District 06 Mobility Performance Report

2018 Second Quarter

DEPARTMENT OF TRANSPORTATION

August 9, 2018

: Terence Cortez

District 06 Mobility Performance Report

2018 Second 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 second quarter of 2018, the total delay equaled 320 thousands Vehicle Hours of Delay (VHD) at the 35 mph speed threshold, and 1391 thousands VHD at the 60 mph threshold. The average weekday delay experience was approximately 3,781 VHD at 35 mph, and 18 thousands VHD at 60 mph.

For the entire District, the VHD for the second quarter experienced an overall increase of 32.2% when compared to the previous quarter, however the VHD varied with respect to each County. The overall increase in VHD could also be related to the increase in VMT, as it has increased 12% from the first quarter. Fresno County reported the largest measure of VHD at 35 mph.

The increase in VHD on Interstate 5 could be related to detectors in the southbound direction reporting "good" at a higher percentage on average in the second quarter versus the first quarter. Specifically, the first quarter reported "intermittent" data, as the second quarter reported zero percent of "intermittent" data.

The increase in VHD on State Route 180 in Fresno County could be attributed to the overall reduction in lane closure hours in quarter 2 when compared to quarter 1.

The increase in VHD on State Route 58 in Kern County could be attributed to the reduction in detectors reporting "good" for the second quarter when compared to the first quarter.

The increase in VHD on State Route 46 in Kern County is due to detectors reporting inconsistent data. Additionally, multiple projects were scheduled to conduct construction activities throughout the second quarter.

The increase in VHD on State Route 41 in Madera County could be related to the detectors in the northbound direction reporting "good" throughout the second quarter in contrast to the first quarter, where no records of detector data are found.

CENTRAL REGION ONGOING PROJECTS

For Quarter 2, the following projects were considered to possibly have an impact on delay in District 6.

Fresno County

Interstate 5; 06-0X650 0618000173 Accelerated Pavement Failure Repairs (PM 29.1/48.6)

Interstate 5; 06-0U980 0616000182 Concrete Polyester Overlays, Joint Seals, approach slabs (PM 15.8/62.3)

Kern County

State Route 58; 06-0S470 0615000048 Construct CRCP and HMA Pavement (PM 55.4/59.7)

State Route 58; 06-48461 0614000064 Operational Improvements (PM 52.3/55.4)

State Route 46; 06-0K460 0612000105 Bridge Replacement (PM 57.3/57.8)

State Route 46; 06-44254 0612000175 Convert 2-Lane Highway to 4-Lane Highway (PM 31.5/33.2)

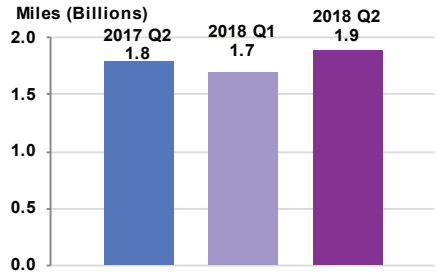
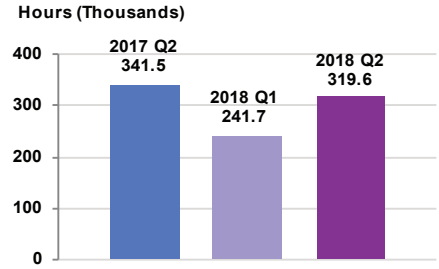
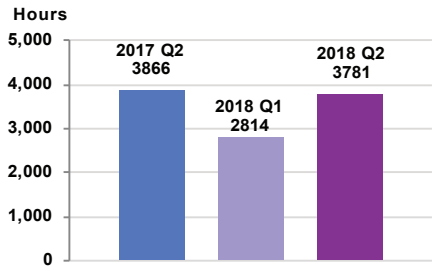
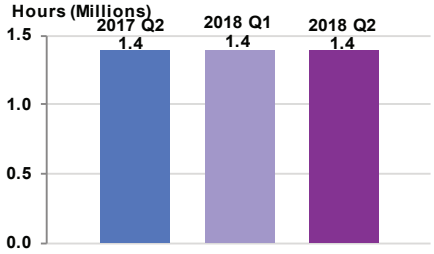
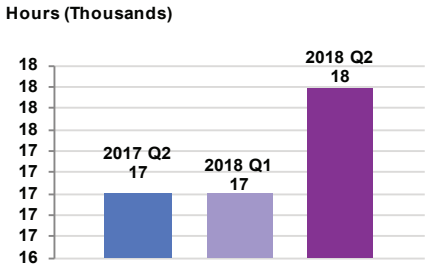
BOTTLENECKS REPORTED FOR QUARTER 2

