

# District 10 Mobility Performance Report

2017 Fourth Quarter

**DEPARTMENT OF TRANSPORTATION**

February 8, 2018  
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## District 10 Mobility Performance Report

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2017 Fourth 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 fourth quarter, total delay equaled 151 thousand vehicle hours of delay (VHD) at the 35 mph speed threshold (13.4% increase over one year ago; 31.3% increase over last quarter),

and 596 thousand VHD at the 60 mph threshold (34% increase over one year ago; 25.8% increase over last quarter). The average weekday delay experienced in this quarter was approximately 2,181 VHD at 35 mph (25.9% increase over one year ago; 44.7% increase over last quarter), and 8,508 VHD at 60 mph (37.9% increase over one year ago; 29.1% increase over last quarter). The increases in VHD over one year ago and over the last quarter can be attributed to an overall 41% decrease in detection reliability (-5% reduction in good detection and 36% increase in bad detection) and to yearly growth in District 10.

### Top Ten Bottlenecks for 2017 Quarter 4

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	2,38	50	4.9	98,336	6,930
SR99-S	STA	Kansas Ave	PM	227,834	R16,799	53	1.1	10,577	6,075
I205-W	SJ	E-O Mountain House Pkwy	AM	2,900	1.97	19	1.4	7,697	2,270
SR99-N	STA	Crows Landing Rd OC	PM	225,533	R14,473	57	0.4	6,613	7,540
SR99-S	SJ	N-O Jack Tone Rd	PM	238,974	3,189	56	0.4	6,533	8,950
SR99-S	SJ	S-O Austin Rd OC	PM	240,425	4.64	56	0.2	4,705	9,145
SR99-S	SJ	S-O Rte 120	PM	241,202	5,417	43	0.5	4,452	5,430
SR99-N	STA	Crows Landing Rd OC	AM	225,533	R14,473	50	0.4	3,321	4,310
SR99-S	STA	Service Rd OC	PM	221,613	R10,578	23	1.7	4,427	1,885
I5-N	SJ	N-O French Camp Rd	PM	468,140	R22,648	39	0.2	835	3,085

The following District 10 projects are currently being constructed or are scheduled for construction effective February 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 Q4 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>Year/Quarter</th><th>Value</th></tr> <tr><td>2018 Q4</td><td>1.2</td></tr> <tr><td>2017 Q3</td><td>1.3</td></tr> <tr><td>2017 Q4</td><td>1.4</td></tr> </table>	Year/Quarter	Value	2018 Q4	1.2	2017 Q3	1.3	2017 Q4	1.4	Over one year ago	Over last quarter
		Year/Quarter	Value								
2018 Q4	1.2										
2017 Q3	1.3										
2017 Q4	1.4										
		13.6%	8.8%								
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year/Quarter</th><th>Value</th></tr> <tr><td>2018 Q4</td><td>133</td></tr> <tr><td>2017 Q3</td><td>116</td></tr> <tr><td>2017 Q4</td><td>151</td></tr> </table>	Year/Quarter	Value	2018 Q4	133	2017 Q3	116	2017 Q4	151	Over one year ago	Over last quarter
		Year/Quarter	Value								
2018 Q4	133										
2017 Q3	116										
2017 Q4	151										
		13.4%	31.3%								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours</p> <table border="1"> <tr><th>Year/Quarter</th><th>Value</th></tr> <tr><td>2018 Q4</td><td>1733</td></tr> <tr><td>2017 Q3</td><td>1607</td></tr> <tr><td>2017 Q4</td><td>2181</td></tr> </table>	Year/Quarter	Value	2018 Q4	1733	2017 Q3	1607	2017 Q4	2181	Over one year ago	Over last quarter
		Year/Quarter	Value								
2018 Q4	1733										
2017 Q3	1607										
2017 Q4	2181										
		25.9%	44.7%								
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year/Quarter</th><th>Value</th></tr> <tr><td>2018 Q4</td><td>445</td></tr> <tr><td>2017 Q3</td><td>474</td></tr> <tr><td>2017 Q4</td><td>588</td></tr> </table>	Year/Quarter	Value	2018 Q4	445	2017 Q3	474	2017 Q4	588	Over one year ago	Over last quarter
		Year/Quarter	Value								
2018 Q4	445										
2017 Q3	474										
2017 Q4	588										
		34%	25.8%								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours</p> <table border="1"> <tr><th>Year/Quarter</th><th>Value</th></tr> <tr><td>2018 Q4</td><td>8171</td></tr> <tr><td>2017 Q3</td><td>8590</td></tr> <tr><td>2017 Q4</td><td>8608</td></tr> </table>	Year/Quarter	Value	2018 Q4	8171	2017 Q3	8590	2017 Q4	8608	Over one year ago	Over last quarter
		Year/Quarter	Value								
2018 Q4	8171										
2017 Q3	8590										
2017 Q4	8608										
		37.9%	29.1%								

