth in and around the City of Tracy

Currently in PA&ED

End Project – Estimated mid 2022

I-205 – LAMMERS ROAD / 11TH STREET INTERCHANGE PROJECT; EA 10-0H910

Construct the I-205 – Lammers Road / 11th Street Interchange to accommodate planned future growth in and around the City of Tracy

Currently in PA&ED

End Project – Estimated mid 2022

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 2019 Q1 Quarterly Mobility Statistics.

2019 Q1 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>Period</th><th>Value (Billions)</th></tr> <tr><td>2018 Q1</td><td>1.4</td></tr> <tr><td>2018 Q4</td><td>1.6</td></tr> <tr><td>2019 Q1</td><td>3.3</td></tr> </table>	Period	Value (Billions)	2018 Q1	1.4	2018 Q4	1.6	2019 Q1	3.3	Over one year ago	Over last quarter
Period	Value (Billions)										
2018 Q1	1.4										
2018 Q4	1.6										
2019 Q1	3.3										
		140.3%	113.6%								
		↑	↑								
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Period</th><th>Value (Thousands)</th></tr> <tr><td>2018 Q1</td><td>207.5</td></tr> <tr><td>2018 Q4</td><td>517.1</td></tr> <tr><td>2019 Q1</td><td>557.9</td></tr> </table>	Period	Value (Thousands)	2018 Q1	207.5	2018 Q4	517.1	2019 Q1	557.9	Over one year ago	Over last quarter
Period	Value (Thousands)										
2018 Q1	207.5										
2018 Q4	517.1										
2019 Q1	557.9										
		168.9%	7.9%								
		↑	↑								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours</p> <table border="1"> <tr><th>Period</th><th>Value (Hours)</th></tr> <tr><td>2018 Q1</td><td>2900</td></tr> <tr><td>2018 Q4</td><td>7222</td></tr> <tr><td>2019 Q1</td><td>7751</td></tr> </table>	Period	Value (Hours)	2018 Q1	2900	2018 Q4	7222	2019 Q1	7751	Over one year ago	Over last quarter
Period	Value (Hours)										
2018 Q1	2900										
2018 Q4	7222										
2019 Q1	7751										
		167.2%	7.3%								
		↑	↑								
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Period</th><th>Value (Millions)</th></tr> <tr><td>2018 Q1</td><td>0.8</td></tr> <tr><td>2018 Q4</td><td>1.5</td></tr> <tr><td>2019 Q1</td><td>1.7</td></tr> </table>	Period	Value (Millions)	2018 Q1	0.8	2018 Q4	1.5	2019 Q1	1.7	Over one year ago	Over last quarter
Period	Value (Millions)										
2018 Q1	0.8										
2018 Q4	1.5										
2019 Q1	1.7										
		115.5%	8.8%								
		↑	↑								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Period</th><th>Value (Thousands)</th></tr> <tr><td>2018 Q1</td><td>11</td></tr> <tr><td>2018 Q4</td><td>22</td></tr> <tr><td>2019 Q1</td><td>24</td></tr> </table>	Period	Value (Thousands)	2018 Q1	11	2018 Q4	22	2019 Q1	24	Over one year ago	Over last quarter
Period	Value (Thousands)										
2018 Q1	11										
2018 Q4	22										
2019 Q1	24										
		115.6%	9.4%								
		↑	↑								

Measure	Graph	Percentage Change	
<p>Average Vehicle Hours of Delay by Day of Week at 60 mph</p>		<p>Largest Magnitude Decrease over one year ago</p>	<p>Largest Magnitude Decrease over last quarter</p>
		<p>–</p>	<p>Thursday -19.4% ↓</p>
		<p>Largest Magnitude Increase over one year ago</p>	<p>Largest Magnitude Increase over last quarter</p>
		<p>Tuesday 164.4% ↑</p>	<p>Tuesday 40.8% ↑</p>
<p>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays</p>		<p>Largest Magnitude Weekday Decrease over one year ago</p>	<p>Largest Magnitude Weekday Decrease over last quarter</p>
		<p>–</p>	<p>5 PM -10.5% ↓</p>
		<p>Largest Magnitude Weekday Increase over one year ago</p>	<p>Largest Magnitude Weekday Increase over last quarter</p>
		<p>4 PM 148.7% ↑</p>	<p>5 AM 112.1% ↑</p>
<p>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays</p>		<p>Largest Magnitude Saturday Decrease over one year ago</p>	<p>Largest Magnitude Saturday Decrease over last quarter</p>
		<p>3 AM -33.1% ↓</p>	<p>5 AM -38.5% ↓</p>
		<p>Largest Magnitude Saturday Increase over one year ago</p>	<p>Largest Magnitude Saturday Increase over last quarter</p>
		<p>1 PM 689.4% ↑</p>	<p>4 PM 95.1% ↑</p>
<p>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays</p>		<p>Largest Magnitude Sun./Holiday Decrease over one year ago</p>	<p>Largest Magnitude Sun./Holiday Decrease over last quarter</p>
		<p>–</p>	<p>6 AM -33.3% ↓</p>
		<p>Largest Magnitude Sun./Holiday Increase over one year ago</p>	<p>Largest Magnitude Sun./Holiday Increase over last quarter</p>
		<p>4 PM 320.4% ↑</p>	<p>4 PM 84.5% ↑</p>