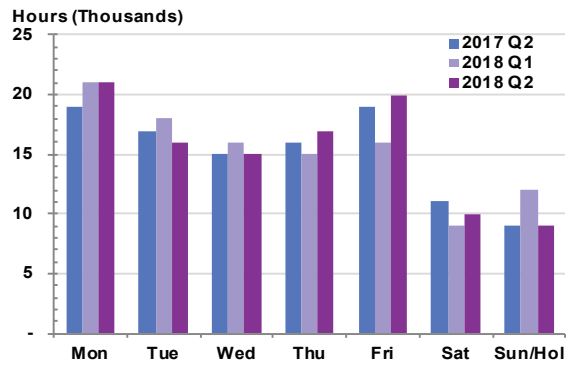
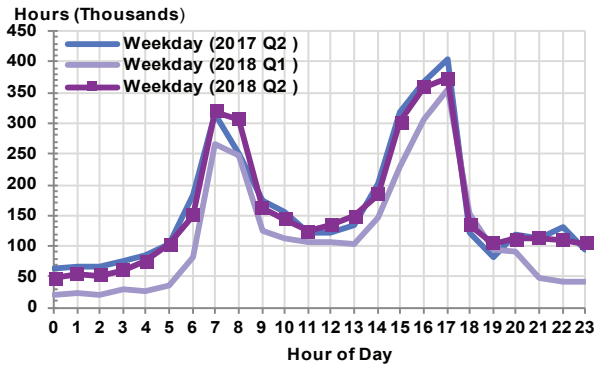
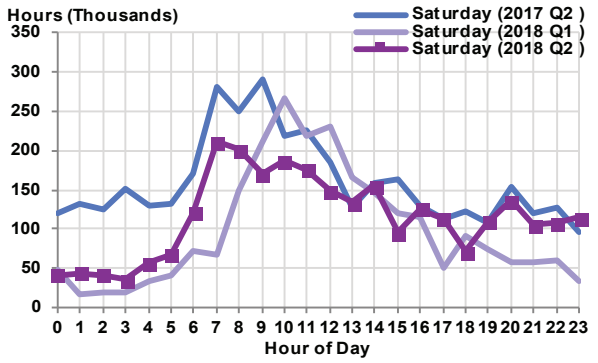
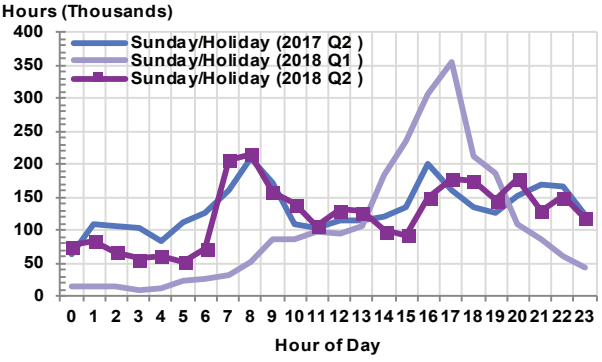
County	Fwy	Location	Shift	Abs PM	CA PM	# Days Active	Avg Extent (Miles)	Avg Delay (veh-hrs)	Avg Duration (mins)
Fresno	SR180-W	WB SR-180 Ramp to SR-99	PM	32.9	R56.5	54	2.8	104.5	94.5
Madera	SR99-S	SB SR-99 at Avenue 9	PM	147.5	3.6	15	1.8	115.9	97.0
Madera	SR99-S	SB SR-99 at Gateway Drive	PM	153.7	9.7	19	1.9	118.5	97.4
Madera	SR99-S	SB SR-99 at Ave 15 1/2 (Cleveland Ave)	PM	156.1	12.1	19	1.4	115.4	120.8

