District 06 Mobility Performance Report

2020 Second Quarter

DEPARTMENT OF TRANSPORTATION

July 28, 2020
District 06 Traffic Operations

2020 Second Quarter

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

For the second quarter of 2020, total delay was approximately 109 thousand (233 thousand last quarter) Vehicle Hours of Delay (VHD) at the 35 miles per hour (mph) speed threshold, and 692 (1,293 thousand last quarter) thousand VHD at the 60mph threshold. The average non-holiday weekday experience was approximately 1,338 (2,967 thousand last quarter) VHD at 35mph. Compared to the previous quarter, there was an approximately 54.9 percent decrease in 35mph average non-holiday weekday quarterly delay and a decrease approximately 47.1 percent in 60 mph. Thus, delay (VHD) for non-holiday at 35 mph and non-holiday at 60 mph drops at about 66 percent and 45 percent respectively compare to quarter 2 of last year.

In comparison with the last quarter (Q1) and quarter two (Q2) of last year, it is anticipated that both VHD and VMT will be lower due to the reduction of automotive travel because the impact of Covid-19 pandemic. For the entire district, the total VHD for this fourth quarter experienced a decrease of approximately 53.1 percent when compared to the previous quarter, however the delay varied with respect to each County and route. The VHD also experienced considerable drop of approximately 62.2 percent when comparing this quarter to the first quarter of 2019. Vehicle Miles Traveled (VMT) decreased approximately 9.6 percent when compared to the last quarter, and 21.4 percent drop in VMT compare to quarter one of last year. Fresno County and Kern Counties still experience the largest delay among the five counties in District 6; this is because they include the two largest metropolitan cities, Fresno and Bakersfield.

For comparison of VHD to the previous quarter (Q1), Tulare County experienced a reduction of 69 percent, while Madera County reported a decrease of approximately 92 percent, at the 35mph threshold compare to Q2 of last year. This may have been due to the reduction of motorists on SR 99 and because most people are teleworking from home as well as all schools were out for the entire quarter.

CENTRAL REGION ONGOING PROJECTS

For the entire Quarter 2 of 2020, construction activities may be a big contributor to the delay due to reduction of regular commute traffic in most of the state routes in the District. Following

projects are considered to possibly have an impact delay due to lane closures (mainly I5, SR 99 and SR 41) in District 6.

Fresno County

State Route 99; 06-0S460 0615000038 Pavement Rehabilitation (PM 0.9/5.0)

State Route 41; 06-0Y080 0619000242 Cold plane, AC Pavement (PM 0/6.1 Maintenance project)

Kern County

Interstate I-5; 06-0Y050 0619000153 RHMA and Panel Replacement (PM 30.8/40.0 Maintenance Project)

Interstate I-5; 06-0T010 0615000004 Install Vehicle Detection System (PM 1.2/77.1)

State Route 99; 06-0Q280 0613000051 3Rs Roadway Rehabilitation (PM 23.6/28.4)

State Route 58; 06-48460 0600000484 Construct 6/8 lanes freeway (PM 31.7/55.6)

Kings County

State Route 41; 06-0Y090 0619000217 Digouts and RMA (PM 16.1.5/20.0 Maint. Project)

Madera County

State Route 99; 06-47090 0600000973 Route 99 4-L to 6-L (PM 7.5/15.1)

Tulare County

State Route 99; 06-1A070 0619000183 Pumping Plant Repair (PM 7.1)

State Route 99; 06-0R170 0614000051 Roadside Safety Improvement (PM 28.9/31.0)

