

District 12 Mobility Performance Report

2022 1st Quarter

DEPARTMENT OF TRANSPORTATION

April 30, 2022

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 2022, total delay equaled to 1.2 million vehicle hours of delay (VHD) at the 35 MPH speed threshold and 4.2 million VHD at 60 MPH threshold. Compared to the previous quarter, there was a 26.5 percent decrease in 35 MPH VHD and 19.0 percent decrease in 60 MPH VHD.

The average weekday VHD experienced in this quarter was approximately 16 thousand VHD at 35 MPH and 58 thousand VHD at 60 MPH. Compared to the previous quarter, there was 20.8 percent decrease in 35 MPH VHD and 12.9 percent decrease in 60 mph VHD.

Top 10 Bottlenecks for the 1st Quarter of 2022

Co	Shift	Fwy	Dir	Name	Abs PM	CA PM	Latitude	Longitude	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
Ora	PM	I405	N	BROOKHUR1	13.51	13.74	33.70	-117.95	59	3.06	84,464.3	9,965
Ora	AM	I405	S	BROOKHURST2	13.58	13.81	33.71	-117.95	58	4.10	62,156.1	7,830
Ora	PM	I5	N	TUSTIN RANCH	100.35	28.1	33.72	-117.80	52	3.51	30,353.3	10,905
Ora	PM	SR91	E	W OF SCALES	31.72	R13.349	33.87	-117.76	46	3.58	26,636.0	7,485
Ora	AM	I5	S	MAIN 1	105.19	33	33.77	-117.87	61	0.62	24,357.4	9,625
Ora	PM	SR91	E	LAKEVIEW1	28.45	R10.08	33.85	-117.81	53	2.76	23,825.7	8,445
Ora	PM	I405	N	LOCATION 5013 NB	12.89	13.122	33.70	-117.94	52	1.82	21,517.9	2,705
Ora	PM	SR55	N	TAFT	15.78	15.8	33.82	-117.83	46	2.97	20,016.5	8,490
Ora	AM	SR57	S	NUTWOOD	6.76	17.41	33.88	-117.88	56	2.05	18,289.4	7,615
Ora	PM	I5	S	RED ROBIN	91.53	19.33	33.62	-117.71	62	0.72	17,443.4	12,290

2022 Q1 Quarterly Mobility Statistics

Measure	Graph	Percentage Change									
Vehicle Miles of Travel (VMT)	<table><caption>Vehicle Miles of Travel (VMT)</caption><thead><tr><th>Period</th><th>VMT (Billions)</th></tr></thead><tbody><tr><td>2021 Q1</td><td>2.82</td></tr><tr><td>2021 Q4</td><td>3.21</td></tr><tr><td>2022 Q1</td><td>3.11</td></tr></tbody></table>	Period	VMT (Billions)	2021 Q1	2.82	2021 Q4	3.21	2022 Q1	3.11	Over one year ago	Over last quarter
		Period	VMT (Billions)								
		2021 Q1	2.82								
		2021 Q4	3.21								
2022 Q1	3.11										
10.2%	-3.1%										
Total Vehicle Hours of Delay (VHD) at 35 mph	<table><caption>Total Vehicle Hours of Delay (VHD) at 35 mph</caption><thead><tr><th>Period</th><th>VHD (Millions)</th></tr></thead><tbody><tr><td>2021 Q1</td><td>0.7</td></tr><tr><td>2021 Q4</td><td>1.6</td></tr><tr><td>2022 Q1</td><td>1.2</td></tr></tbody></table>	Period	VHD (Millions)	2021 Q1	0.7	2021 Q4	1.6	2022 Q1	1.2	Over one year ago	Over last quarter
		Period	VHD (Millions)								
		2021 Q1	0.7								
		2021 Q4	1.6								
2022 Q1	1.2										
60.9%	-26.5%										
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<table><caption>Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph</caption><thead><tr><th>Period</th><th>VHD (Thousands)</th></tr></thead><tbody><tr><td>2021 Q1</td><td>9</td></tr><tr><td>2021 Q4</td><td>20</td></tr><tr><td>2022 Q1</td><td>16</td></tr></tbody></table>	Period	VHD (Thousands)	2021 Q1	9	2021 Q4	20	2022 Q1	16	Over one year ago	Over last quarter
		Period	VHD (Thousands)								
		2021 Q1	9								
		2021 Q4	20								
2022 Q1	16										
73.6%	-20.8%										
Total Vehicle Hours of Delay (VHD) at 60 mph	<table><caption>Total Vehicle Hours of Delay (VHD) at 60 mph</caption><thead><tr><th>Period</th><th>VHD (Millions)</th></tr></thead><tbody><tr><td>2021 Q1</td><td>3.1</td></tr><tr><td>2021 Q4</td><td>5.2</td></tr><tr><td>2022 Q1</td><td>4.2</td></tr></tbody></table>	Period	VHD (Millions)	2021 Q1	3.1	2021 Q4	5.2	2022 Q1	4.2	Over one year ago	Over last quarter
		Period	VHD (Millions)								
		2021 Q1	3.1								
		2021 Q4	5.2								
2022 Q1	4.2										
38%	-19%										
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<table><caption>Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph</caption><thead><tr><th>Period</th><th>VHD (Thousands)</th></tr></thead><tbody><tr><td>2021 Q1</td><td>42</td></tr><tr><td>2021 Q4</td><td>67</td></tr><tr><td>2022 Q1</td><td>58</td></tr></tbody></table>	Period	VHD (Thousands)	2021 Q1	42	2021 Q4	67	2022 Q1	58	Over one year ago	Over last quarter
		Period	VHD (Thousands)								
		2021 Q1	42								
		2021 Q4	67								
2022 Q1	58										
38.7%	-12.9%										