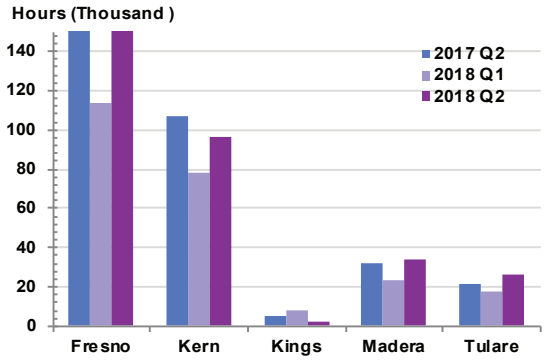
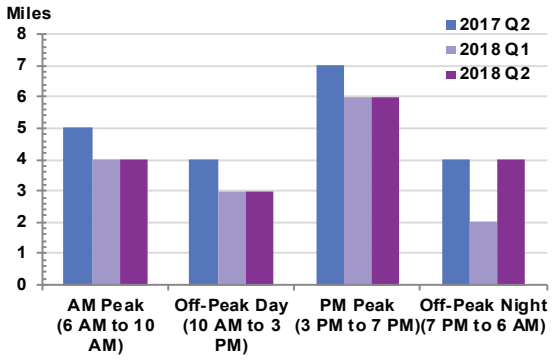
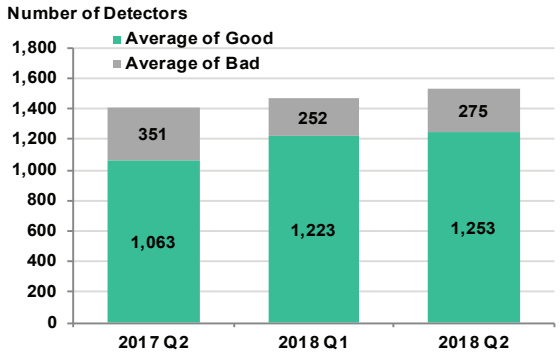
All bottlenecks reported for the second quarter occurred during the PM. Further investigations into site conditions and data quality were conducted to confirm accuracy of Bottlenecks reported for Quarter 2:

- VDS Station 602703 for Fresno County, State Route 180-W. For the span of Quarter 2, all three lanes reported the card off.

QUARTERLY MOBILITY STATISTICS

Measure	Graph	Percentage Change	
		Over one year ago	Over last quarter
Vehicle Miles of Travel (VMT)		6.8% ⇧	11.9% ⇧
Total Vehicle Hours of Delay (VHD) at 35 mph		-6.4% ⇩	32.2% ⇧
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph		-2.2% ⇩	34.4% ⇧
Total Vehicle Hours of Delay (VHD) at 60 mph		0.8% ⇧	3% ⇧
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph		3.3% ⇧	4.8% ⇧