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
		<p>Mariposa -19.7% ↓</p>	<p>Largest Magnitude Increase over one year ago</p> <p>Largest Magnitude Increase over last quarter</p> <p>San Joaquin 139.6% ↑</p> <p>San Joaquin 7.5% ↑</p>
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
		<p>PM Peak 265.4% ↑</p> <p>AM Peak 49% ↑</p>	<p>Largest Magnitude Increase over one year ago</p> <p>Largest Magnitude Increase over last quarter</p>
Average Number of Good and Bad Detectors		Change in Good over one year ago	Change in Good over last quarter
		<p>31% ↑</p> <p>Change in Bad over one year ago</p> <p>-33% ↑</p>	<p>10% ↑</p> <p>Change in Bad over last quarter</p> <p>-16% ↑</p>

Congestion by Route											
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2018 Q1-2018 Q1		Difference 2018 Q1-2018 Q4		Rank		
		2018 Q1	2018 Q4	2018 Q1	Absolute	Percentage	Absolute	Percentage	2018 Q1	2018 Q4	2019 Q1
I205	San Joaquin	203,736	318,808	326,954	123,218	60.5%	8,146	2.6%	1	1	1
SR99	Stanislaus	30,934	130,683	144,129	113,195	365.9%	13,446	10.3%	3	2	2
I580	San Joaquin	54,482	41,136	84,781	30,300	55.6%	43,645	106.1%	2	5	3
SR99	San Joaquin	23,707	43,790	46,922	23,214	97.9%	3,132	7.2%	4	4	4
I5	San Joaquin	8,854	54,429	38,052	29,198	329.8%	-16,377	-30.1%	6	3	5
SR4	San Joaquin	5,905	26,637	20,354	14,449	244.7%	-6,283	-23.6%	7	6	6
SR120	San Joaquin	227	8,379	20,191	19,964	8794.6%	11,812	141.0%	12	9	7
SR132	Stanislaus	20,244	21,444	17,455	-2,790	-13.8%	-3,989	-18.6%	5	7	8
SR99	Merced	1,277	7,505	14,144	12,867	1007.4%	6,639	88.5%	9	10	9
I5	Stanislaus	27	11,010	10,859	10,832	40568.9%	-151	-1.4%	14	8	10
SR132	San Joaquin	214	2,822	9,833	9,619	4492.9%	7,012	248.5%	13	13	11
SR12	San Joaquin	0	1,770	6,364	6,364		4,595	259.7%		14	12
SR219	Stanislaus	3,100	4,799	2,887	-213	-6.9%	-1,912	-39.8%	8	11	13
SR120	Tuolumne	0	955	2,462	2,462		1,507	157.7%		15	14
SR152	Merced	16	798	1,787	1,771	11139.0%	989	124.0%	16	16	15
SR108	Tuolumne	861	333	1,645	784	91.0%	1,313	394.7%	10	18	16
SR165	Merced	306	138	550	244	79.7%	412	298.2%	11	19	17
SR49	Mariposa	0	587	471	471		-116	-19.7%		17	18
I5	Merced	0	2,890	234	234		-2,656	-91.9%		12	19
SR88	Amador	3	3	199	195	5747.1%	196	7000.0%	17	20	20
SR16	Amador	0	1	14	14		13	1885.7%		21	21
SR104	Amador	0	1	5	5		4	542.9%		21	22
SR124	Amador	0	1	4	4		4	500.0%		21	23
SR49	Tuolumne	16	0	1	-16	-96.3%	1		15		24
SR120	Stanislaus	0	0	0	0		0				
TOTALS		353,910	678,916	750,297	396,387	112.0%	71,381	10.5%			