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
		–	Saturday -26% ↓
		Largest Magnitude Increase over one year ago Thursday 53.6% ↑	Largest Magnitude Increase over last quarter –
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Weekday Decrease over one year ago 10 PM -34.2% ↓	Largest Magnitude Weekday Decrease over last quarter 5 PM -27% ↓
		Largest Magnitude Weekday Increase over one year ago 8 AM 261% ↑	Largest Magnitude Weekday Increase over last quarter 9 AM 4.7% ↑
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago 8 AM -37.9% ↓	Largest Magnitude Saturday Decrease over last quarter 5 PM -57.8% ↓
		Largest Magnitude Saturday Increase over one year ago 12 PM 44.5% ↑	Largest Magnitude Saturday Increase over last quarter 10 PM 40.5% ↑
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays		Largest Magnitude Sun./Holiday Decrease over one year ago 3 PM -23.6% ↓	Largest Magnitude Sun./Holiday Decrease over last quarter 4 PM -64.2% ↓
		Largest Magnitude Sun./Holiday Increase over one year ago 10 AM 89.6% ↑	Largest Magnitude Sun./Holiday Increase over last quarter 8 PM 24.6% ↑

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph	<p>Hours (Millions)</p> <p>Orange</p>	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		—	Orange -26.5%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Orange 60.9%	—
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph	<p>Miles</p> <p>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)</p>	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		—	PM Peak -29.8%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		PM Peak 59.9%	—
Average Number of Good and Bad Detectors	<p>Number of Detectors</p> <p>2021 Q1 2021 Q4 2022 Q1</p>	Change in Good over one year ago	Change in Good over last quarter
		116%	-2%
		Change in Bad over one year ago	Change in Bad over last quarter
		46%	7%

Congestion by Route											
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2022 Q1-2021 Q1		Difference 2022 Q1-2021 Q4		Rank		
		2021 Q1	2021 Q4	2022 Q1	Absolute	Percentage	Absolute	Percentage	2021 Q1	2021 Q4	2022 Q1
I5	Orange	229,130	527,388	384,020	154,890	67.6%	-143,368	-27.2%	1	1	1
SR91	Orange	219,653	313,466	217,771	-1,882	-0.9%	-95,694	-30.5%	2	2	2
I405	Orange	98,267	273,842	202,954	104,687	106.5%	-70,889	-25.9%	3	3	3
SR55	Orange	38,849	152,379	128,411	89,562	230.5%	-23,968	-15.7%	5	4	4
SR57	Orange	71,223	150,920	111,983	40,761	57.2%	-38,937	-25.8%	4	5	5
SR22	Orange	33,698	97,765	87,896	54,197	160.8%	-9,869	-10.1%	6	6	6
SR73	Orange	20,302	32,775	14,763	-5,539	-27.3%	-18,012	-55.0%	7	7	7
SR241	Orange	7,213	26,683	14,040	6,827	94.7%	-12,643	-47.4%	8	8	8
I605	Orange	3,057	6,723	3,753	696	22.8%	-2,969	-44.2%	9	9	9
SR142	Orange	989	861	1,063	75	7.6%	202	23.5%	11	12	10
SR133	Orange	3,031	4,239	795	-2,236	-73.8%	-3,444	-81.2%	10	10	11
SR74	Orange	629	2,124	457	-172	-27.3%	-1,667	-78.5%	12	11	12
SR261	Orange	63	732	51	-12	-19.0%	-681	-93.0%	13	13	13
SR1	Orange	3	0	0	-3	-100.0%	0		14		
TOTALS		726,106	1,589,897	1,167,957	441,852	60.9%	-421,940	-26.5%			