

# District 04 Mobility Performance Report

2015 Fourth Quarter

**DEPARTMENT OF TRANSPORTATION**

January 29, 2016  
District 4-Office of Highway Operations

## District 04 Mobility Performance Report

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2015 Fourth Quarter

### EXECUTIVE SUMMARY

#### Overview

Caltrans District 4 is comprised of nine counties that border the San Francisco Bay: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties. Although these are urban counties, they do contain a large amount of sparsely populated land.

The Mobility Performance quarterly analysis compares information with over a year ago and over last quarter in the following performance measures:

- Vehicle Miles of Travel (VMT)
- Vehicle Hours of Delay (VHD)
- Lost Lane Miles (equivalent lost productivity)
- 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 MPR presents congestion information at two speed thresholds: delay from vehicles traveling below 35 miles per hour (mph), and delay from vehicles traveling below 60 mph. The delay at the 35 mph threshold represents severe congestion while delay at 60 mph represents all congestion, both light and heavy. These thresholds are set by Caltrans and are based upon engineering experience and District input.

## FINDINGS

In the fourth quarter, total delay equaled 7.4 million vehicle hours of delay (VHD) at the 35 mph speed threshold, and 15.1 million VHD at the 60 mph threshold. Compared to the same quarter the year before, there was a 22.9% increase in 35 mph total quarterly delay and 19% increase in 60 mph total quarterly delay. This increase may be due to the recovering economy and also a 15% increase in good working detector that were able to capture more congestion.

The average weekday delay experienced in this quarter was approximately 106 thousand VHD at 35 mph, and 215 thousand VHD at 60 mph. Thursday continued to be the most congested day of the week.

Weekend traffic patterns are typically different between the third and fourth quarters. In the summer months, many motorists were seen traveling early in the afternoon on weekends. As a result, Saturday congestion in the third quarter was seen peaking at noon, while it peaked at 5 PM in the fourth quarter. The weekend traffic patterns were similar in the fourth quarter compared to the same quarter the year before.

Alameda County with 2.5 million vehicle hours of total delay at 35 mph during the fourth quarter was the most congested county in the District.

Santa Clara County with 1.6 million vehicle hours of total delay at 35 mph was second most congested county in the District.

## 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>2014</td><td>7.1</td></tr> <tr><td>2015</td><td>7.9</td></tr> <tr><td>2015</td><td>7.7</td></tr> </table>	Year	Q4	2014	7.1	2015	7.9	2015	7.7	Over one year ago	Over last quarter
		Year	Q4								
2014	7.1										
2015	7.9										
2015	7.7										
		8.9% ↑	-2.9% ↓								
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>2014</td><td>6</td></tr> <tr><td>2015</td><td>7.6</td></tr> <tr><td>2015</td><td>7.4</td></tr> </table>	Year	Q4	2014	6	2015	7.6	2015	7.4	Over one year ago	Over last quarter
		Year	Q4								
2014	6										
2015	7.6										
2015	7.4										
		22.9% ↑	-2.5% ↓								
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>2014</td><td>87</td></tr> <tr><td>2015</td><td>100</td></tr> <tr><td>2015</td><td>106</td></tr> </table>	Year	Q4	2014	87	2015	100	2015	106	Over one year ago	Over last quarter
		Year	Q4								
2014	87										
2015	100										
2015	106										
		21.4% ↑	5.5% ↑								
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>2014</td><td>12.7</td></tr> <tr><td>2015</td><td>15.7</td></tr> <tr><td>2015</td><td>15.1</td></tr> </table>	Year	Q4	2014	12.7	2015	15.7	2015	15.1	Over one year ago	Over last quarter
		Year	Q4								
2014	12.7										
2015	15.7										
2015	15.1										
		19% ↑	-3.4% ↓								
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>2014</td><td>183</td></tr> <tr><td>2015</td><td>210</td></tr> <tr><td>2015</td><td>215</td></tr> </table>	Year	Q4	2014	183	2015	210	2015	215	Over one year ago	Over last quarter
		Year	Q4								
2014	183										
2015	210										
2015	215										
		17.6% ↑	2.4% ↑								

