District 06
Mobility Performance Report

2023 First Quarter

DEPARTMENT OF TRANSPORTATION

April 30, 2023

: D06 – Traffic Operations

2023 First 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 miles per hour (mph). The delay at the 35 miles per hour (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 first quarter of 2023, total delay equaled approximately 371,700 vehicle hours of delay (VHD) at the 35mph speed threshold, an increase of approximately 6 percent compared to last quarter (fourth quarter of 2022). The average (non-holiday) weekday of vehicle hours of delay experienced in this quarter was approximately 4886 VHD (compares to 3804 VHD in last quarter) at 35mph speed threshold, an increase of 23.2 percent. Total delay reported at approximately 1.6 million VHD at 60mph speed threshold, a decrease of approximately 3.3 percent compared to previous quarter (1.7 million VHD) of 2022. The average (non-holiday) weekday of vehicle hours of delay was reported as 21,043 VHD at 60mph speed threshold, which slightly increase about 0.1 percent compare to previous quarter (21,022 VHD). Kern and Fresno Counties continued to experience the largest delay among five counties in the District, especially on SR 99. Vehicle Miles Traveled (VMT) was reported at an approximately 2.00 billion vehicle miles which decrease approximately 9.6 percent compared to the last quarter (2.21 billion). VMT for this quarter, compared to Q1 of last year, is also slightly decreased about 1.3 percent (2.02 billion for Q1 last year). Overall, for this quarter, total vehicle-hour of delay for 35mph increases approximately 6 percent; however, the total vehicle-hour of delay at 60mph decreases approximately 3.3 percent, compared to the last quarter.

For this quarter, the total number of detectors in the district is increase to 1844 from 1790 (last quarter). The District added additional 54 new detectors to the facility. PEMS reported the change

in good detectors slightly decreases approximately 3 percent compared to the last quarter. As far as change in percentage of bad detectors, PEMS reports about 3 percent increase in change of bad detectors compared to last quarter. The average number of good as well as bad detectors are illustrated in the graph at the end of this report.

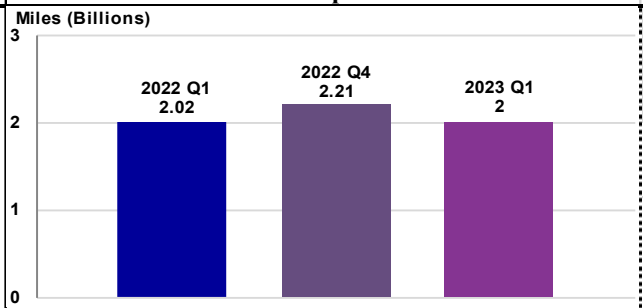
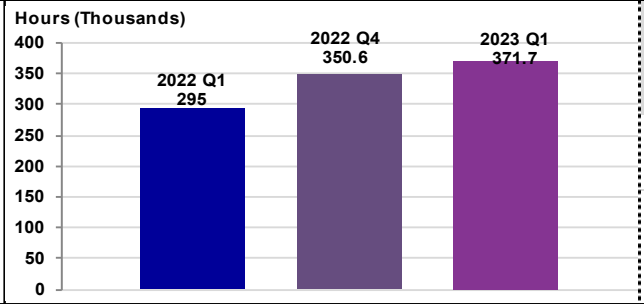
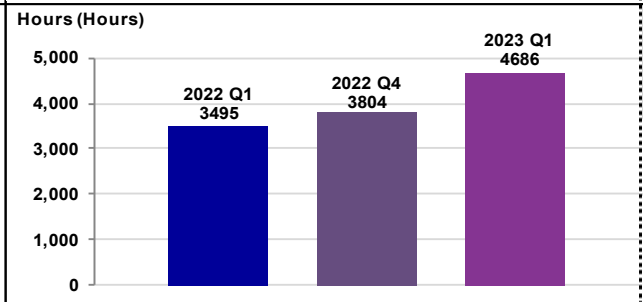
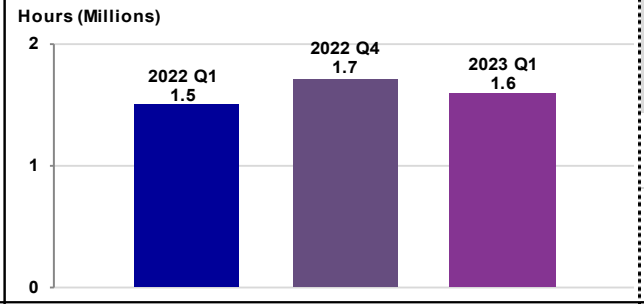
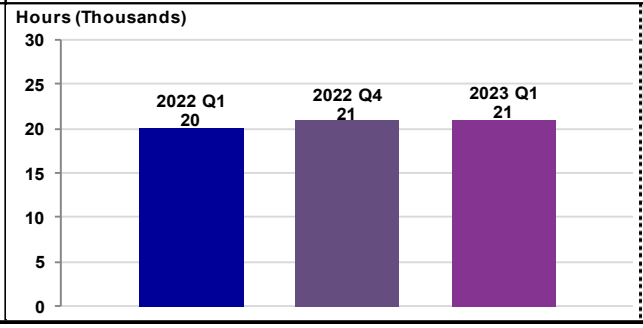
Top Ten Bottlenecks for Quarter 1 – 2023

