

District 12 Mobility Performance Report

2023 1st Quarter

DEPARTMENT OF TRANSPORTATION

April 29, 2023

District 12 Traffic Operations Northwest

EXECUTIVE SUMMARY

Overview

Caltrans District 12 (Orange County) is located in southern California and is neighbors with District 7 (Los Angeles), District 8 (San Bernardino), and District 11 (San Diego). As of April 1, 2020, the total population in Orange County was 3,010,232. The jurisdictional boundaries of Orange County encompass a metropolitan area of 794 square miles, including 34 cities, and 17 state highway routes. The county has 1,059 lane miles of general purpose lanes and 226 lane miles of High-Occupancy Vehicle (HOV) lanes, which is one of California's largest HOV lane networks. Orange County is the third most populous county in California, the sixth-most populous in the United States, and more populous than twenty-one U.S. states. Its county seat is Santa Ana. It is the second most densely populated county in the state.

The Mobility Performance quarterly analysis compares information from the most recent quarter and the previous 4 quarters, involving the following performance measures:

- Vehicle Miles of Travel (VMT)
- Vehicle Hours of Delay (VHD)
- Lost Lane Miles (LLM)
- Detector Health

This information is based on data collected every day of the quarter, twenty-four hours a day, by automated vehicle detector stations deployed on urban-area freeways where congestion is regularly experienced. The Mobility Performance Report uses congestion at two speed thresholds: delay from vehicles traveling below 35 MPH and delay from vehicles traveling

below 60 MPH. The 35 MPH limit represents severe congestion while the 60 MPH limit represents light and heavy congestion. These thresholds/limits are set by Caltrans and are based upon engineering experience and District input.

FINDINGS

In the 1st quarter of 2023, total delay equaled to 1.6 million vehicle hours of delay (VHD) at the 35 MPH speed threshold and 5.5 million VHD at 60 MPH threshold. Compared to the previous quarter, there was a 6.4 percent increase in 35 MPH VHD and 10.2 percent increase in 60 MPH VHD.

The average weekday VHD experienced in this quarter was approximately 23 thousand VHD at 35 MPH and 76 thousand VHD at 60 MPH. Compared to the previous quarter, there was 8.4 percent increase in 35 MPH VHD and 10.7 percent increase in 60 mph VHD.

Top 10 Bottlenecks for the 1st Quarter of 2023

Co	Shift	Fwy	Name	Abs PM	CA PM	Latitude	Longitude	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
Ora	PM	I405-N	TMS 2417 NB	20.809	21.039	33.77	-118.05	64	3.89	107,107.50	13,290.00
Ora	PM	I405-N	LOCATION 5013 NB	12.892	13.122	33.70	-117.94	61	2.54	77,976.70	8,950.00
Ora	PM	SR57-N	TONNER	11.266	22.000	33.94	-117.88	64	1.47	61,987.50	15,045.00
Ora	PM	I5-N	1ST	103.051	30.800	33.74	-117.84	65	0.51	44,774.20	17,225.00
Ora	PM	SR91-E	LAKEVIEW1	28.453	R10.080	33.85	-117.81	54	3.09	38,792.70	11,130.00
Ora	AM	I405-S	BROOKHURST2	13.580	13.810	33.71	-117.95	52	4.68	34,844.30	5,605.00
Ora	PM	SR55-N	TAFT	15.782	15.800	33.82	-117.83	55	2.98	31,987.20	10,525.00
Ora	AM	I5-S	MAIN 1	105.188	33.000	33.77	-117.87	61	0.64	26,083.60	10,090.00
Ora	PM	I5-N	RED HILL	101.491	29.240	33.73	-117.82	56	1.92	20,129.40	6,210.00
Ora	PM	SR91-E	West OF GYPSUM	34.143	R15.793	33.87	-117.72	55	2.13	19,088.90	9,805.00

2023 Q1 Quarterly Mobility Statistics

Measure	Graph	Percentage Change									
Vehicle Miles of Travel (VMT)	<table><thead><tr><th>Period</th><th>VMT (Billions)</th></tr></thead><tbody><tr><td>2022 Q1</td><td>3.11</td></tr><tr><td>2022 Q4</td><td>3.27</td></tr><tr><td>2023 Q1</td><td>3.17</td></tr></tbody></table>	Period	VMT (Billions)	2022 Q1	3.11	2022 Q4	3.27	2023 Q1	3.17	Over one year ago	Over last quarter
		Period	VMT (Billions)								
		2022 Q1	3.11								
2022 Q4	3.27										
2023 Q1	3.17										
1.8%	-3.1%										
Total Vehicle Hours of Delay (VHD) at 35 mph	<table><thead><tr><th>Period</th><th>VHD (Millions)</th></tr></thead><tbody><tr><td>2022 Q1</td><td>1.2</td></tr><tr><td>2022 Q4</td><td>1.5</td></tr><tr><td>2023 Q1</td><td>1.6</td></tr></tbody></table>	Period	VHD (Millions)	2022 Q1	1.2	2022 Q4	1.5	2023 Q1	1.6	Over one year ago	Over last quarter
		Period	VHD (Millions)								
		2022 Q1	1.2								
2022 Q4	1.5										
2023 Q1	1.6										
33.9%	6.4%										
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<table><thead><tr><th>Period</th><th>VHD (Thousands)</th></tr></thead><tbody><tr><td>2022 Q1</td><td>16</td></tr><tr><td>2022 Q4</td><td>21</td></tr><tr><td>2023 Q1</td><td>23</td></tr></tbody></table>	Period	VHD (Thousands)	2022 Q1	16	2022 Q4	21	2023 Q1	23	Over one year ago	Over last quarter
		Period	VHD (Thousands)								
		2022 Q1	16								
2022 Q4	21										
2023 Q1	23										
41.4%	8.4%										
Total Vehicle Hours of Delay (VHD) at 60 mph	<table><thead><tr><th>Period</th><th>VHD (Millions)</th></tr></thead><tbody><tr><td>2022 Q1</td><td>4.2</td></tr><tr><td>2022 Q4</td><td>5</td></tr><tr><td>2023 Q1</td><td>5.5</td></tr></tbody></table>	Period	VHD (Millions)	2022 Q1	4.2	2022 Q4	5	2023 Q1	5.5	Over one year ago	Over last quarter
		Period	VHD (Millions)								
		2022 Q1	4.2								
2022 Q4	5										
2023 Q1	5.5										
28.8%	10.2%										
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<table><thead><tr><th>Period</th><th>VHD (Thousands)</th></tr></thead><tbody><tr><td>2022 Q1</td><td>58</td></tr><tr><td>2022 Q4</td><td>69</td></tr><tr><td>2023 Q1</td><td>76</td></tr></tbody></table>	Period	VHD (Thousands)	2022 Q1	58	2022 Q4	69	2023 Q1	76	Over one year ago	Over last quarter
		Period	VHD (Thousands)								
		2022 Q1	58								
2022 Q4	69										
2023 Q1	76										
30.2%	10.7%										

