District 06 Mobility Performance Report

2019 First Quarter

DEPARTMENT OF TRANSPORTATION

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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

During the first quarter of 2019 the total delay was approximately 376 thousand Vehicle Hours of Delay (VHD) at the 35 miles per hour (mph) speed threshold, and 1.5 million VHD at the 60 mph threshold. The average non-holiday weekday experience was approximately 4,571 thousands VHD at 35 mph which increase about 26.8% compared to last quarter, and 20 thousand VHD at 60 mph which increase approximately 7.9% compared with last quarter.

For the entire district, the VHD for the first quarter of 2019 experienced an overall increase of 23.4% when compared to the previous quarter, however the delay varied with respect to each County and route. The VHD also experienced an increase approximately 55.7% when comparing the first quarter of 2019 to the first quarter of 2018. Vehicle Miles Traveled (VMT) decreased 3.8% when compared to last quarter (Q4 of 2018) at 1.8 billion of vehicle miles travel. Tulare County experienced the largest increase in VHD at 271.6%, while the Kings County experienced a decrease in VHD at 41.2%, over the previous quarter at the 35 mph threshold. An overall increase in VHD for the district could correspond to the new construction projects (maintenance projects on SR 99 and Interstate 5). Interstate 5 in Fresno County showed a large increase in congestion compared to the last quarter. This may have been caused by couples of emergency closures on I5 due to incidents during the Q1 period.

A slight decrease in VHD was observed on State Route 198 in Kings County. This may have been contributed by the lower activities of construction closures for the SR 198 at the Hanford-Armona Roundabout. It is anticipated that the project may be finished earlier than scheduled.

CENTRAL REGION ONGOING PROJECTS

For Quarter 1, the following projects are considered to possibly have an impact on delay in 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 99; 06-0Q280 0613000051 3Rs (Roadway Rehabilitation PM 23.6/28.4)

State Route 46; 06-44254 0612000175 Widen Highway 2-L to 4-L (PM31.5/33.2)

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

State Route 178: 06-48470 0600000485 Street Widening (PM 0.4/1.9)

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 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

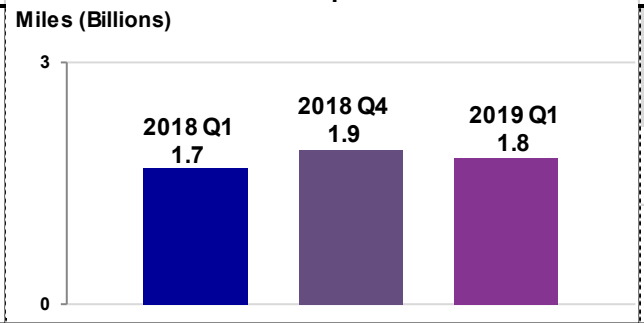
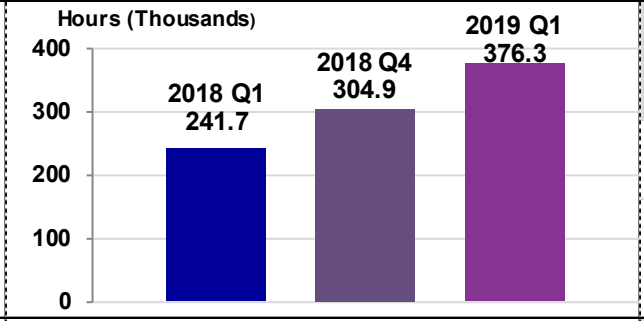
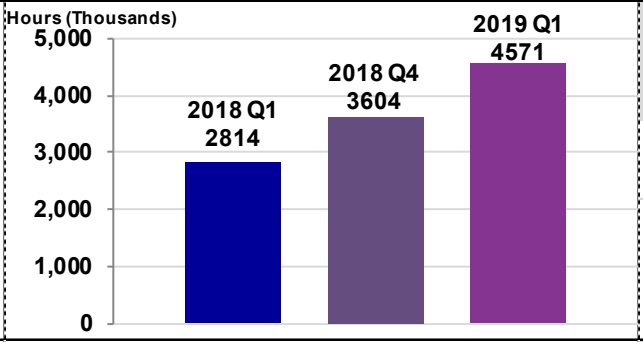
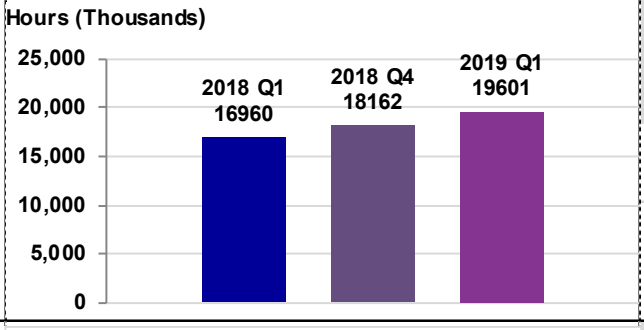
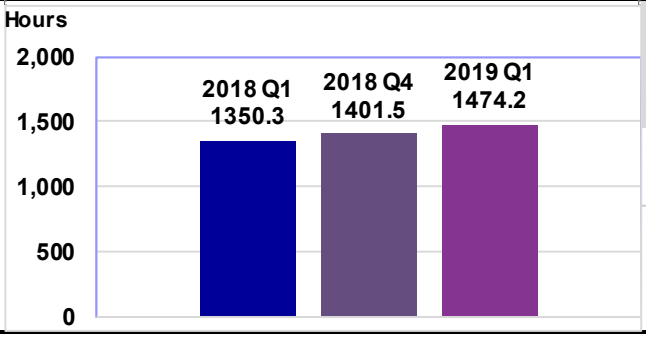
State Route 99; 06-0Y680 0619000081 Remove and Replace Failed Pavement (Maintenance Project PM 41.1/48.8)

