

District 06 Mobility Performance Report

2018 First Quarter

DEPARTMENT OF TRANSPORTATION

May 30, 2018
: Terence Cortez

District 06 Mobility Performance Report

2018 First Quarter

EXECUTIVE SUMMARY

Overview

Caltrans District 6 is geographically diverse, and the third 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.

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 thresholds are set by Caltrans and are based on engineering experience and District input.

FINDINGS

In the first quarter for the year of 2018, the total delay equaled 242 thousands Vehicle Hours of Delay (VHD) at the 35 mph speed threshold, and 1350 thousands VHD at the 60 mph threshold. The average weekday delay experience in this quarter was approximately 2,814 VHD at 35 mph, and 17 thousands VHD at 60 mph.

The VHD for the first quarter experienced an overall decrease of 31.7% compared to the previous quarter, however the VHD showed variation specific to each route.

In general the overall decrease in VHD can be attributed to the end of the holiday season, this is common, especially for metropolitan areas such as Fresno (Fresno County, SR 41 and SR 99), and Bakersfield (Kern County, SR 99).

The decreased VHD on Interstate 5 in Fresno County could be attributed the end of the holiday season, in addition to the increase in the percentage of detectors reporting insufficient and intermittent data in comparison to fourth quarter of 2017.

The increased VHD on State Route 99 in Madera County could be attributed to the increase in the percentage of detectors reporting good data for Quarter 1 of 2018 in comparison to the same quarter of the previous year, and fourth quarter of 2017.

The increased VHD on State Route 180S in Fresno County could be attributed to the fluctuation of downed controllers and detectors reporting intermittent data over the span of fourth quarter, and the first quarter of 2018.

The increased VHD on State Route 46 in Kern County could be related to detectors reporting the card being off at multiple locations in addition to detectors providing inconsistent data when compared to historical data.

No bottlenecks were identified within the District 6 Highway system for first quarter of 2018.

Quarterly Mobility Statistics

Measure	Graph	Percentage Change									
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <table border="1"> <tr><th>Quarter</th><th>Value</th></tr> <tr><td>2017 Q1</td><td>1.4</td></tr> <tr><td>2017 Q4</td><td>1.8</td></tr> <tr><td>2018 Q1</td><td>1.7</td></tr> </table>	Quarter	Value	2017 Q1	1.4	2017 Q4	1.8	2018 Q1	1.7	Over one year ago	Over last quarter
Quarter	Value										
2017 Q1	1.4										
2017 Q4	1.8										
2018 Q1	1.7										
		21.7% 	-3.7% 								
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Quarter</th><th>Value</th></tr> <tr><td>2017 Q1</td><td>261.9</td></tr> <tr><td>2017 Q4</td><td>353.8</td></tr> <tr><td>2018 Q1</td><td>241.7</td></tr> </table>	Quarter	Value	2017 Q1	261.9	2017 Q4	353.8	2018 Q1	241.7	Over one year ago	Over last quarter
Quarter	Value										
2017 Q1	261.9										
2017 Q4	353.8										
2018 Q1	241.7										
		-7.7% 	-31.7% 								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours</p> <table border="1"> <tr><th>Quarter</th><th>Value</th></tr> <tr><td>2017 Q1</td><td>3277</td></tr> <tr><td>2017 Q4</td><td>4149</td></tr> <tr><td>2018 Q1</td><td>2814</td></tr> </table>	Quarter	Value	2017 Q1	3277	2017 Q4	4149	2018 Q1	2814	Over one year ago	Over last quarter
Quarter	Value										
2017 Q1	3277										
2017 Q4	4149										
2018 Q1	2814										
		-14.1% 	-32.2% 								
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Quarter</th><th>Value</th></tr> <tr><td>2017 Q1</td><td>1.2</td></tr> <tr><td>2017 Q4</td><td>1.5</td></tr> <tr><td>2018 Q1</td><td>1.4</td></tr> </table>	Quarter	Value	2017 Q1	1.2	2017 Q4	1.5	2018 Q1	1.4	Over one year ago	Over last quarter
Quarter	Value										
2017 Q1	1.2										
2017 Q4	1.5										
2018 Q1	1.4										
		10.4% 	-12.8% 								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Quarter</th><th>Value</th></tr> <tr><td>2017 Q1</td><td>16</td></tr> <tr><td>2017 Q4</td><td>20</td></tr> <tr><td>2018 Q1</td><td>17</td></tr> </table>	Quarter	Value	2017 Q1	16	2017 Q4	20	2018 Q1	17	Over one year ago	Over last quarter
Quarter	Value										
2017 Q1	16										
2017 Q4	20										
2018 Q1	17										
		7.1% 	-13.4% 								