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 -28.1%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Monday 26.3%	Monday 10.8%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Weekday Decrease over one year ago	Largest Magnitude Weekday Decrease over last quarter
		10 PM -38.6%	10 AM -26.3%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		5 PM 19.1%	7 AM 24.6%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Sun./Holiday Decrease over one year ago	Largest Magnitude Sun./Holiday Decrease over last quarter
		12 AM -78.9%	12 PM -58.3%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Sunday/Holiday Increase over one year ago	Largest Magnitude Sunday/Holiday Increase over last quarter
		5 PM 41.1%	6 PM 22.2%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Sun./Holiday Decrease over one year ago	Largest Magnitude Sun./Holiday Decrease over last quarter
		12 AM -67.6%	1 PM -62.4%
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		5 PM 38.6%	7 AM 535.3%

Measure	Graph	Percentage Change													
<p><b>Total Vehicle Hours of Delay (VHD) by County at 35 mph</b></p>		<p>Largest Magnitude Decrease over one year ago</p> <p>Sonoma -37.7%</p>	<p>Largest Magnitude Decrease over last quarter</p> <p>Alameda -7.4%</p>												
<p><b>Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph</b></p>		<p>Largest Magnitude Decrease over one year ago</p> <p>Off-Peak Night -38.3%</p>	<p>Largest Magnitude Decrease over last quarter</p> <p>Off-Peak Day -15.5%</p>												
<p><b>Average Number of Good and Bad Detectors</b></p>	<table border="1"> <thead> <tr> <th>Quarter</th> <th>Average of Good</th> <th>Average of Bad</th> </tr> </thead> <tbody> <tr> <td>2014 Q4</td> <td>4,676</td> <td>5,177</td> </tr> <tr> <td>2015 Q3</td> <td>5,402</td> <td>4,724</td> </tr> <tr> <td>2015 Q4</td> <td>5,386</td> <td>4,796</td> </tr> </tbody> </table>	Quarter	Average of Good	Average of Bad	2014 Q4	4,676	5,177	2015 Q3	5,402	4,724	2015 Q4	5,386	4,796	<p>Change in Good over one year ago</p> <p>15%</p>	<p>Change in Good over last quarter</p> <p>0%</p>
Quarter	Average of Good	Average of Bad													
2014 Q4	4,676	5,177													
2015 Q3	5,402	4,724													
2015 Q4	5,386	4,796													
		<p>Change in Bad over one year ago</p> <p>-7%</p>	<p>Change in Bad over last quarter</p> <p>2%</p>												