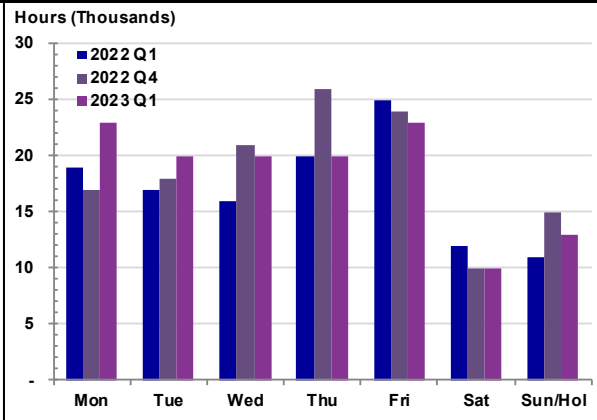
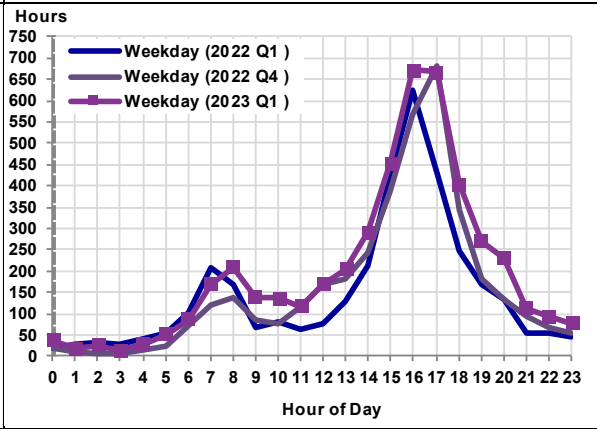
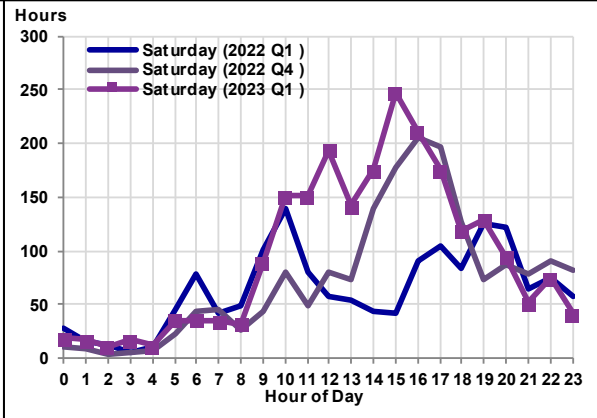
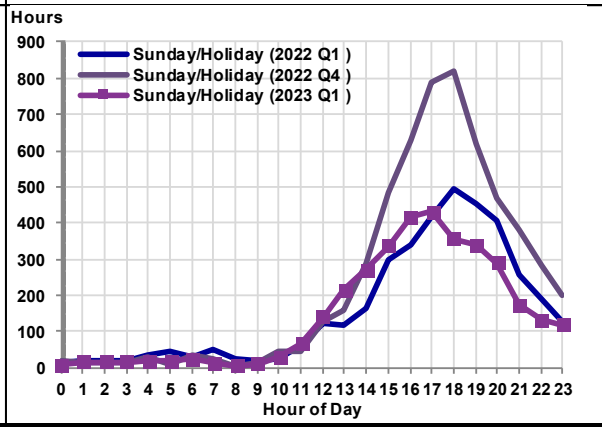
County	Fwy	Locations	Type	Shift	Abs PM	CA PM	Latitude	Longitude	# Days Active	Avg Extent (Miles)	Total Delay (Veh-hrs)	Avg Duration (mins)
Fresno	41 S	Mc Kinley Ave.	ML	PM	127.09	R25.3409	36.77	-119.78	55	0.93	5922.60	4130
Fresno	41 N	Clinton Ave.	ML	PM	127.63	R25.8805	36.77	-119.78	46	1.49	5025.00	2160
Fresno	41 S	Shaw Ave	ML	PM	130.15	R25.395	36.81	-119.79	46	1.02	4104.90	2050
Fresno	99 N	N.O Nielsen Ave.	ML	PM	134.65	22.31	36.75	-119.82	46	0.52	2614.40	3550
Fresno	99 S	McKinley Ave.	ML	AM	136.07	23.75	36.76	-119.83	46	0.97	2073.10	1625
Fresno	41 N	McKinley	ML	AM	127.09	R25.3409	36.77	-119.78	38	0.76	1287.20	1050
Madera	99 S	S.O Ave 12	ML	PM	150.90	6.962	36.92	-120.02	35	1.49	6472.10	3070
Kern	58 W	H Street	ML	PM	110.13	R53.307	35.35	-119.02	35	1.83	3058.10	2615
Fresno	41 N	Ashlan Ave	ML	PM	129.30	R27.55	36.80	-119.78	31	1.44	4975.80	1840
Fresno	41 N	Ashlan Ave	ML	AM	129.30	R27.55	36.80	-119.78	28	1.20	2937.60	1410