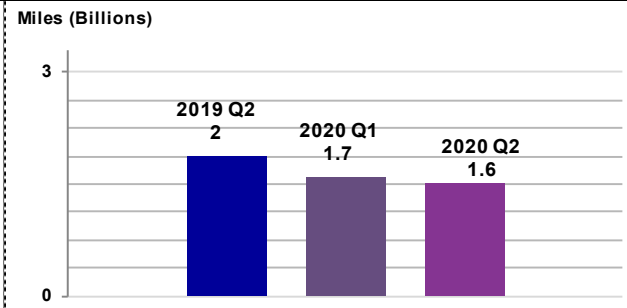
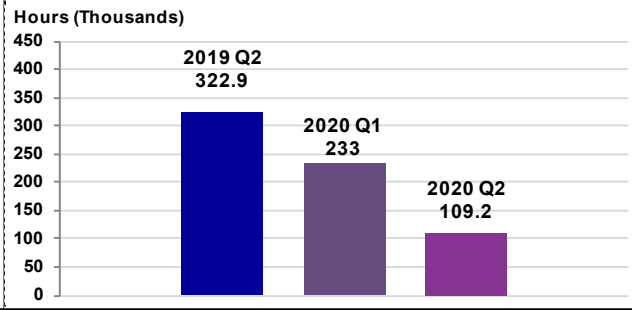
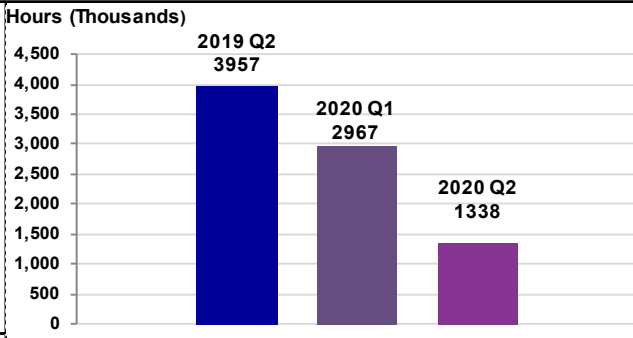
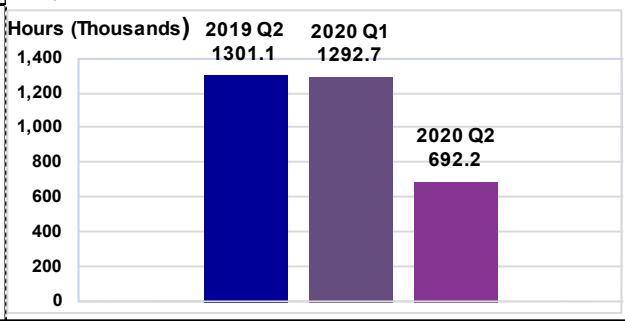
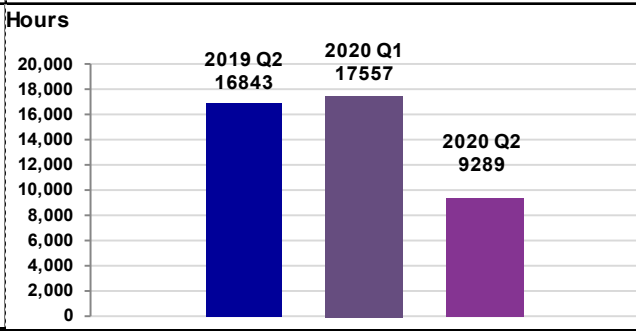
State Route 198; 06-0S340 0614000114 Pavement Rehabilitation (PM R11.7/R19.7)