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
		Sun/Hol -7.3%	-
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Thursday 46.4%	Thursday 55.6%
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
		2 PM -47.8%	8 AM -13.4%
		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
		4 PM 81.4%	4 PM 94.1%
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 PM -75%	10 AM -87.6%
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		3 PM 39.2%	3 PM 104.2%
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
		8 PM -69.5%	9 AM -95%
		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		6 AM 1478.5%	4 PM 301.9%

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
		Merced -94.1%	-
		Stanislaus 288.1%	Stanislaus 68.7%
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 -46.4%	-
		PM Peak 83.8%	PM Peak 101.6%
Average Number of Good and Bad Detectors		Change in Good over one year ago	Change in Good over last quarter
		-5%	14%
		Change in Bad over one year ago	Change in Bad over last quarter
36%	-7%		

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 Q4-2016 Q4		Difference 2017 Q4-2017 Q3		Rank		
		2016 Q4	2017 Q3	2017 Q4	Absolute	Percentage	Absolute	Percentage	2016 Q4	2017 Q3	2017 Q4
ID05	San Joaquin	274,610	191,624	154,421	-120,189	-43.8%	-37,203	-19.4%	1	1	1
SR99	Stanislaus	14,101	30,507	44,825	30,724	217.9%	14,318	46.9%	5	3	2
SR99	San Joaquin	64,509	61,140	42,712	-21,796	-33.8%	-18,428	-30.1%	2	2	3
SR132	Stanislaus	0	10,577	24,394	24,394		13,818	130.6%		4	4
I580	San Joaquin	57,976	5,206	14,743	-43,233	-74.6%	9,537	183.2%	3	5	5
I5	San Joaquin	3,315	2,220	7,654	4,339	130.9%	5,434	244.8%	8	6	6
SR219	Stanislaus	3,857	1,870	3,258	-599	-15.5%	1,389	74.3%	7	7	7
SR99	Merced	25,734	1,256	1,619	-24,116	-93.7%	363	28.9%	4	8	8
SR4	San Joaquin	10,360	308	390	-9,970	-96.2%	82	26.7%	6	11	9
SR120	San Joaquin	0	752	355	355		-397	-52.8%		10	10
SR132	San Joaquin	0	1,131	9	9	8500.0%	-1,123	-99.2%	13	9	11
SR12	San Joaquin	1	3	0	-1	-84.6%	-3	-94.1%	12	12	12
I5	Merced	0	0	0	0		0				
I5	Stanislaus	717	0	0	-717	-100.0%	0		10		
SR104	Amador	0	0	0	0		0				
SR108	Tuolumne	0	0	0	0		0				
SR120	Tuolumne	0	0	0	0		0				
SR152	Merced	1,636	0	0	-1,636	-100.0%	0		9		
SR49	Mariposa	67	0	0	-67	-100.0%	0		11		
SR88	Amador	0	0	0	0		0				
<b>TOTALS</b>		<b>456,883</b>	<b>306,594</b>	<b>294,381</b>	<b>-162,502</b>	<b>-35.6%</b>	<b>-12,213</b>	<b>-4.0%</b>			

- SR 132 Stanislaus: No delay detected in 2016 Q4.
- SR 120 San Joaquin: No delay detected in 2016 Q4.
- SR 132 San Joaquin: No delay detected in 2016 Q4.
- SR 12 San Joaquin: No delay detected in 2017 Q4.
- I5 Merced: No delay detected in 2016 Q4, 2017 Q3, and 2017 Q4.
- I5 Stanislaus: No delay detected in 2017 Q3 and 2017 Q4.
- SR 104 Amador: No delay detected in 2016 Q4, 2017 Q3, and 2017 Q4.
- SR 108 Tuolumne: No delay detected in 2016 Q4, 2017 Q3, and 2017 Q4.
- SR 120 Tuolumne: No delay detected in 2016 Q4, 2017 Q3, and 2017 Q4.
- SR 152 Merced: No delay detected in 2017 Q3 and 2017 Q4.
- SR 49 Mariposa: No delay detected in 2017 Q3 and 2017 Q4.
- SR 88 Amador: No delay detected in 2016 Q4, 2017 Q3, and 2017 Q4.