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph	Hours (Thousands) ■ 2022 Q1 ■ 2022 Q4 ■ 2023 Q1	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		—	Sun/Hol -6.6%
		Largest Magnitude Increase over one year ago Friday 36.4%	Largest Magnitude Increase over last quarter Friday 20.3%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays	Hours (Thousands) — Weekday (2022 Q1) — Weekday (2022 Q4) — Weekday (2023 Q1)	Largest Magnitude Weekday Decrease over one year ago	Largest Magnitude Weekday Decrease over last quarter
		12 PM -20.4%	7 AM -6.2%
		Largest Magnitude Weekday Increase over one year ago 5 PM 70%	Largest Magnitude Weekday Increase over last quarter 4 PM 8.8%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays	Hours (Thousands) — Saturday (2022 Q1) — Saturday (2022 Q4) — Saturday (2023 Q1)	Largest Magnitude Saturday Decrease over one year ago	Largest Magnitude Saturday Decrease over last quarter
		11 AM -26.7%	6 PM -14.5%
		Largest Magnitude Saturday Increase over one year ago 5 PM 82.2%	Largest Magnitude Saturday Increase over last quarter 2 PM 82%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays	Hours (Thousands) — Sunday/Holiday (2022 Q1) — Sunday/Holiday (2022 Q4) — Sunday/Holiday (2023 Q1)	Largest Magnitude Sun./Holiday Decrease over one year ago	Largest Magnitude Sun./Holiday Decrease over last quarter
		7 PM -57.5%	5 PM -44.7%
		Largest Magnitude Sun./Holiday Increase over one year ago 11 PM 0.8%	Largest Magnitude Sun./Holiday Increase over last quarter 9 AM 11.9%

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph	Hours (Millions) ■ 2022 Q1 ■ 2022 Q4 ■ 2023 Q1	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		—	—
		Largest Magnitude Increase over one year ago Orange 33.9% ↑	Largest Magnitude Increase over last quarter Orange 6.4% ↑
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph	Miles ■ 2022 Q1 ■ 2022 Q4 ■ 2023 Q1	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		—	—
		Largest Magnitude Increase over one year ago PM Peak 62.3% ↑	Largest Magnitude Increase over last quarter PM Peak 8.6% ↑
Average Number of Good and Bad Detectors	Number of Detectors ■ Average of Good ■ Average of Bad	Change in Good over one year ago	Change in Good over last quarter
		-11% ↓	-14% ↓
		Change in Bad over one year ago 31% ↑	Change in Bad over last quarter 40% ↑

Congestion by Route											
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2022 Q4-2021 Q4		Difference 2022 Q4-2022 Q3		Rank		
		2021 Q4	2022 Q3	2022 Q4	Absolute	Percentage	Absolute	Percentage	2021 Q4	2022 Q3	2022 Q4
I5	Orange	527,388	346,018	400,152	-127,236	-24.1%	54,134	15.6%	1	1	1
SR91	Orange	313,466	335,081	323,632	10,167	3.2%	-11,449	-3.4%	2	2	2
I405	Orange	273,842	238,732	259,005	-14,838	-5.4%	20,273	8.5%	3	3	3
SR57	Orange	150,920	177,928	204,941	54,021	35.8%	27,013	15.2%	5	5	4
SR55	Orange	152,379	204,207	183,047	30,668	20.1%	-21,160	-10.4%	4	4	5
SR22	Orange	97,765	46,605	56,903	-40,862	-41.8%	10,298	22.1%	6	6	6
SR241	Orange	26,683	13,629	21,649	-5,034	-18.9%	8,020	58.8%	8	7	7
SR73	Orange	32,775	11,176	13,752	-19,023	-58.0%	2,577	23.1%	7	8	8
I605	Orange	6,723	3,645	5,605	-1,118	-16.6%	1,960	53.8%	9	9	9
SR133	Orange	4,239	3,604	1,473	-2,766	-65.2%	-2,131	-59.1%	10	10	10
SR261	Orange	732	162	115	-617	-84.3%	-47	-29.0%	13	11	11
SR74	Orange	2,124	5	5	-2,119	-99.8%	0	0.0%	11	13	12
SR142	Orange	861	64	3	-859	-99.7%	-61	-95.9%	12	12	13
SR1	Orange	0	0	0	0		0				
TOTALS		1,589,897	1,380,853	1,470,281	-119,616	-7.5%	89,428	6.5%			