

# District 12 Mobility Performance Report

2021 3<sup>rd</sup> Quarter

**DEPARTMENT OF TRANSPORTATION**

October 29, 2021

District 12 Traffic Operations Northwest

# DISTRICT 12 MOBILITY PERFORMANCE REPORT

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2021 3<sup>rd</sup> Quarter

## 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 3<sup>rd</sup> quarter of 2021, total delay equaled to 1.4 million vehicle hours of delay (VHD) at the 35 MPH speed threshold and 5.1 million VHD at 60 MPH threshold. Compared to the previous quarter, there was a 4.3 percent increase in 35 MPH VHD and 8.2 percent increase in 60 MPH VHD.

The average weekday VHD experienced in this quarter was approximately 18 thousand VHD at 35 MPH and 66 thousand VHD at 60 MPH. Compared to the previous quarter, there was 3.6 percent increase in 35 MPH VHD and 8.0 percent increase in 60 mph VHD.

### Top 10 Bottlenecks for the 3<sup>rd</sup> Quarter of 2021

Co	Shift	Fwy	Dir	Name	Abs PM	CA PM	Latitude	Longitude	# Days Active	Avg Extent (mi)	Total Delay (veh-hrs)	Total Duration (mins)
Ora	PM	I405	N	BROOKHUR1	13.51	13.74	33.70	-117.95	64	3.30	75,739	8,605
Ora	PM	I5	N	TUSTIN RANCH	100.35	28.1	33.72	-117.80	65	3.61	46,722	15,835
Ora	PM	I405	N	MAGNOLIA1	14.94	15.17	33.72	-117.97	65	0.62	37,806	11,070
Ora	PM	SR91	E	LAKEVIEW1	28.45	R10.08	33.85	-117.81	63	2.87	30,293	10,485
Ora	PM	I405	N	LOCATION 5013 NB	12.89	13.122	33.70	-117.94	62	2.36	29,798	3,435
Ora	AM	I405	S	BROOKHURST2	13.58	13.81	33.71	-117.95	51	3.21	24,668	4,205
Ora	AM	I5	S	MAIN 1	105.19	33	33.77	-117.87	64	0.63	22,935	11,790
Ora	PM	SR91	E	West OF GYPSUM	34.14	R15.793	33.87	-117.72	59	2.36	20,170	8,765
Ora	PM	I5	N	Western	116.15	43.9	33.87	-118.01	65	0.78	19,866	16,050
Ora	PM	SR55	N	TAFT	15.78	15.8	33.82	-117.83	56	2.91	19,446	8,250

## 2021 Q3 Quarterly Mobility Statistics

Measure	Graph	Percentage Change							
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <table border="1"> <tr><th>Year</th><th>Q3</th></tr> <tr><td>2020</td><td>2.82</td></tr> <tr><td>2021</td><td>3.27</td></tr> </table>	Year	Q3	2020	2.82	2021	3.27	Over one year ago	Over last quarter
		Year	Q3						
2020	2.82								
2021	3.27								
		15.9% ↑	3.1% ↑						
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Year</th><th>Q3</th></tr> <tr><td>2020</td><td>0.5</td></tr> <tr><td>2021</td><td>1.4</td></tr> </table>	Year	Q3	2020	0.5	2021	1.4	Over one year ago	Over last quarter
		Year	Q3						
2020	0.5								
2021	1.4								
		190.8% ↑	4.3% ↑						
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Q3</th></tr> <tr><td>2020</td><td>6</td></tr> <tr><td>2021</td><td>18</td></tr> </table>	Year	Q3	2020	6	2021	18	Over one year ago	Over last quarter
		Year	Q3						
2020	6								
2021	18								
		195.6% ↑	3.6% ↑						
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table border="1"> <tr><th>Year</th><th>Q3</th></tr> <tr><td>2020</td><td>2.5</td></tr> <tr><td>2021</td><td>5.1</td></tr> </table>	Year	Q3	2020	2.5	2021	5.1	Over one year ago	Over last quarter
		Year	Q3						
2020	2.5								
2021	5.1								
		107.3% ↑	8.2% ↑						
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table border="1"> <tr><th>Year</th><th>Q3</th></tr> <tr><td>2020</td><td>33</td></tr> <tr><td>2021</td><td>66</td></tr> </table>	Year	Q3	2020	33	2021	66	Over one year ago	Over last quarter
		Year	Q3						
2020	33								
2021	66								
		100.8% ↑	8% ↑						

