District 06
Mobility Performance Report

2022 Fourth Quarter

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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:

- o Vehicle Miles of Travel (VMT)

- o Vehicle Hours of Delay (VHD)

- o Lost Lane Miles (equivalent lost productivity)

- o 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 fourth quarter, total delay equaled approximately 350,600 vehicle hours of delay (VHD) at the 35mph speed threshold, an increase of approximately 55.4 percent compared to last quarter (third quarter of 2022). The average (non-holiday) weekday of vehicle hours of delay experienced in this quarter was approximately 3804 VHD (compare to 2760 VHD in last quarter) at 35mph speed threshold. Total delay reported at approximately 1.7 million VHD at 60mph speed threshold, an increase of approximately 13.4 percent compared to previous quarter (1.5 million VHD) of 2022. The average (non-holiday) weekday of vehicle hours of delay was reported as 21,022 VHD at 60mph speed threshold, which increases about 8.4 percent compare to previous quarter (19,390 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 approximately 2.21 billion vehicle miles which is nearly the same compared to the last quarter (2.25 billion). VMT for this quarter, compared to Q4 of last year, also is nearly the same (2.22 billion for Q4 last year). Overall, for this quarter, total vehicle-hour of delay for 35mph increases approximately 55.4 percent, and the total vehicle-hour of delay at 60mph also increases approximately 13.4 percent, compared to the last quarter.

For this quarter, the total number of detectors in the district is approximately 1790 (same as last quarter). PEMS reported the change in good detectors slightly decreases approximately 2 percent compared to the last quarter. As far as change in percentage of bad detectors, PEMS reports
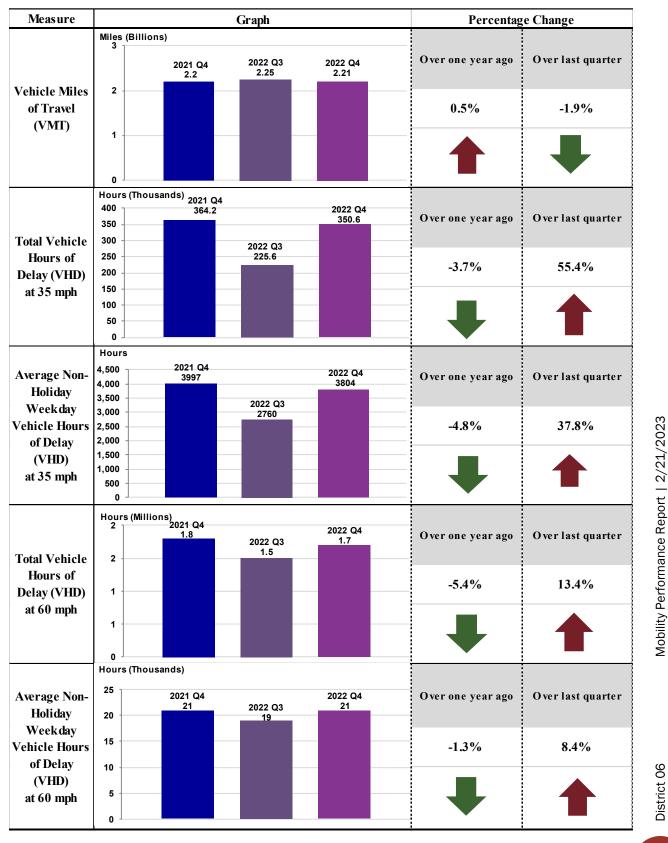
approximately 7 percent increase in change of bad detectors compared to last quarter. The average number of good as well as bad detectors are illustrated in the graph at the end of this report.

Top Ten Bottlenecks for Quarter 4 – 2022

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	Shaw Ave.	ML	PM	130.15	R28.395	36.81	-119.79	51	1.06	5117.8	2635
Fresno	99 N	N.O Nielsen Av	ML	PM	134.65	22.31	36.75	-119.82	49	0.67	4501.2	4190
Fresno	41 N	Clinton Ave	ML	PM	127.63	R25.8805	36.77	-119.78	46	1.24	4931.60	2475
Madera	99 S	S.O Ave. 12	ML	PM	150.90	6.962	36.92	-120.02	44	1.66	7391.00	4090
Fresno	41 N	McKinley Ave.	ML	PM	127.09	R25.3409	36.77	-119.78	40	0.94	3416.6	2355
Madera	99 N	Mandera Ave.	ML	AM	154.59	10.621	36.96	-120.06	39	0.50	247.4	2470
Fresno	99 S	McKinley Ave	ML	AM	136.07	23.75	36.76	-119.83	38	0.97	1479.10	1255
Fresno	41 N	Ashlan Ave	ML	PM	129.30	R27.55	36.80	-119.78	32	1.56	6233.90	2240
Fresno	99 S	Olive Avenue	ML	PM	135.53	23.21	36.76	-119.83	32	1.07	2462.20	1830
Kern	58 W	H Street	ML	PM	110.13	R53.307	35.35	-119.02	30	1.80	2126.70	1990

For this fourth quarter, the 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)	Miles (Billions) 2021 Q4: 2.2 2022 Q3: 2.25 2022 Q4: 2.21	0.5% ↑	-1.9% ↓
Total Vehicle Hours of Delay (VHD) at 35 mph	Hours (Thousands) 2021 Q4: 364.2 2022 Q3: 225.6 2022 Q4: 350.6	-3.7% ↓	55.4% ↑
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	Hours 2021 Q4: 3997 2022 Q3: 2760 2022 Q4: 3804	-4.8% ↓	37.8% ↑
Total Vehicle Hours of Delay (VHD) at 60 mph	Hours (Millions) 2021 Q4: 1.8 2022 Q3: 1.5 2022 Q4: 1.7	-5.4% ↓	13.4% ↑
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	Hours (Thousands) 2021 Q4: 21 2022 Q3: 19 2022 Q4: 21	-1.3% ↓	8.4% ↑

