

District 06 Mobility Performance Report

2017 Second Quarter

DEPARTMENT OF TRANSPORTATION

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District 06 Mobility Performance Report

2017 Second Quarter

EXECUTIVE SUMMARY

Overview

Caltrans District 6 is geographically diverse district 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. It includes Madera, Fresno, Tulare, Kings and Kern counties. District 6 maintains and operates of 476 miles of freeway and 1,554 miles of rural and urban highway. The District has the largest portion of road miles to maintain in the state highway system with 2,030 miles.

The Mobility Performance quarterly analysis compares information with over a year ago and over last quarter in 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 the 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. These thresholds are set by Caltrans and are based on engineering experience and District input.

FINDINGS

In the second quarter of 2017, the total delay equaled 342 thousands Vehicle Hours of Delay (VHD) at the 35 mph speed threshold, and 1,380 thousands VHD at the 60 mph threshold. The average weekday delay experienced in this quarter was approximately 3,866 thousands VHD at 35 mph, and 17 thousand VHD at 60 mph.

The VHD in this quarter experienced an overall increase of 30.4% compared to the previous quarter. The increased VHD on State Route 46 in Kern County could be related to malfunctioning detectors. The detectors were providing non-consistent data. The increased VHD on State Route 99 in Madera County could be related to the increased traffic volume.

The increased VHD on State Route 99 and State Route 58 in Kern County could be related to several projects in the City of Bakersfield around the State Route 99 & State Route 58 interchange. The project is adding new lanes and several detectors were offline due to construction activities.

Due to malfunctioning of the several detectors, there were several bottleneck locations reported within the District 6 boundaries. Upon manual investigations of the detector locations and the data, erroneous bottleneck locations removed from this second quarter report.

Quarterly Mobility Statistics

Measure	Graph	Percentage Change													
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <table border="1"> <tr><th>Year</th><th>Quarter</th><th>Value (Billions)</th></tr> <tr><td>2016</td><td>Q2</td><td>1.4</td></tr> <tr><td>2017</td><td>Q1</td><td>1.4</td></tr> <tr><td>2017</td><td>Q2</td><td>1.8</td></tr> </table>	Year	Quarter	Value (Billions)	2016	Q2	1.4	2017	Q1	1.4	2017	Q2	1.8	Over one year ago	Over last quarter
		Year	Quarter	Value (Billions)											
2016	Q2	1.4													
2017	Q1	1.4													
2017	Q2	1.8													
		29.1%	27.5%												
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Quarter</th><th>Value (Thousands)</th></tr> <tr><td>2016</td><td>Q2</td><td>156.5</td></tr> <tr><td>2017</td><td>Q1</td><td>261.9</td></tr> <tr><td>2017</td><td>Q2</td><td>341.5</td></tr> </table>	Year	Quarter	Value (Thousands)	2016	Q2	156.5	2017	Q1	261.9	2017	Q2	341.5	Over one year ago	Over last quarter
		Year	Quarter	Value (Thousands)											
2016	Q2	156.5													
2017	Q1	261.9													
2017	Q2	341.5													
		118.2%	30.4%												
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours</p> <table border="1"> <tr><th>Year</th><th>Quarter</th><th>Value (Hours)</th></tr> <tr><td>2016</td><td>Q2</td><td>1826</td></tr> <tr><td>2017</td><td>Q1</td><td>3277</td></tr> <tr><td>2017</td><td>Q2</td><td>3866</td></tr> </table>	Year	Quarter	Value (Hours)	2016	Q2	1826	2017	Q1	3277	2017	Q2	3866	Over one year ago	Over last quarter
		Year	Quarter	Value (Hours)											
2016	Q2	1826													
2017	Q1	3277													
2017	Q2	3866													
		111.7%	18%												
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Year</th><th>Quarter</th><th>Value (Millions)</th></tr> <tr><td>2016</td><td>Q2</td><td>0.8</td></tr> <tr><td>2017</td><td>Q1</td><td>1.2</td></tr> <tr><td>2017</td><td>Q2</td><td>1.4</td></tr> </table>	Year	Quarter	Value (Millions)	2016	Q2	0.8	2017	Q1	1.2	2017	Q2	1.4	Over one year ago	Over last quarter
		Year	Quarter	Value (Millions)											
2016	Q2	0.8													
2017	Q1	1.2													
2017	Q2	1.4													
		64.8%	12.8%												
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Quarter</th><th>Value (Thousands)</th></tr> <tr><td>2016</td><td>Q2</td><td>11</td></tr> <tr><td>2017</td><td>Q1</td><td>16</td></tr> <tr><td>2017</td><td>Q2</td><td>17</td></tr> </table>	Year	Quarter	Value (Thousands)	2016	Q2	11	2017	Q1	16	2017	Q2	17	Over one year ago	Over last quarter
		Year	Quarter	Value (Thousands)											
2016	Q2	11													
2017	Q1	16													
2017	Q2	17													
		59.5%	8.7%												