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph	<p>Hours (Thousands)</p> <p>■ 2020 Q3 ■ 2021 Q2 ■ 2021 Q3</p> <p>Mon Tue Wed Thu Fri Sat Sun/Hol</p>	Largest Magnitude Decrease over one year ago -	Largest Magnitude Decrease over last quarter Tuesday -7.7% ↓
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays	<p>Hours (Thousands)</p> <p>— Weekday (2020 Q3) — Weekday (2021 Q2) — Weekday (2021 Q3)</p> <p>0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23</p> <p>Hour of Day</p>	Largest Magnitude Weekday Decrease over one year ago 5 AM -8% ↓	Largest Magnitude Weekday Decrease over last quarter 1 PM -25.6% ↓
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays	<p>Hours (Thousands)</p> <p>— Saturday (2020 Q3) — Saturday (2021 Q2) — Saturday (2021 Q3)</p> <p>0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23</p> <p>Hour of Day</p>	Largest Magnitude Saturday Decrease over one year ago 9 PM -14.5% ↓	Largest Magnitude Saturday Decrease over last quarter 1 PM -11.5% ↓
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays	<p>Hours (Thousands)</p> <p>— Sunday/Holiday (2020 Q3) — Sunday/Holiday (2021 Q2) — Sunday/Holiday (2021 Q3)</p> <p>0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23</p> <p>Hour of Day</p>	Largest Magnitude Sun./Holiday Decrease over one year ago -	Largest Magnitude Sun./Holiday Decrease over last quarter 2 PM -22.2% ↓
		Largest Magnitude Sun./Holiday Increase over one year ago 1 PM 227.7% ↑	Largest Magnitude Sun./Holiday Increase over last quarter 11 PM 206.9% ↑

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph	<p>Hours (Millions)</p> <p>■ 2020 Q3 ■ 2021 Q2 ■ 2021 Q3</p> <p>Orange</p>	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 190.8% ↑	Orange 4.3% ↑
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph	<p>Miles</p> <p>■ 2020 Q3 ■ 2021 Q2 ■ 2021 Q3</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
		—	—
		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		PM Peak 174.3% ↑	PM Peak 20.9% ↑
Average Number of Good and Bad Detectors	<p>Number of Detectors</p> <p>■ Average of Good ■ Average of Bad</p> <p>2020 Q3    2021 Q2    2021 Q3</p>	Change in Good over one year ago	Change in Good over last quarter
		18% ↑	-1% ↓
		Change in Bad over one year ago	Change in Bad over last quarter
		15% ↑	3% ↑

**Congestion by Route**

Route	County	Vehicle Hours of Delay at 35 mph			Difference 2021 Q3-2020 Q3		Difference 2021 Q3-2021 Q2		Rank		
		2020 Q3	2021 Q2	2021 Q3	Absolute	Percentage	Absolute	Percentage	2020 Q3	2021 Q2	2021 Q3
		I5	Orange	127,369	503,334	502,288	374,919	294.4%	-1,045	-0.2%	2
SR91	Orange	147,772	338,140	314,623	166,851	112.9%	-23,517	-7.0%	1	2	2
I405	Orange	59,778	171,286	246,875	187,097	313.0%	75,589	44.1%	4	3	3
SR55	Orange	43,058	148,668	164,171	121,113	281.3%	15,503	10.4%	5	4	4
SR57	Orange	62,138	103,760	111,640	49,502	79.7%	7,880	7.6%	3	5	5
SR22	Orange	33,397	39,523	44,701	11,304	33.8%	5,178	13.1%	6	7	6
SR73	Orange	15,031	54,629	34,415	19,384	129.0%	-20,214	-37.0%	7	6	7
SR241	Orange	3,925	11,257	18,013	14,089	359.0%	6,757	60.0%	8	8	8
I605	Orange	1,846	5,457	4,547	2,701	146.3%	-910	-16.7%	10	10	9
SR74	Orange	171	1,579	2,344	2,173	1269.3%	765	48.5%	12	11	10
SR133	Orange	2,233	8,145	1,841	-392	-17.6%	-6,304	-77.4%	9	9	11
SR142	Orange	534	975	803	269	50.4%	-172	-17.6%	11	12	12
SR261	Orange	51	22	132	81	159.8%	110	489.3%	13	13	13
SR1	Orange	0	0	0	0		0				
<b>TOTALS</b>		<b>497,303</b>	<b>1,386,774</b>	<b>1,446,394</b>	<b>949,091</b>	<b>190.8%</b>	<b>59,620</b>	<b>4.3%</b>			