

District 06 Mobility Performance Report

2019 Third 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

In the third quarter, total delay was approximately 328 thousand Vehicle Hours of Delay (VHD) at the 35 miles per hour (mph) speed threshold, and 1,421 thousand VHD at the 60mph threshold. The average non-holiday weekday experience was approximately 3,852 thousand VHD at 35mph. Compared to the previous quarter, there was a 2.6 percent decrease in 35mph average non-holiday weekday quarterly delay and 7.5 percent increase in 60mph.

For the entire district, the total VHD for the third quarter experienced a slight increase of approximately 1.4 percent when compared to the previous quarter, however the delay varied with respect to each County and route. The VHD also experienced a decrease overall of approximately 26.7 percent when comparing this quarter to the same third quarter of 2018. Vehicle Miles Traveled (VMT) slightly increased 1.7 percent when compared to the last quarter. Fresno County and Kern Counties still experience the largest delay among the five counties in the District. As for comparison of VHD to the previous quarter, Fresno County experienced a decrease of approximately 67 percent, while Kern County experienced an increase of 51 percent, at the 35mph threshold. However, delay at 35mph in Madera County decreased to about 28 percent. A lesser construction activity (especially for Maintenance projects) in Fresno County may have resulted in a lower in VHD; while more construction activities in Kern County (SR 99 pavement rehabilitation and freeway widening in SR 58 projects within Bakersfield city limits) may have resulted in a higher VHD in Kern County for this quarter.

CENTRAL REGION ONGOING PROJECTS

For Quarter 3, 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; 06-0V460 0616000181 Bridge Rehab & Overlay (PM 0.4/30.5 Maint. Project)

State Route 99; 06-0K290 0600020018 Route 99 Ramp Meter, Construction Signs & ramp widening (PM 22.7/28.1)

State Route 41; 06-0U160 0615000310 Route 41 Deck Overlay and Joint Seals (PM 22/22.6)

State Route 99; 06-2HT10 0612000287 Route 99 Realignment for HSR (PM 23.7/26.2)

Kern County

Interstate I-5; 06-0X820 0618000153 Pavement Rehabilitation (PM R15.9/30.8)

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

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

State Route 58; 06-0G850 0600020167 3Rs Roadway Rehabilitation (PM R52.7/R55.5)

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

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

State Route 58; 06-48464 0618000019 Construct Auxiliary Lane (PM 50.5/55.5)

Kings County

State Route 41; 06-0X890 0618000179 Rubberized HMA (PM 0/11.1 Maint. Project)

State Route 198; 06-0T290 0615000053 Roadside Safety Improvement (PM 8.3/R19.4)

State Route 41; 06-0Y440 0618000221 Install Pavement Delineation (PM 16/18.2 Maint. Project)

State Route 198; 06-48751 0614000073 Replace Planting (PM R16.5/R17.2)

Madera County

State Route 41; 06-0V020 0616000091 Intersection Improvements (PM 5.6/6.5)

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

Tulare County

State Route 99; 06-0T800 0615000231 Resurface Pavement (PM 37.3/41.3)

State Route 99; 06-0Y680 0619000081 Remove & replace Pavement (PM 41.1.6/48.8 Maint. Project)

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

BOTTLENECKS REPORTED FOR QUARTER 3

County	Fwy	Locations	Shift	VDS	CA PM	# Days Active	Avg Extend (Miles)	Avg Delay (Veh-hrs)	Avg Duration (Mins)
Kern	99	N.O. Truxtun Ave. NB	AM	601372	25.22	23	1.43	131.83	78.91
Kern	99	N.O. Truxtun Ave. NB	Noon	601372	2522	34	1.55	170.47	102.79
Fresno	41	Shaw Ave. SB	PM	601206	28.395	54	0.60	10558	87.5
Kern	99	N. O Truxtun Ave. NB	PM	601372	25.22	41	1.51	173.35	87.44
Kern	99	N.O. SR 58 OC. SB	Noon	629992	24.589	27	1.22	114.63	90.56
Mad	99	Avenue 9 SB	PM	602922	3.551	15	1.46	103.73	93.00
Kern	99	S. O Rosedale Hwy SB	PM	619984	26.294	60	1.08	161.91	128.67
Kern	99	Olive Drive SB	PM	601260	27.8	23	1.59	159.40	70.65
Fresno	99	McKinley Ave. SB	AM	601264	23.75	37	1.91	121.72	45.14

The above bottleneck locations are reported in PeMS for quarter 3. Further investigation to confirm the bottleneck locations; it was found that a majority of the listed bottleneck locations have been associated with lane closures related in construction activities on SR 99 in Fresno, Kern and Madera Counties. Eight out of the nine listed above locations were within the construction zones; and four out of those eight construction zones had detection issues most of the time. This is due to lane shift and some of the detection loops were affected. It was found that lane number 1 of the VDSs 601372, 629992, 602922, and 619984 were not functioning most of the time. Only one location, Fresno 41 at Shaw Avenue, on the listed locations, was not within construction zone and detections were functioning well during the quarter.