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
		-	Thursday -35.1%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Monday 19%	Tuesday 11.5%
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 -14%	5 PM -23.2%
		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
		7 AM 24.1%	-
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
		2 AM -71.8%	3 PM -56.8%
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		10 AM 73.2%	9 AM 69.2%
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
		1 AM -78.9%	1 PM -54.7%
		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		5 PM 286.4%	5 PM 1.5%

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 -23.1% ↓	Fresno -42.8% ↓
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Madera 49.5% ↑	Madera 55.5% ↑
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 -17.1% ↓	AM Peak -35.4% ↓
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		AM Peak 10.4% ↑	-
Average Number of Good and Bad Detectors		Change in Good over one year ago	Change in Good over last quarter
		20% ↑	2% ↑
		Change in Bad over one year ago	Change in Bad over last quarter
		-20% ↓	-1% ↓

Congestion by Route

Route	County	Vehicle Hours of Delay at 35 mph			Difference 2018 Q1-2017 Q1		Difference 2018 Q1-2017 Q4		Rank		
		2017 Q1	2017 Q4	2018 Q1	Absolute	Percentage	Absolute	Percentage	2017 Q1	2017 Q4	2018 Q1
		I5	Kern	19,277	46,964	50,951	31,674	164.3%	3,987	8.5%	6
SR99	Fresno	33,797	45,197	37,584	3,787	11.2%	-7,613	-16.8%	3	4	2
I5	Fresno	72,087	103,514	33,252	-38,835	-53.9%	-70,262	-67.9%	1	1	3
SR41	Fresno	20,249	38,964	28,575	8,326	41.1%	-10,389	-26.7%	4	5	4
SR99	Kern	14,798	64,770	24,728	9,930	67.1%	-40,042	-61.8%	9	2	5
SR99	Madera	16,015	15,397	23,971	7,956	49.7%	8,575	55.7%	8	7	6
SR99	Tulare	19,426	15,989	17,894	-1,532	-7.9%	1,905	11.9%	5	6	7
SR180S	Fresno	0	4,288	7,179	7,179		2,891	67.4%		9	8
I5	Kings	1,514	4,538	5,007	3,493	230.7%	468	10.3%	12	8	9
SR180	Fresno	16,939	3,534	4,151	-12,787	-75.5%	617	17.5%	7	11	10
SR168S	Fresno	4,680	3,203	2,831	-1,849	-39.5%	-372	-11.6%	10	12	11
SR58	Kern	2,753	3,535	2,365	-389	-14.1%	-1,171	-33.1%	11	10	12
SR198	Kings	1,144	2,382	1,785	641	56.0%	-597	-25.1%	13	13	13
SR41	Kings	595	1,150	992	397	66.7%	-158	-13.7%	14	14	14
SR46	Kern	38,309	9	314	-37,995	-99.2%	305	3239.4%	2	17	15
SR198	Tulare	312	295	163	-149	-47.7%	-132	-44.6%	15	15	16
SR152	Madera	0	0	1	1		0	200.0%		18	17
SR41	Madera	1	0	0	-1	-87.5%	0		16		18
SR168	Fresno	0	0	0	0		0				
SR178	Kern	0	20	0	0		-20	-100.0%		16	
TOTALS		261,896	353,751	241,743	-20,153	-7.7%	-112,008	-31.7%			