

# District 12 Mobility Performance Report

2021 4<sup>th</sup> Quarter

**DEPARTMENT OF TRANSPORTATION**

January 31, 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 4<sup>th</sup> quarter of 2021, total delay equaled to 1.6 million vehicle hours of delay (VHD) at the 35 MPH speed threshold and 5.2 million VHD at 60 MPH threshold. Compared to the previous quarter, there was a 9.9 percent increase in 35 MPH VHD and 2.0 percent increase in 60 MPH VHD.

The average weekday VHD experienced in this quarter was approximately 20 thousand VHD at 35 MPH and 67 thousand VHD at 60 MPH. Compared to the previous quarter, there was 10.9 percent increase in 35 MPH VHD and 1.7 percent increase in 60 mph VHD.

### Top 10 Bottlenecks for the 4<sup>th</sup> Quarter of 2021

Co	Shift	Fwy	Dir	Name	Abs PM	CA PM	Latitude	Longitude	# Days Active	Avg Extent (Miles)	Total Delay (veh-hrs)	Total Duration (mins)
Ora	AM	I405	S	BROOKHURST2	13.58	13.81	33.71	-117.95	53	4.47	58,708.10	7,255.00
Ora	PM	I405	N	BROOKHUR1	13.51	13.74	33.70	-117.95	57	2.74	41,583.00	5,705.00
Ora	PM	SR91	E	LAKEVIEW1	28.45	R10.08	33.85	-117.81	56	2.95	36,163.60	11,390.00
Ora	PM	I5	N	TUSTIN RANCH	100.35	28.1	33.72	-117.80	60	2.83	35,437.00	14,030.00
Ora	PM	I405	N	LOCATION 5013 NB	12.89	13.122	33.70	-117.94	58	2.39	29,885.80	3,780.00
Ora	PM	SR55	N	TAFT	15.78	15.8	33.82	-117.83	54	2.97	27,912.30	10,495.00
Ora	AM	I5	S	MAIN 1	105.19	33	33.77	-117.87	57	0.74	27,125.10	8,630.00
Ora	PM	I405	N	BEACH 2	16.53	16.76	33.73	-117.99	61	0.87	26,077.30	9,980.00
Ora	PM	I405	N	MAGNOLIA1	14.94	15.17	33.72	-117.97	54	0.99	22,735.20	6,520.00
Ora	PM	I405	N	TMS 5015 NB	15.43	15.66	33.72	-117.98	58	0.68	19,843.90	8,100.00

## 2021 Q4 Quarterly Mobility Statistics

Measure	Graph	Percentage Change							
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <table border="1"> <tr><th>Year</th><th>Q4</th></tr> <tr><td>2020</td><td>2.84</td></tr> <tr><td>2021</td><td>3.21</td></tr> </table>	Year	Q4	2020	2.84	2021	3.21	Over one year ago	Over last quarter
		Year	Q4						
2020	2.84								
2021	3.21								
		13.2% ↑	-1.9% ↓						
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Year</th><th>Q4</th></tr> <tr><td>2020</td><td>0.6</td></tr> <tr><td>2021</td><td>1.6</td></tr> </table>	Year	Q4	2020	0.6	2021	1.6	Over one year ago	Over last quarter
		Year	Q4						
2020	0.6								
2021	1.6								
		149.9% ↑	9.9% ↑						
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Q4</th></tr> <tr><td>2020</td><td>8</td></tr> <tr><td>2021</td><td>20</td></tr> </table>	Year	Q4	2020	8	2021	20	Over one year ago	Over last quarter
		Year	Q4						
2020	8								
2021	20								
		137.8% ↑	10.9% ↑						
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Year</th><th>Q4</th></tr> <tr><td>2020</td><td>2.9</td></tr> <tr><td>2021</td><td>5.2</td></tr> </table>	Year	Q4	2020	2.9	2021	5.2	Over one year ago	Over last quarter
		Year	Q4						
2020	2.9								
2021	5.2								
		83.7% ↑	2% ↑						
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Q4</th></tr> <tr><td>2020</td><td>40</td></tr> <tr><td>2021</td><td>67</td></tr> </table>	Year	Q4	2020	40	2021	67	Over one year ago	Over last quarter
		Year	Q4						
2020	40								
2021	67								
		68.7% ↑	1.7% ↑						