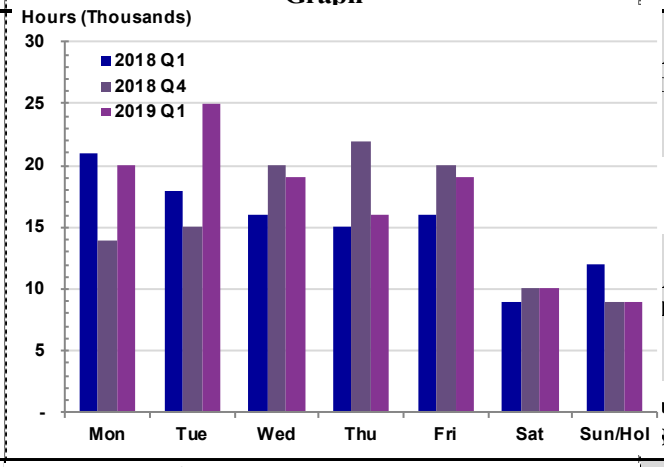
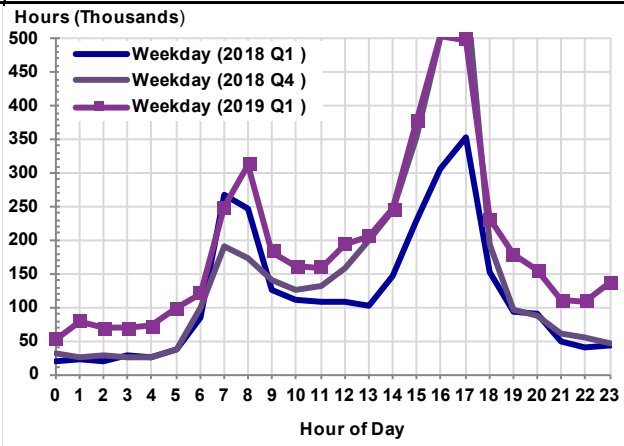
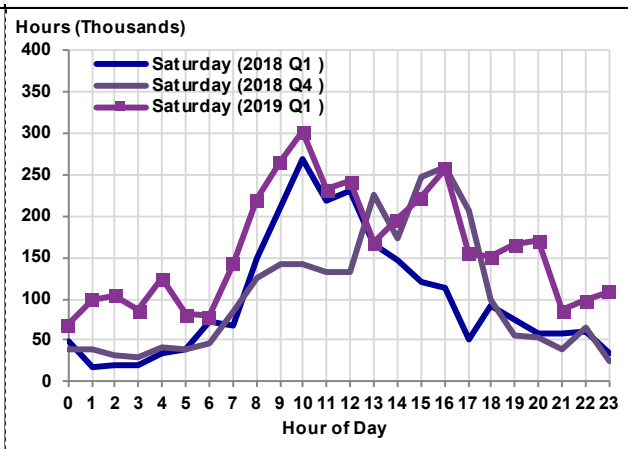
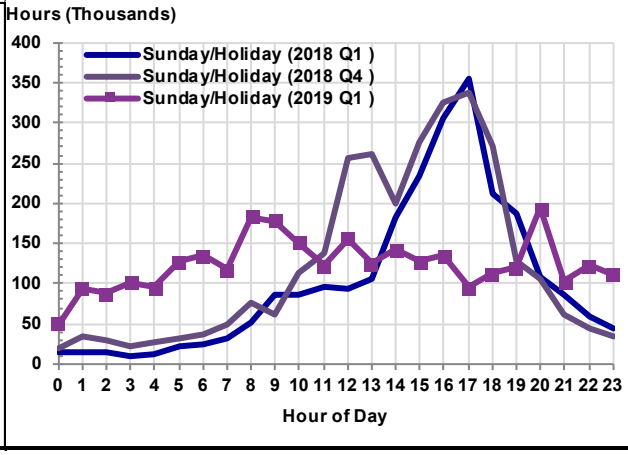
BOTTLENECKS REPORTED FOR QUARTER 1