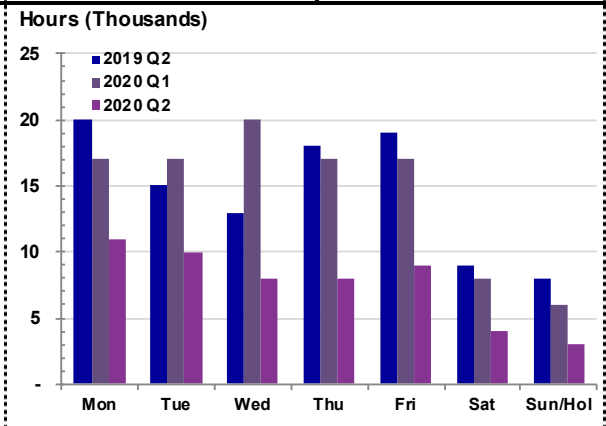
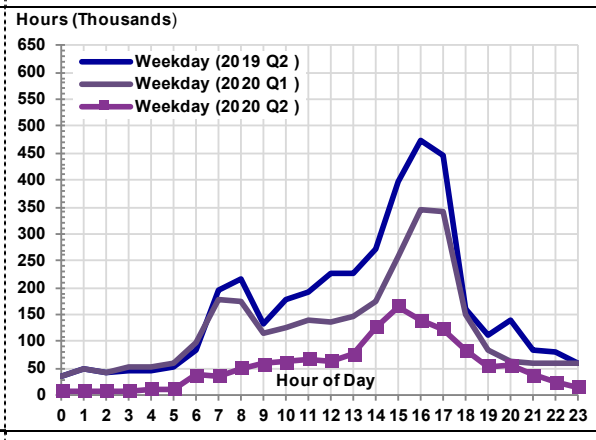
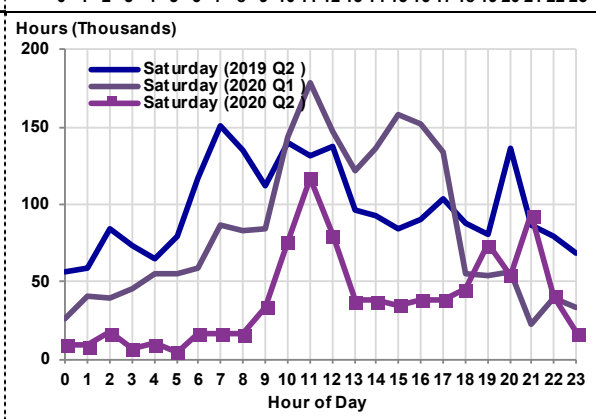
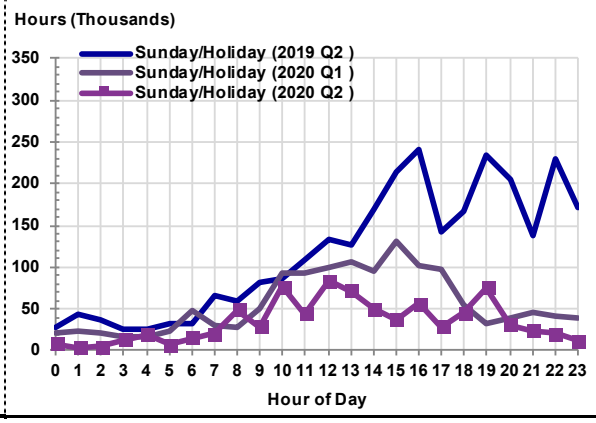
BOTTLENECKS REPORTED FOR QUARTER 2