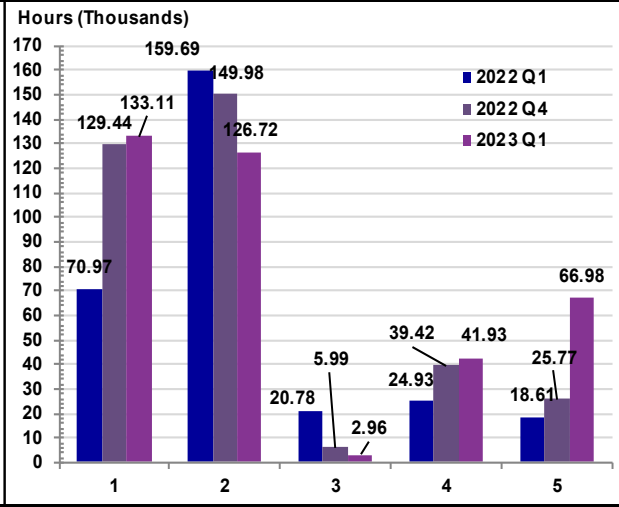
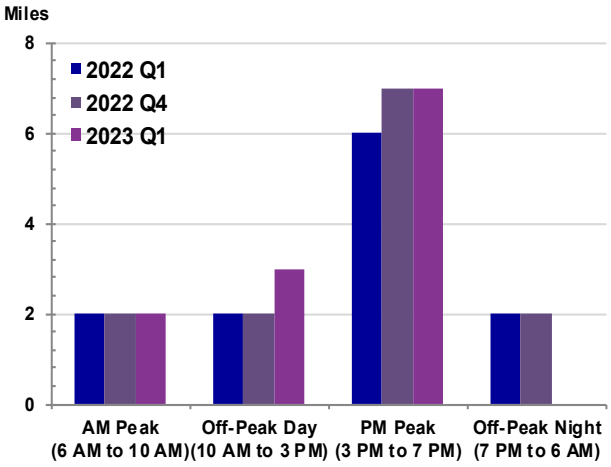
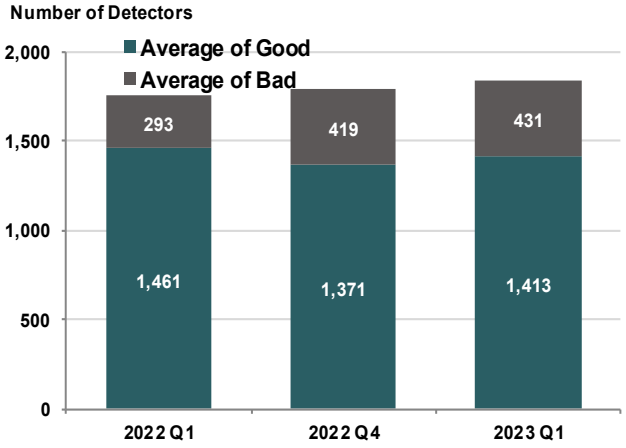
For this first quarter of 2023, the majority of district's top ten bottleneck locations are mainly on SR 41 and SR 99 in the City of Fresno in Fresno County. The listed bottleneck locations on SR 41 and SR 99 in City of Fresno are the recurrent congestion locations during peak hours commute and they have been occasionally observed in the past quarters. The bottleneck location on Avenue 12 in the City of Madera in Madera County and the one on SR 58 in the City of Bakersfield in Kern County are possibly construction related. 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