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		**Largest Magnitude Decrease over one year ago** **Thursday** -11.7%	**Largest Magnitude Decrease over last quarter** **Monday** -39.9%
		Largest Magnitude Increase over one year ago **Friday** 14.3%	**Largest Magnitude Increase over last quarter** **Thursday** 54.9%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		**Largest Magnitude Weekday Decrease over one year ago** **4 PM** -19.4%	**Largest Magnitude Weekday Decrease over last quarter** **10 AM** -26.8%
		Largest Magnitude Weekday Increase over one year ago **7 PM** 79.6%	**Largest Magnitude Weekday Increase over last quarter** **5 PM** 118.4%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		**Largest Magnitude Saturday Decrease over one year ago** **3 PM** -48.9%	**Largest Magnitude Saturday Decrease over last quarter** **11 AM** -79.7%
		Largest Magnitude Saturday Increase over one year ago **10 AM** 50.1%	**Largest Magnitude Saturday Increase over last quarter** **4 PM** 247.5%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/ Holidays		**Largest Magnitude Sun./Holiday Decrease over one year ago** **8 AM** -93.7%	**Largest Magnitude Sun./Holiday Decrease over last quarter** **12 AM** -54.9%
		Largest Magnitude Sun./Holiday Increase over one year ago **6 PM** 36.5%	**Largest Magnitude Sun./Holiday Increase over last quarter** **5 PM** 321.6%

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Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph	Hours (Thousands) Fresno: 109.3, 86.41, 129.44 — Kern: 177.98, 77.33, 149.98 — Kings: 11.48, 12.28, 5.99 — Madera: 25.32, 31.8, 39.42 — Tulare: 39.3, 18.58, 25.77 (2021 Q4, 2022 Q3, 2022 Q4)	**Largest Magnitude Decrease over one year ago** Kern -15.7% ⬇	**Largest Magnitude Decrease over last quarter** Kings -47.9% ⬇
		Largest Magnitude Increase over one year ago Fresno 18.4% ⬆	**Largest Magnitude Increase over last quarter** Kern 94% ⬆
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph	Miles AM Peak (6 AM to 10 AM), Off-Peak Day (10 AM to 3 PM), PM Peak (3 PM to 7 PM), Off-Peak Night (7 PM to 6 AM) — 2021 Q4, 2022 Q3, 2022 Q4	**Largest Magnitude Decrease over one year ago** PM Peak -18.7% ⬇	**Largest Magnitude Decrease over last quarter** Off-Peak Day -14.8% ⬇
		Largest Magnitude Increase over one year ago Off-Peak Night 15.5% ⬆	**Largest Magnitude Increase over last quarter** PM Peak 61.9% ⬆
Average Number of Good and Bad Detectors	Number of Detectors Average of Good / Average of Bad — 2021 Q4: 333 / 1,401 — 2022 Q3: 391 / 1,399 — 2022 Q4: 419 / 1,371	**Change in Good over one year ago** -2% ⬇	**Change in Good over last quarter** -2% ⬇
		Change in Bad over one year ago 26% ⬆	**Change in Bad over last quarter** 7% ⬆

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		Vehicle Hours of Delay at 35 mph			Difference 2022 Q4-2021 Q4		Difference 2022 Q4-2022 Q3		Rank		
Route	County	2021 Q4	2022 Q3	2022 Q4	Absolute	Percentage	Absolute	Percentage	2021 Q4	2022 Q3	2022 Q4
SR99	Kern	84,492	42,866	98,585	14,094	16.7%	55,720	130.0%	1	1	1
SR41	Fresno	29,610	21,018	55,966	26,356	89.0%	34,948	166.3%	5	5	2
I5	Kern	71,986	24,027	44,995	-26,992	-37.5%	20,968	87.3%	2	4	3
SR99	Madera	24,974	31,783	39,371	14,397	57.6%	7,588	23.9%	7	3	4
I5	Fresno	27,168	14,759	32,622	5,454	20.1%	17,863	121.0%	6	7	5
SR99	Fresno	40,995	33,861	27,518	-13,477	-32.9%	-6,344	-18.7%	3	2	6
SR99	Tulare	36,032	15,133	24,851	-11,181	-31.0%	9,718	64.2%	4	6	7
SR180	Fresno	9,107	8,231	10,611	1,504	16.5%	2,379	28.9%	10	11	8
SR58	Kern	21,488	10,407	6,401	-15,088	-70.2%	-4,006	-38.5%	8	8	9
I5	Kings	11,064	1,904	4,933	-6,131	-55.4%	3,029	159.1%	9	13	10
SR168	Fresno	2,422	8,544	2,721	299	12.4%	-5,823	-68.2%	12	10	11
SR198	Tulare	3,268	3,445	919	-2,349	-71.9%	-2,527	-73.3%	11	12	12
SR41	Kings	1,094	9,362	915	-179	-16.4%	-8,448	-90.2%	13	9	13
SR198	Kings	124	214	138	14	11.4%	-76	-35.5%	15	14	14
SR152	Madera	70	1	44	-25	-36.4%	44	8740.0%	16	18	15
SR41	Madera	278	21	4	-275	-98.7%	-17	-82.4%	14	16	16
SR46	Kern	17	1	4	-13	-78.2%	3	260.0%	17	17	17
SR178	Kern	0	25	0	0		-25	-100.0%		15	
TOTALS		364,186	225,601	350,594	-13,592	-3.7%	124,993	55.4%			