Congestion by Route											
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2015 Q4-2014 Q4		Difference 2015 Q4-2015 Q3		Rank		
		2014 Q4	2015 Q3	2015 Q4	Absolute	Percentage	Absolute	Percentage	2014 Q4	2015 Q3	2015 Q4
I880	Alameda	1,525,148	1,883,288	2,024,523	499,376	0	141,235	7%	1	1	1
US101	San Mateo	1,069,977	1,214,057	1,254,058	184,081	17%	40,001	3%	2	3	2
I80	Alameda	781,690	1,328,577	1,074,370	292,680	37%	-254,207	-19%	4	2	3
US101	Santa Clara	729,011	1,154,228	1,060,292	331,281	45%	-93,936	-8%	5	4	4
I580	Alameda	833,296	879,117	879,277	45,981	6%	160	0%	3	5	5
I680	Contra Costa	618,181	711,633	697,627	79,446	13%	-14,005	-2%	6	6	6
I280	Santa Clara	578,185	548,608	593,450	15,265	3%	44,842	8%	7	9	7
SR85	Santa Clara	327,854	506,765	589,479	261,625	80%	82,714	16%	17	11	8
US101	Marin	555,072	466,218	527,916	-27,156	-5%	61,698	13%	9	13	9
I80	Contra Costa	415,139	493,139	513,091	97,953	24%	19,953	4%	14	12	10
I680	Alameda	558,898	536,915	483,591	-75,306	-13%	-53,324	-10%	8	10	11
SR24	Contra Costa	342,106	423,553	481,014	138,908	41%	57,462	14%	15	15	12
I80	Solano	421,228	696,271	452,364	31,136	7%	-243,906	-35%	13	7	13
SR4	Contra Costa	291,467	455,625	445,360	153,894	53%	-10,265	-2%	18	14	14
I80	San Francisco	423,981	552,037	404,515	-19,466	(0)	-147,522	-27%	11	8	15
US101	San Francisco	421,247	356,010	388,410	-32,836	-8%	32,401	9%	12	17	16
I880	Santa Clara	209,008	310,353	329,663	120,655	58%	19,311	6%	19	19	17
I280	San Mateo	337,730	221,426	325,891	-11,839	-4%	104,465	47%	16	22	18
US101	Sonoma	523,458	317,118	307,920	-215,539	-41%	-9,199	-3%	10	18	19
SR237	Santa Clara	171,390	356,704	285,390	114,001	67%	-71,313	-20%	23	16	20
SR92	San Mateo	187,040	272,567	228,254	41,215	22%	-44,312	-16%	21	20	21
SR92	Alameda	47,591	217,195	227,031	179,440	377%	9,836	5%	33	23	22
I680	Santa Clara	117,920	185,175	226,645	108,726	92%	41,470	22%	25	24	23
SR238	Alameda	174,832	184,029	157,464	-17,368	-10%	-26,566	-14%	22	25	24
SR87	Santa Clara	89,256	143,998	151,965	62,709	70%	7,967	6%	28	29	25
I280	San Francisco	99,191	119,169	150,674	51,484	52%	31,505	26%	27	30	26
SR84	Alameda	189,961	233,668	147,189	-42,772	-23%	-86,479	-37%	20	21	27
SR24	Alameda	141,642	164,326	143,533	1,892	1%	-20,792	-13%	24	26	28
SR37	Sonoma	68,232	156,571	99,815	31,583	46%	-56,757	-36%	30	28	29
I580	Contra Costa	35,222	105,003	96,687	61,465	175%	-8,316	-8%	36	31	30
I680	Solano	39,509	69,462	94,640	55,131	140%	25,177	36%	34	33	31
SR17	Santa Clara	88,662	160,185	84,417	-4,246	-5%	-75,768	-47%	29	27	32
SR37	Marin	58,600	82,557	71,428	12,829	22%	-11,129	-13%	31	32	33
I380	San Mateo	38,629	20,426	28,372	-10,257	-27%	7,946	39%	35	37	34
SR37	Solano	115,780	23,678	19,546	-96,235	-83%	-4,133	-17%	26	36	35
SR242	Contra Costa	52,378	29,711	18,619	-33,758	-64%	-11,092	-37%	32	34	36
I780	Solano	2,762	9,981	14,847	12,085	438%	4,867	49%	42	40	37
SR12	Napa	7,401	13,683	14,754	7,353	99%	1,071	8%	38	39	38
SR152	Santa Clara	5,868	23,785	13,316	7,449	127%	-10,469	-44%	40	35	39
I880S	Alameda	8,003	13,827	6,927	-1,077	-13%	-6,901	-50%	37	38	40
SR25	Santa Clara	3,324	6,919	6,653	3,328	100%	-266	-4%	41	41	41
I980	Alameda	6,482	3,706	4,185	-2,297	-35%	479	13%	39	43	42
I80	Napa	2,240	4,308	3,357	1,117	50%	-951	-22%	43	42	43
SR29	Napa	9	64	1,081	1,072	125	1,017	1579%	46	46	44
I580	Marin	849	964	787	-63	-7%	-178	-18%	44	45	45
SR156	Santa Clara	174	1,048	247	72	41%	-801	-76%	45	44	46
<b>TOTALS</b>		<b>12,715,617</b>	<b>15,657,642</b>	<b>15,130,633</b>	<b>2,415,016</b>	<b>19%</b>	<b>-527,009</b>	<b>-3%</b>			