

District 06 Mobility Performance Report

2018 Fourth Quarter

DEPARTMENT OF TRANSPORTATION

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: Terence Cortez

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EXECUTIVE SUMMARY

Overview

Caltrans District 6 is geographically diverse, and the second largest of the 12 Districts statewide, stretching from the southernmost part of Yosemite National Park in the north to the Mojave Desert. Also referred to as the Central Valley, District 6 encompasses Madera, Fresno, Tulare, Kings, and Kern counties. District 6 maintains and operates 476 miles of freeway and 1,554 miles of rural and urban highway. This District has the largest portion of road miles to maintain in the state highway system with 2,030 miles. Interstate 5 and State Route 99 span District 6, connecting the Central Valley to Northern and Southern California. These two routes and many others support substantial truck traffic for the agricultural base of the region.

The Mobility Performance Report (MPR) quarterly analysis compares current data with information from the same quarter of the previous year, and from the previous quarter using the following performance measures:

- Vehicle Miles of Travel (VMT)
- Vehicle Hours of Delay (VHD)
- Lost Lane Miles (equivalent lost productivity)
- Detector Health

This information is based on continuous data collected by automated vehicle detector stations deployed on urban-area freeways with recurrent congestion. The MPR presents congestion delay 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. The criteria for speed thresholds are set by Caltrans and are based on engineering experience and District input.

FINDINGS

In the fourth quarter, total delay was 305 thousand Vehicle Hours of Delay (VHD) at the 35mph speed threshold, and 1.4 million VHD at the 60mph threshold. The average non-holiday weekday experience was approximately 3,661 VHD at 35 mph, and 18 thousand VHD at 60 mph.

For the entire district, the VHD for the fourth quarter experienced an overall decrease of 31.7 percent when compared to the previous quarter, however the delay varied with respect to each County and route. The VHD also experienced a 13.8 percent decrease when comparing the fourth quarter of 2018 to the fourth quarter of 2017. Vehicle Miles Traveled decreased 3.3 percent when compared to the third quarter to 1.9 billion. Fresno County experienced the largest decrease in VHD at 42.6 percent, and Madera County experienced the largest increase in VHD at 26 percent, over the previous quarter at the 35mph threshold. An overall decrease in VHD for the district could correspond to the reduction in approved lane closures.

An increase in VHD was observed on State Route 168 in Fresno County. The increase in delay corresponds directly to the detectors reporting “high values” for the entire month of December. The increase in delay could also be attributed to holiday traffic patterns.

An increase in VHD was observed on State Route 198 in Kings County. Recent construction activities for the Hanford-Armona Roundabout project could have contributed to the increase in VHD during the fourth quarter.

CENTRAL REGION ONGOING PROJECTS

The following projects may have contributed to reduce overall vehicle hours of delay and to increase delay in certain locations of District 6.

Fresno County

Interstate 5; 06-0U080 0615000209 Pavement Preservation CAPM (PM 21.0-31.0)

State Route 99; 06-0T360 0615000066 Roadside Safety Improvements (PM 0.0-11.9)

State Route 99; 06-0HT10 0612000287 Route 99 Realignment (PM 23.7-26.2)

Kern County

State Route 58; 06-48461 0614000064 Operational Improvements (PM R52.3-R55.4)

State Route 99; 06-43350 0600000432 Modify Interchange (PM 30.5-31.1)

Kings County

State Route 41; 06-0T301 0615000041 Intersection Improvements (PM 34.7)

State Route 198; 06-0Q320 0613000034 Intersection Improvements – Construct Roundabout (PM 15.5)

Madera County

State Route 41; 06-0V020 0616000091 Intersection Improvements (PM 5.6-6.5)

Tulare County

State Route 99; 06-47150 0600000464 Reconstruct Betty Drive Interchange (PM 39.6-41.3)

BOTTLENECKS REPORTED FOR QUARTER 4

County	Fwy	Location	Shift	VDS	CA PM	# Days Active	Avg Extent (Miles)	Avg Delay (veh-hrs)	Avg Duration (mins)
Madera	99	Gateway Drive SB	PM	602301	9.78	30	2.09	100.71	118.83
Madera	99	0.2 Miles North of Avenue 15.5 SB	PM	602305	12.14	31	1.45	132.63	113.87
Kern	99	North of Ming Avenue NB	PM	619981	22.67	26	0.40	122.06	182.50
Kern	99	North of Rosedale Highway SB	PM	619984	26.294	52	0.92	100.59	112.88

MVDS 619981 Kern 99 NB – For the 4th quarter there were 84 approved lane closures at this location.