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		Largest Magnitude Decrease over one year ago Saturday -11.5%	Largest Magnitude Decrease over last quarter Sun/Hol -25.3%
		Largest Magnitude Increase over one year ago Monday 8%	Largest Magnitude Increase over last quarter Friday 21.4%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Weekday Decrease over one year ago 6 AM -17.9%	Largest Magnitude Weekday Decrease over last quarter 6 PM -11.6%
		Largest Magnitude Weekday Increase over one year ago 8 AM 22%	Largest Magnitude Weekday Increase over last quarter 3 PM 31.5%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago 9 AM -41.5%	Largest Magnitude Saturday Decrease over last quarter 12 PM -35.4%
		Largest Magnitude Saturday Increase over one year ago 11 PM 20%	Largest Magnitude Saturday Increase over last quarter 7 AM 210.6%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/ Holidays		Largest Magnitude Sun./Holiday Decrease over one year ago 5 AM -52.7%	Largest Magnitude Sun./Holiday Decrease over last quarter 5 PM -49.8%
		Largest Magnitude Sun./Holiday Increase over one year ago 7 AM 28.5%	Largest Magnitude Sun./Holiday Increase over last quarter 7 AM 572.1%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		Largest Magnitude Decrease over one year ago Fresno -9%	Largest Magnitude Decrease over last quarter Kings -68.9%
		Largest Magnitude Increase over one year ago Tulare 19.3%	Largest Magnitude Increase over last quarter Fresno 40.6%
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph		Largest Magnitude Decrease over one year ago PM Peak -21%	Largest Magnitude Decrease over last quarter Off-Peak Day -2.5%
		Largest Magnitude Increase over one year ago –	Largest Magnitude Increase over last quarter Off-Peak Night 69.6%
Average Number of Good and Bad Detectors		Change in Good over one year ago 18%	Change in Good over last quarter 2%
		Change in Bad over one year ago -22%	Change in Bad over last quarter 9%

Congestion by Route											
		Vehicle Hours of Delay at 35 mph			Difference 2018 Q2-2017 Q2		Difference 2018 Q2-2018 Q1		Rank		
Route	County	2017 Q2	2018 Q1	2018 Q2	Absolute	Percentage	Absolute	Percentage	2017 Q2	2018 Q1	2018 Q2
I5	Fresno	92,203	33,252	67,675	-24,528	-26.6%	34,423	103.5%	1	3	1
I5	Kern	21,515	50,951	47,082	25,567	118.8%	-3,869	-7.6%	8	1	2
SR99	Fresno	41,345	37,584	43,628	2,283	5.5%	6,044	16.1%	3	2	3
SR99	Kern	29,114	24,728	41,964	12,850	44.1%	17,236	69.7%	5	5	4
SR99	Madera	31,475	23,971	33,601	2,126	6.8%	9,630	40.2%	4	6	5
SR41	Fresno	23,470	28,575	29,271	5,801	24.7%	696	2.4%	6	4	6
SR99	Tulare	21,648	17,894	25,680	4,032	18.6%	7,786	43.5%	7	7	7
SR180	Fresno	10,997	4,151	9,401	-1,596	-14.5%	5,250	126.5%	9	10	8
SR58	Kern	5,415	2,365	6,566	1,151	21.3%	4,201	177.7%	11	12	9
SR180S	Fresno	0	7,179	6,165	6,165		-1,014	-14.1%		8	10
SR168S	Fresno	7,526	2,831	3,555	-3,971	-52.8%	723	25.5%	10	11	11
SR46	Kern	51,246	314	1,166	-50,080	-97.7%	852	271.4%	2	15	12
SR198	Kings	1,104	1,785	1,133	29	2.6%	-652	-36.5%	14	13	13
SR41	Madera	296	0	889	593	200.5%	888	888400.0%	16	18	14
I5	Kings	1,675	5,007	719	-956	-57.1%	-4,288	-85.6%	13	9	15
SR41	Kings	2,088	992	566	-1,521	-72.9%	-426	-42.9%	12	14	16
SR198	Tulare	311	163	525	214	68.8%	361	221.0%	15	16	17
TOTALS		**341,534**	**241,743**	**319,589**	**-21,946**	**-6.4%**	**77,846**	**32.2%**			

Vehicle Hours of Delay is in Hours