QUARTERLY MOBILITY STATISTICS

Measure	Graph	Percentage Change	
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <p>2018 Q3: 2 2019 Q2: 2 2019 Q3: 2</p>	Over one year ago	Over last quarter
		2.2%	1.7%
		↑	↑
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <p>2018 Q3: 446.8 2019 Q2: 322.9 2019 Q3: 327.6</p>	Over one year ago	Over last quarter
		-26.7%	1.4%
		↓	↑
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <p>2018 Q3: 5640 2019 Q2: 3957 2019 Q3: 3852</p>	Over one year ago	Over last quarter
		-31.7%	-2.6%
		↓	↓
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <p>2018 Q3: 1624.3 2019 Q2: 1301.1 2019 Q3: 1420.7</p>	Over one year ago	Over last quarter
		-12.5%	9.2%
		↓	↑
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours</p> <p>2018 Q3: 21463 2019 Q2: 16843 2019 Q3: 18102</p>	Over one year ago	Over last quarter
		-15.7%	7.5%
		↓	↑

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 -44%	Friday -1.6%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Thursday 22%	Thursday 13%
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
		2 PM -39.1%	12 PM -44.1%
		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
		12 AM 66.6%	9 PM 107.3%
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
		4 PM -79.7%	7 AM -53.7%
		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		12 PM 26%	11 AM 83.4%
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
		8 AM -38.1%	12 PM -6%
		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		9 PM 189.4%	5 PM 86.6%

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 -66.6% ↓	Madera -27.7% ↓
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 Night -68% ↓	Off-Peak Day -24.2% ↓
Average Number of Good and Bad Detectors		Change in Good over one year ago	Change in Good over last quarter
		0%	-2% ↓
		Change in Bad over one year ago	Change in Bad over last quarter
		32% ↑	8% ↑

Vehicle Hours of Delay is in Hours

Congestion by Route											
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2019 Q3-2018 Q3		Difference 2019 Q3-2019 Q2		Rank		
		2018 Q3	2019 Q2	2019 Q3	Absolute	Percentage	Absolute	Percentage	2018 Q3	2019 Q2	2019 Q3
I5	Kern	58800.7	44653	66936.8	8136.1	14%	22,284	50%	3	3	1
SR99	Kern	83304.5	37335.1	62424.3	-20880.2	-25%	25,089	67%	1	4	2
SR99	Madera	51309.8	82459.7	59608.6	8298.8	16%	(22,851)	-28%	6	1	3
SR41	Fresno	44154.9	14327.7	23316.1	-20838.8	-47%	8,988	63%	7	7	5
SR46	Kern	1100.1	7897.1	20483.2	19383.1	1762%	12,586	159%	15	9	6
SR99	Fresno	57667.2	26593.1	16503.2	-41164	-71%	(10,090)	-38%	5	5	7
SR180	Fresno	6841.7	7232.3	7124.9	283.2	4%	(107)	-1%	9	10	8
I5	Fresno	59540.5	19228.3	6608	-52932.5	-89%	(12,620)	-66%	2	6	9
SR198	Kings	1607.1	1595	4918.5	3311.4	206%	3,324	208%	13	13	10
SR41	Kings	5260.8	1351.1	4702.8	-558	-11%	3,352	248%	11	14	11
SR168S	Fresno	1526.5	2253.6	2609.3	1082.8	71%	356	16%	14	11	12
SR58	Kern	5294.8	10995.9	2296.7	-2998.1	-57%	(8,699)	-79%	10	8	13
SR180S	Fresno	4611.9	405.3	2067.2	-2544.7	-55%	1,662	410%	12	15	14
I5	Kings	7237.5	1986.3	2048.3	-5189.2	-72%	62	3%	8	12	15
SR198	Tulare	172	306.1	608.6	436.6	254%	303	99%	17	16	16
SR41	Madera	0.3	26.5	37.6	37.3	12433%	11	42%	19	17	17
SR152	Madera	434.4	0.2	0.8	-433.6	-100%	1	300%	16	19	18
TOTALS		446,848	322,909	327,569	-119,278	-26.7%	4,660	1.4%			