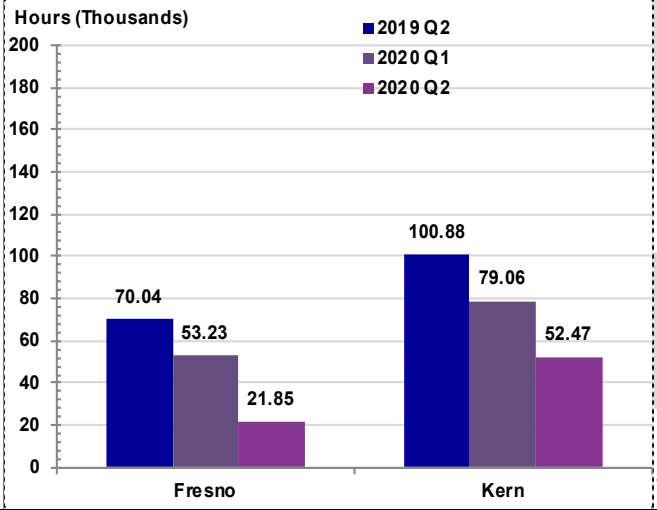
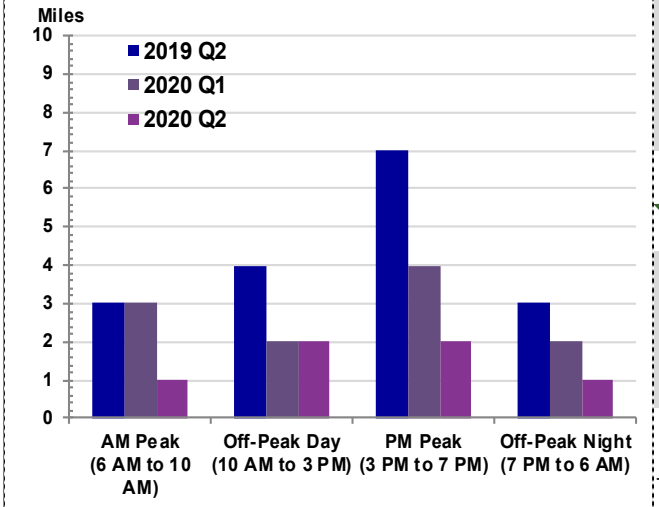
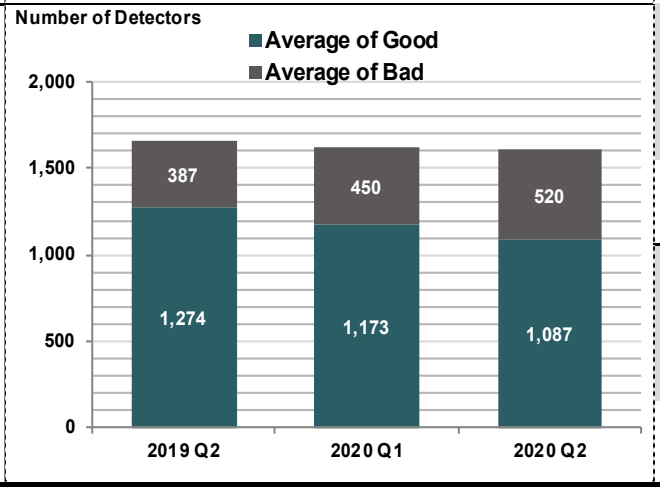
For this quarter, PeMS system did not report any active bottlenecks for the District. Active bottleneck locations are defined (or computed by PeMS) as delay (VHD) be at least 20 percent of all weekdays during the quarter, persisted for at least 15 minutes on average, and caused more than 100 vehicle hours of delay (VHD) per weekday.

QUARTERLY MOBILITY STATISTICS

(Summary in the next 4 pages)

Measure	Graph	Percentage Change	
Vehicle Miles of Travel (VMT)		Over one year ago -21.4%	Over last quarter -9.6%
Total Vehicle Hours of Delay (VHD) at 35 mph		Over one year ago -66.2%	Over last quarter -53.1%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph		Over one year ago -66.2%	Over last quarter -54.9%
Total Vehicle Hours of Delay (VHD) at 60 mph		Over one year ago -46.8%	Over last quarter -46.5%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph		Over one year ago -44.8%	Over last quarter -47.1%