Measure	Graph	Percentage Change	
		Over one year ago	Over last quarter
Vehicle Miles of Travel (VMT)		-1.3%	-9.6%
Total Vehicle Hours of Delay (VHD) at 35 mph		26%	6%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph		34.1%	23.2%
Total Vehicle Hours of Delay (VHD) at 60 mph		5.6%	-3.3%
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph		7.2%	0.1%

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		Largest Magnitude Decrease over one year ago Friday -8.9%	Largest Magnitude Decrease over last quarter Thursday -20.6%
		Largest Magnitude Increase over one year ago Monday 22%	Largest Magnitude Increase over last quarter Monday 35.9%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Weekday Decrease over one year ago 7 AM -18.9%	Largest Magnitude Weekday Decrease over last quarter 5 PM -1.9%
		Largest Magnitude Weekday Increase over one year ago 5 PM 54.9%	Largest Magnitude Weekday Increase over last quarter 4 PM 17.8%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago 6 AM -54.5%	Largest Magnitude Saturday Decrease over last quarter 11 PM -49.9%
		Largest Magnitude Saturday Increase over one year ago 3 PM 481.4%	Largest Magnitude Saturday Increase over last quarter 12 PM 140.5%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/ Holidays		Largest Magnitude Sun./Holiday Decrease over one year ago 6 PM -28.2%	Largest Magnitude Sun./Holiday Decrease over last quarter 6 PM -56.7%
		Largest Magnitude Sun./Holiday Increase over one year ago 2 PM 67.1%	Largest Magnitude Sun./Holiday Increase over last quarter 1 PM 36.7%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph		Largest Magnitude Decrease over one year ago Kern -20.6%	Largest Magnitude Decrease over last quarter Kern -15.5%
		Largest Magnitude Increase over one year ago Fresno 87.5%	Largest Magnitude Increase over last quarter Tulare 159.9%
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph		Largest Magnitude Decrease over one year ago Off-Peak Ni -100%	Largest Magnitude Decrease over last quarter Off-Peak Nigl -100%
		Largest Magnitude Increase over one year ago Off-Peak Day 101.5%	Largest Magnitude Increase over last quarter Off-Peak D 70.2%
Average Number of Good and Bad Detectors		Change in Good over one year ago -3%	Change in Good over last quarter 3%
		Change in Bad over one year ago 47%	Change in Bad over last quarter 3%

Congestion by Route											
		Vehicle Hours of Delay at 35 mph			Difference 2023 Q1-2022 Q1		Difference 2023 Q1-2022 Q4		Rank		
Route	County	2022 Q1	2022 Q4	2023 Q1	Absolute	Percentage	Absolute	Percentage	2022 Q1	2022 Q4	2023 Q1
SR99	Kern	98,461	98,585	75,051	-23,410	-23.8%	-23,534	-23.9%	1	1	1
SR99	Tulare	17,487	24,851	64,546	47,059	269.1%	39,695	159.7%	7	7	2
I5	Fresno	16,378	32,622	46,669	30,291	184.9%	14,047	43.1%	8	5	3
SR99	Madera	24,930	39,371	41,370	16,440	65.9%	1,999	5.1%	3	4	4
I5	Kern	53,760	44,995	38,502	-15,257	-28.4%	-6,492	-14.4%	2	3	5
SR41	Fresno	23,077	55,966	35,558	12,481	54.1%	-20,408	-36.5%	4	2	6
SR99	Fresno	22,433	27,518	29,696	7,263	32.4%	2,178	7.9%	5	6	7
SR180	Fresno	5,156	10,611	19,603	14,448	280.2%	8,993	84.8%	10	8	8
SR58	Kern	7,442	6,401	13,146	5,704	76.6%	6,746	105.4%	9	9	9
I5	Kings	19,064	4,933	2,499	-16,565	-86.9%	-2,434	-49.3%	6	10	10
SR198	Tulare	1,126	919	2,431	1,305	115.9%	1,512	164.6%	12	12	11
SR168	Fresno	3,931	2,721	1,581	-2,350	-59.8%	-1,140	-41.9%	11	11	12
SR41	Madera	0	4	559	559		555	15010.8%		16	13
SR198	Kings	701	138	290	-411	-58.7%	152	110.2%	14	14	14
SR41	Kings	1,018	915	169	-849	-83.4%	-746	-81.5%	13	13	15
SR46	Kern	27	4	21	-6	-23.2%	17	480.6%	15	17	16
SR152	Madera	0	44	6	6		-39	-87.6%		15	17
SR178	Kern	1	0	0	-1	-100.0%	0		16		
TOTALS		**294,990**	**350,594**	**371,694**	**76,704**	**26.0%**	**21,100**	**6.0%**			