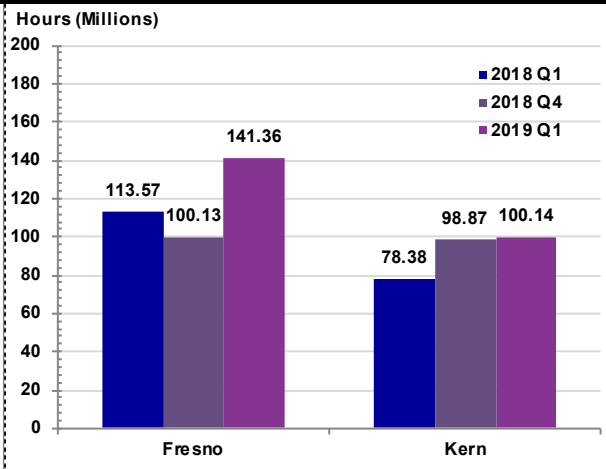
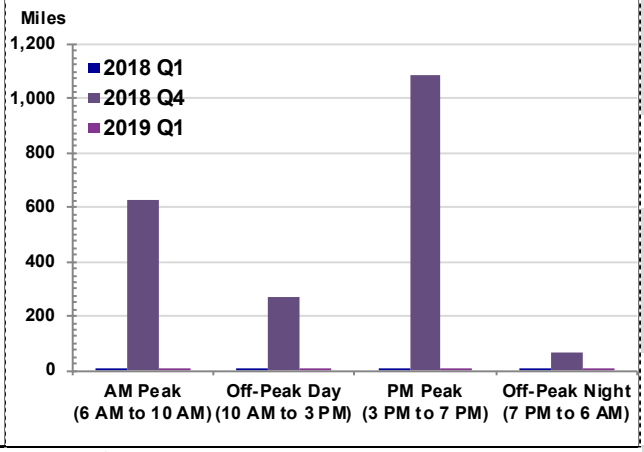
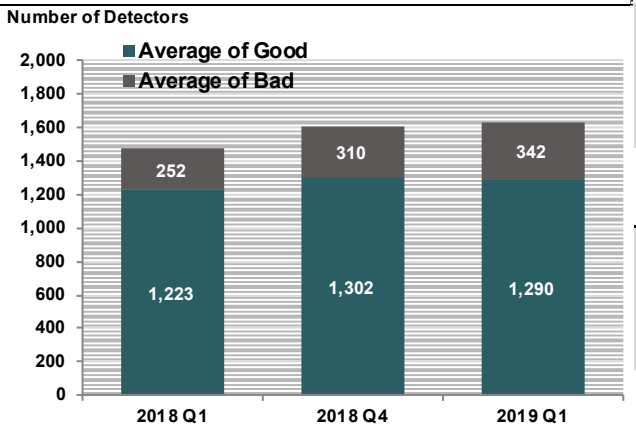
County	Fwy	Locations	Shift	VDS	CA PM	# Days Active	Avg Extent (Miles)	Avg Delay (Veh-hrs)	Avg Duration (mins)
Kern	99	NO Airport Dr. SB	PM	629996	26.811	31	1.5	284.2	153.5
Tulare	99	1.25 MI NO Ave. 328 SB	AM	602912	44.611	22	1.9	102.6	80.7
Fresno	41	McKinley Ave. NB	PM	601213	25.341	25	1.5	109	54.8
Madera	99	0.2 MI NO Ave.15$^{1/2}$ SB	PM	602305	12.144	25	1.4	141.1	100
Madera	99	Gateway Dr. SB	PM	602301	9.781	29	2	166.2	95.7
Fresno	41	Shaw Ave. SB	PM	601206	28.395	52	0.6	110.4	88.8

The above bottleneck locations are mainly associated with lane closures related activities, except the two locations on SR 41 in the City of Fresno where recurrent congestion is anticipated lately.