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		Largest Magnitude Decrease over one year ago Friday -50.6%	Largest Magnitude Decrease over last quarter Wednesday -59.6%
		Largest Magnitude Increase over one year ago –	Largest Magnitude Increase over last quarter –
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Weekday Decrease over one year ago 4 PM -70.7%	Largest Magnitude Weekday Decrease over last quarter 5 PM -64.1%
		Largest Magnitude Weekday Increase over one year ago –	Largest Magnitude Weekday Increase over last quarter –
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago 7 AM -88.8%	Largest Magnitude Saturday Decrease over last quarter 3 PM -78.1%
		Largest Magnitude Saturday Increase over one year ago 9 PM 8.3%	Largest Magnitude Saturday Increase over last quarter 9 PM 318%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/ Holidays		Largest Magnitude Sun./Holiday Decrease over one year ago 10 PM -91.1%	Largest Magnitude Sun./Holiday Decrease over last quarter 3 PM -71.3%
		Largest Magnitude Sun./Holiday Increase over one year ago –	Largest Magnitude Sun./Holiday Increase over last quarter 7 PM 126.7%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		Largest Magnitude Decrease over one year ago Madera -92.2%	Largest Magnitude Decrease over last quarter Tulare -69.1%
		Largest Magnitude Increase over one year ago –	Largest Magnitude Increase over last quarter –
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph		Largest Magnitude Decrease over one year ago PM Peak -76.9%	Largest Magnitude Decrease over last quarter PM Peak -65.6%
		Largest Magnitude Increase over one year ago –	Largest Magnitude Increase over last quarter –
Average Number of Good and Bad Detectors		Change in Good over one year ago -15%	Change in Good over last quarter -7%
		Change in Bad over one year ago 35%	Change in Bad over last quarter 15%

Congestion by Route											
		Vehicle Hours of Delay at 35 mph			Difference 2020 Q2-2019 Q2		Difference 2020 Q2-2020 Q1		Rank		
Route	County	2019 Q2	2020 Q1	2020 Q2	Absolute	Percentage	Absolute	Percentage	2019 Q2	2020 Q1	2020 Q2
SR99	Tulare	65777.4	34675.9	57426.1	-8351.3	-13%	22,750	66%	2	4	1
I5	Kern	38919.6	20016.7	36657.7	-2261.9	-6%	16,641	83%	4	7	2
SR99	Kern	37287.4	90357.4	24030.9	-13256.5	-36%	(66,327)	-73%	5	1	3
SR198	Tulare	1319.5	3641.2	20335.6	19016.1	1441%	16,694	458%	14	11	4
SR41	Fresno	21844.3	31384.6	18807.6	-3036.7	-14%	(12,577)	-40%	6	5	5
SR99	Madera	62249.7	43207.7	17157.9	-45091.8	-72%	(26,050)	-60%	3	2	6
SR99	Fresno	16422.5	39081.1	16871.3	448.8	3%	(22,210)	-57%	7	3	7
SR46	Kern	11909.5	1677	16837	4927.5	41%	15,160	904%	8	13	8
I5	Fresno	96982.6	21013.4	8842.7	-88139.9	-91%	(12,171)	-58%	1	6	9
SR180	Fresno	4106.6	10950.3	7489.1	3382.5	82%	(3,461)	-32%	11	8	10
I5	Kings	3840.5	950.2	3311.3	-529.2	-14%	2,361	248%	12	15	11
SR58	Kern	7680.6	4040.6	1539.2	-6141.4	-80%	(2,501)	-62%	9	10	12
SR198	Kings	1120.8	4349.7	1357.4	236.6	21%	(2,992)	-69%	15	9	13
SR168	Fresno	0	1196.6	1223.9	1223.9		27	2%		14	14
SR41	Kings	463.9	2099.7	1114.5	650.6	140%	(985)	-47%	17	12	15
SR152	Madera	25.2	11.8	20.2	-5	-20%	8	71%	18	19	16
SR168S	Fresno	1400	363.4	0	-1400	-100%	(363)	-100%	13	16	
SR178	Kern	4347.3	9.9	0	-4347.3	-100%	(10)	-100%	10	20	
SR180S	Fresno	608.7	249.6	0	-608.7	-100%	(250)	-100%	16	18	
SR41	Madera	0.4	283.6	0	-0.4	-100%	(284)	-100%	19	17	
TOTALS		**375,697**	**309,027**	**233,022**	**-142,675**	**-38.0%**	**-76,005**	**-24.6%**			

Vehicle Hours of Delay is in Hours