QUARTERLY MOBILITY STATISTICS

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>2017 Q4</td><td>1.8</td></tr> <tr><td>2018 Q3</td><td>2.0</td></tr> <tr><td>2018 Q4</td><td>1.9</td></tr> </table>	Year/Quarter	Value	2017 Q4	1.8	2018 Q3	2.0	2018 Q4	1.9	Over one year ago	Over last quarter
		Year/Quarter	Value								
2017 Q4	1.8										
2018 Q3	2.0										
2018 Q4	1.9										
		7.2% ↑	-3.3% ↓								
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>2017 Q4</td><td>353.8</td></tr> <tr><td>2018 Q3</td><td>446.4</td></tr> <tr><td>2018 Q4</td><td>304.9</td></tr> </table>	Year/Quarter	Value	2017 Q4	353.8	2018 Q3	446.4	2018 Q4	304.9	Over one year ago	Over last quarter
		Year/Quarter	Value								
2017 Q4	353.8										
2018 Q3	446.4										
2018 Q4	304.9										
		-13.8% ↓	-31.8% ↓								
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>2017 Q4</td><td>4107</td></tr> <tr><td>2018 Q3</td><td>5640</td></tr> <tr><td>2018 Q4</td><td>3661</td></tr> </table>	Year/Quarter	Value	2017 Q4	4107	2018 Q3	5640	2018 Q4	3661	Over one year ago	Over last quarter
		Year/Quarter	Value								
2017 Q4	4107										
2018 Q3	5640										
2018 Q4	3661										
		-10.9% ↓	-35.1% ↓								
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Year/Quarter</th><th>Value</th></tr> <tr><td>2017 Q4</td><td>1.5</td></tr> <tr><td>2018 Q3</td><td>1.6</td></tr> <tr><td>2018 Q4</td><td>1.4</td></tr> </table>	Year/Quarter	Value	2017 Q4	1.5	2018 Q3	1.6	2018 Q4	1.4	Over one year ago	Over last quarter
		Year/Quarter	Value								
2017 Q4	1.5										
2018 Q3	1.6										
2018 Q4	1.4										
		-9.5% ↓	-13.7% ↓								
Average Non-Holiday Weekday 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>2017 Q4</td><td>19</td></tr> <tr><td>2018 Q3</td><td>21</td></tr> <tr><td>2018 Q4</td><td>18</td></tr> </table>	Year/Quarter	Value	2017 Q4	19	2018 Q3	21	2018 Q4	18	Over one year ago	Over last quarter
		Year/Quarter	Value								
2017 Q4	19										
2018 Q3	21										
2018 Q4	18										
		-5.8% ↓	-14.6% ↓								

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 -27.8%	Tuesday -37.8%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Wednesday 3.5%	Thursday 34.7%
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
		7 AM -38.4%	8 AM -46.9%
		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
		5 PM 29.3%	5 PM 24.5%
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
		2 PM -32.7%	10 AM -57.9%
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		4 PM 25.2%	5 PM 51.7%
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
		8 PM -55.8%	8 PM -50.5%
		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		12 PM 37.9%	12 PM 134.6%

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
		Fresno -49.6%	Fresno -42.6%
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
		Madera 323.6%	Madera 26%
Average Number of Good and Bad Detectors		Change in Good over one year ago	Change in Good over last quarter
		9%	4%
		Change in Bad over one year ago	Change in Bad over last quarter
		22%	-2%

Congestion by Route											
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2018 Q4-2017 Q4		Difference 2018 Q4-2018 Q3		Rank		
		2017 Q4	2018 Q3	2018 Q4	Absolute	Percentage	Absolute	Percentage	2017 Q4	2018 Q3	2018 Q4
SR99	Madera	15,397	51,310	65,213	49,816	323.5%	13,903	27.1%	7	6	1
I5	Kern	46,964	58,801	48,964	2,000	4.3%	-9,837	-16.7%	3	3	2
SR99	Kern	64,770	83,305	37,058	-27,711	-42.8%	-46,246	-55.5%	2	1	3
SR41	Fresno	38,964	44,155	33,329	-5,635	-14.5%	-10,826	-24.5%	5	7	4
SR99	Tulare	15,989	57,983	28,835	12,845	80.3%	-29,148	-50.3%	6	4	5
SR99	Fresno	45,197	57,667	23,517	-21,680	-48.0%	-34,150	-59.2%	4	5	6
I5	Fresno	103,514	59,541	20,143	-83,372	-80.5%	-39,398	-66.2%	1	2	7
SR168S	Fresno	3,203	1,527	10,336	7,133	222.7%	8,810	577.1%	12	14	8
SR58	Kern	3,535	5,295	8,213	4,677	132.3%	2,918	55.1%	10	10	9
SR198	Kings	2,382	1,607	7,505	5,123	215.0%	5,898	367.0%	13	13	10
SR180	Fresno	3,534	6,842	7,131	3,597	101.8%	289	4.2%	11	9	11
SR180S	Fresno	4,288	4,612	5,675	1,386	32.3%	1,063	23.0%	9	12	12
SR46	Kern	9	1,100	4,638	4,628	49238.3%	3,538	321.6%	17	15	13
I5	Kings	4,538	7,238	1,629	-2,909	-64.1%	-5,609	-77.5%	8	8	14
SR41	Kings	1,150	5,261	1,389	239	20.8%	-3,872	-73.6%	14	11	15
SR198	Tulare	295	172	1,287	992	336.1%	1,115	648.0%	15	17	16
TOTALS		353,731	446,413	304,859	-48,871	-13.8%	-141,554	-31.7%			

Vehicle Hours of Delay is in Hours