Measure	Graph	Percentage Change	
<p>Average Vehicle Hours of Delay by Day of Week at 60 mph</p>		<p>Largest Magnitude Decrease over one year ago</p> <p>Monday -8.4% ↓</p>	<p>Largest Magnitude Decrease over last quarter</p> <p>Monday -8.4% ↓</p>
<p>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays</p>		<p>Largest Magnitude Weekday Decrease over one year ago</p> <p>Thursday 80.4% ↑</p>	<p>Largest Magnitude Weekday Decrease over last quarter</p> <p>Thursday 11.1% ↑</p>
<p>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays</p>		<p>Largest Magnitude Weekday Increase over one year ago</p> <p>12 PM -10.9% ↓</p>	<p>Largest Magnitude Weekday Increase over last quarter</p> <p>12 PM -10.9% ↓</p>
<p>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays</p>		<p>Largest Magnitude Saturday Decrease over one year ago</p> <p>5 PM 153.6% ↑</p>	<p>Largest Magnitude Saturday Decrease over last quarter</p> <p>6 PM 33% ↑</p>
<p>Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays</p>		<p>Largest Magnitude Saturday Increase over one year ago</p> <p>12 PM -31.5% ↓</p>	<p>Largest Magnitude Saturday Increase over last quarter</p> <p>12 PM -31.5% ↓</p>
		<p>Largest Magnitude Sun./Holiday Decrease over one year ago</p> <p>5 PM 585.3% ↑</p>	<p>Largest Magnitude Sun./Holiday Decrease over last quarter</p> <p>5 PM 26.4% ↑</p>
		<p>Largest Magnitude Sun./Holiday Increase over one year ago</p> <p>1 PM -7.4% ↓</p>	<p>Largest Magnitude Sun./Holiday Increase over last quarter</p> <p>1 PM -7.4% ↓</p>
		<p>Largest Magnitude Sun./Holiday Increase over one year ago</p> <p>5 PM 151.9% ↑</p>	<p>Largest Magnitude Sun./Holiday Increase over last quarter</p> <p>5 PM 110% ↑</p>

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
		–	–
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Orange 149.9% ↑	Orange 9.9% ↑
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 Day -10.9%
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		PM Peak 127.3% ↑	PM Peak 11.3% ↑
Average Number of Good and Bad Detectors		Change in Good over one year ago	Change in Good over last quarter
		66% ↑	-4% ↓
		Change in Bad over one year ago	Change in Bad over last quarter
		17% ↑	13% ↑

Congestion by Route											
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2021 Q4-2020 Q4		Difference 2021 Q4-2021 Q3		Rank		
		2020 Q4	2021 Q3	2021 Q4	Absolute	Percentage	Absolute	Percentage	2020 Q4	2021 Q3	2021 Q4
I5	Orange	173,883	502,288	527,388	353,505	203.3%	25,100	5.0%	2	1	1
SR91	Orange	188,132	314,623	313,466	125,334	66.6%	-1,157	-0.4%	1	2	2
I405	Orange	93,118	246,875	273,842	180,724	194.1%	26,967	10.9%	3	3	3
SR55	Orange	57,826	164,171	152,379	94,553	163.5%	-11,792	-7.2%	4	4	4
SR57	Orange	53,220	111,640	150,920	97,700	183.6%	39,281	35.2%	5	5	5
SR22	Orange	40,148	44,701	97,765	57,617	143.5%	53,063	118.7%	6	6	6
SR73	Orange	20,844	34,415	32,775	11,932	57.2%	-1,640	-4.8%	7	7	7
SR241	Orange	5,696	18,013	26,683	20,987	368.5%	8,670	48.1%	8	8	8
I605	Orange	1,648	4,547	6,723	5,075	307.9%	2,175	47.8%	9	9	9
SR133	Orange	957	1,841	4,239	3,282	343.0%	2,398	130.3%	10	11	10
SR74	Orange	25	2,344	2,124	2,100	8534.6%	-220	-9.4%	12	10	11
SR142	Orange	832	803	861	29	3.5%	58	7.2%	11	12	12
SR261	Orange	9	132	732	724	8514.1%	600	454.7%	13	13	13
SR1	Orange	0	0	0	0		0				
<b>TOTALS</b>		<b>636,337</b>	<b>1,446,394</b>	<b>1,589,897</b>	<b>953,560</b>	<b>149.9%</b>	<b>143,503</b>	<b>9.9%</b>			