QUARTERLY MOBILITY STATISTICS

Measure	Graph	Percentage Change	
		Over one year ago	Over last quarter
Vehicle Miles of Travel (VMT)		3.8%	-6.8%
Total Vehicle Hours of Delay (VHD) at 35 mph		55.7%	23.4%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph		62.5%	26.8%
Total Vehicle Hours of Delay (VHD) at 60 mph		9.2%	5.2%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph		15.6%	7.9%

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		Largest Magnitude Decrease over one year ago Sun/Hol -23.2% Largest Magnitude Increase over one year ago uesday .9%	Largest Magnitude Decrease over last quarter Thursday -27.1% Largest Magnitude Increase over last quarter Tuesday 60.4%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Weekday Decrease over one year ago 7 AM -6.6% Largest Magnitude Weekday Increase over one year ago 4 PM 64.8%	Largest Magnitude Weekday Decrease over last quarter 5 PM -13.6% Largest Magnitude Weekday Increase over last quarter 8 AM 78.8%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago – Largest Magnitude Saturday Increase over one year ago 4 PM 126%	Largest Magnitude Saturday Decrease over last quarter 1 PM -25.4% Largest Magnitude Saturday Increase over last quarter 10 AM 113.5%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/ Holidays		Largest Magnitude Sun./Holiday Decrease over one year ago 5 PM -73.1% Largest Magnitude Sun./Holiday Increase over one year ago 8 AM 248.7%	Largest Magnitude Sun./Holiday Decrease over last quarter 5 PM -71.6% Largest Magnitude Sun./Holiday Increase over last quarter 9 AM 191.7%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		Largest Magnitude Decrease over one year ago Kings -30.3%	Largest Magnitude Decrease over last quarter Kings -48.4%
		Largest Magnitude Increase over one year ago Tulare 271.6%	Largest Magnitude Increase over last quarter Fresno 41.2%
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph		Largest Magnitude Decrease over one year ago Off-Peak Day -12.9%	Largest Magnitude Decrease over last quarter PM Peak -99.3%
		Largest Magnitude Increase over one year ago PM Peak 39.2%	Largest Magnitude Increase over last quarter –
Average Number of Good and Bad Detectors		Change in Good over one year ago 5%	Change in Good over last quarter -1%
		Change in Bad over one year ago 36%	Change in Bad over last quarter 10%

Congestion by Route											
		Vehicle Hours of Delay at 35 mph			Difference 2019 Q1-2018 Q1		Difference 2019 Q1-2018 Q4		Rank		
Route	County	2018 Q1	2018 Q4	2019 Q1	Absolute	Percentage	Absolute	Percentage	2018 Q1	2018 Q4	2019 Q1
I5	Fresno	33,252	20,143	96,983	63,730	191.7%	76,840	381.5%	3	7	1
SR99	Tulare	17,894	28,835	65,777	47,883	267.6%	36,943	128.1%	7	5	2
SR99	Madera	23,971	65,213	62,250	38,278	159.7%	-2,963	-4.5%	6	1	3
I5	Kern	50,951	48,964	38,920	-12,031	-23.6%	-10,045	-20.5%	1	2	4
SR99	Kern	24,728	37,058	37,287	12,559	50.8%	229	0.6%	5	3	5
SR41	Fresno	28,575	33,329	21,844	-6,731	-23.6%	-11,485	-34.5%	4	4	6
SR99	Fresno	37,584	23,517	16,423	-21,162	-56.3%	-7,095	-30.2%	2	6	7
SR46	Kern	314	4,638	11,910	11,596	3694.0%	7,272	156.8%	15	13	8
SR58	Kern	2,365	8,213	7,681	5,316	224.8%	-532	-6.5%	12	9	9
SR178	Kern	0	0	4,347	4,347		4,347				10
SR180	Fresno	4,151	7,131	4,107	-45	-1.1%	-3,024	-42.4%	10	11	11
I5	Kings	5,007	1,629	3,841	-1,166	-23.3%	2,212	135.8%	9	14	12
SR168S	Fresno	2,831	10,336	1,400	-1,431	-50.6%	-8,936	-86.5%	11	8	13
SR198	Tulare	163	1,287	1,320	1,156	707.5%	33	2.6%	16	16	14
SR198	Kings	1,785	7,505	1,121	-664	-37.2%	-6,384	-85.1%	13	10	15
SR180S	Fresno	7,179	5,675	609	-6,570	-91.5%	-5,066	-89.3%	8	12	16
SR41	Kings	992	1,389	464	-528	-53.2%	-925	-66.6%	14	15	17
SR152	Madera	1	10	25	25	4100.0%	15	144.7%	17	17	18
SR41	Madera	0	0	0	0	300.0%	0		18		19
TOTALS		**241,743**	**304,870**	**376,307**	**134,563**	**55.7%**	**71,437**	**23.4%**			

Vehicle Hours of Delay is in Hours