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 Wednesday -2.1%
		Largest Magnitude Increase over one year ago Monday 51.5%	Largest Magnitude Increase over last quarter Saturday 29.9%
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 6 PM -17.9%
		Largest Magnitude Weekday Increase over one year ago 7 AM 225.5%	Largest Magnitude Weekday Increase over last quarter 3 PM 48.8%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago 5 PM -10.9%	Largest Magnitude Saturday Decrease over last quarter 7 PM -9.1%
		Largest Magnitude Saturday Increase over one year ago 7 AM 386.1%	Largest Magnitude Saturday Increase over last quarter 7 AM 254.4%
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 2 PM -18.3%
		Largest Magnitude Sun./Holiday Increase over one year ago 8 AM 752.1%	Largest Magnitude Sun./Holiday Increase over last quarter 8 AM 194.2%

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 -
		Largest Magnitude Increase over one year ago Fresno 135.7% ↑	Largest Magnitude Increase over last quarter Kern 42.9% ↑
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 Day -3.3% ↓
		Largest Magnitude Increase over one year ago PM Peak 104% ↑	Largest Magnitude Increase over last quarter Off-Peak Night 47.8% ↑
Average Number of Good and Bad Detectors		Change in Good over one year ago 11% ↑	Change in Good over last quarter 5% ↑
		Change in Bad over one year ago 23% ↑	Change in Bad over last quarter 12% ↑

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
		I5	Fresno	6,184	72,087	92,203	86,018	1390.9%	20,116	27.9%	7
SR46	Kern	235	38,309	51,246	51,011	21697.4%	12,936	33.8%	14	2	2
SR99	Fresno	40,405	33,797	41,345	940	2.3%	7,548	22.3%	1	3	3
SR99	Madera	20,007	16,015	31,475	11,468	57.3%	15,460	96.5%	4	8	4
SR99	Kern	23,137	14,798	29,114	5,977	25.8%	14,316	96.7%	3	9	5
SR41	Fresno	11,203	20,249	23,470	12,267	109.5%	3,221	15.9%	6	4	6
SR99	Tulare	5,847	19,426	21,648	15,801	270.2%	2,222	11.4%	8	5	7
I5	Kern	25,523	19,277	21,515	-4,008	-15.7%	2,238	11.6%	2	6	8
SR180	Fresno	14,763	16,939	10,997	-3,766	-25.5%	-5,942	-35.1%	5	7	9
SR168S	Fresno	1,768	4,680	7,526	5,757	325.6%	2,846	60.8%	10	10	10
SR58	Kern	3,733	2,753	5,415	1,682	45.0%	2,662	96.7%	9	11	11
SR41	Kings	842	595	2,088	1,246	148.0%	1,493	250.8%	13	14	12
I5	Kings	937	1,514	1,675	738	78.8%	161	10.6%	12	12	13
SR198	Kings	1,664	1,144	1,104	-560	-33.6%	-40	-3.5%	11	13	14
SR198	Tulare	91	312	311	220	242.9%	-2	-0.5%	16	15	15
SR41	Madera	30	1	296	266	879.1%	295	36862.5%	17	16	16
SR178	Kern	0	0	77	77		77				17
SR152	Madera	23	0	32	8	36.1%	32		18		18
SR168	Fresno	143	0	0	-143	-100.0%	0		15		
TOTALS		156,536	261,896	341,534	184,999	118.2%	79,638	30.4%			