# District 08 Mobility Performance Report

2017 Fourth Quarter

DEPARTMENT OF TRANSPORTATION

January 12, 2017

D8 TMS SUPPORT

# District 08 Mobility Performance Report

2017 Fourth Quarter

## EXECUTIVE SUMMARY

### Overview

Caltrans District 8 contains two counties located in Southern California: the San Bernardino and Riverside counties. Both are part of the Inland Empire, with Riverside County having a population of almost 2.3 million residents and San Bernardino County with 2.1 million residents. Although these are urban counties, they do contain a large amount of sparsely populated National Forest and National Recreation Area 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), Bottleneck Locations
- 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 of 2017, total delay equaled 2.8 million Vehicle Hours of Delay (VHD) at the 35 mph speed threshold, and 7.8 million VHD at the 60 mph threshold. The average weekday delay experienced in this quarter was approximately 39 thousand VHD at 35 mph, and 106 thousand VHD at 60 mph. The Vehicle Miles of Travel (VMT) equaled 7.5 billion miles for this quarter. The total delay at 35 mph is 1,522,050 for Riverside County and 1,306,648 for San Bernardino County. The total delay at 60 mph is 3,885,196 for Riverside County and 3,914,473 for San Bernardino County.

## PROJECT STATUS

The Following District 8 projects are currently being constructed or are scheduled for construction for 2017. These current and future (planned) projects will relieve congestion in District 8:

### RIVERSIDE COUNTY

**RIV 15; INSTALL AND UPGRADE TMS ELEMENTS; EA 0G770**

Install new Fiber Optic infrastructure on Rte 15 from PM 0.00/41.80 and upgrade newly installed wireless vehicle detection stations. Connect all the existing TMS elements to the newly installed Fiber Optic infrastructure.

Approve Construction Contract Date- 8/15/2017

**RIV 215; INSTALL AND UPGRADE TMS ELEMENTS; EA 0G780**

Install new Fiber Optic infrastructure on Rte 215 from PM 8.40/38.80 and upgrade newly installed wireless vehicle detection stations. Connect all the existing TMS elements to the newly installed Fiber Optic infrastructure.

Approve Construction Contract Date- 3/30/2016

**RIV 91; CIP; EA 0F540**

Construct 1 MF lane & 2 Toll Express lane each direction on RTE 91 from PM 0.00/11.55.
Approve Construction Contract Date- 5/09/2013

**RIV 15; EA 1E300**

Install Ramp Metering System at both NB & SB Entrance Ramps at Temescal Canyon RD to Weirick RD on RTE 15 from PM 33.10/35.80.

Approve Construction Contract Date- 6/15/2016

**RIV 60; EA 1C640**

Replace Wireless Communication System with Fiber Optic Infrastructure & connect it to the existing components on Rte 60 from PM 0.00/12.20.

Approve Construction Contract Date- 5/22/2017

**SAN BERNARDINO COUNTY**

**SBD 10**

**SBD 10; REPLACE RANDOM SLABS ON MAINLINE & CONNECTORS; EA 0Q760**

Replace random slabs on Mainline & Connectors. Also upgrade all the detection TMS elements on Rte 10 from PM 0.00/30.90

Approve Construction Contract Date- 01/15/15

**SBD 15; RECONSTRUCT EXISTING "D" STREET & STODDARD WELLS RD IC ; EA 3555V**

Reconstruct existing "D", "E" ST, & Stoddard Wells RD IC, Widen Victorville separation overhead. PM 42.50/ 46.00

Approve Construction Contract Date- 11/05/15

**SBD 210; INSTALL FIBER OPTIC COMMUNICATION (FOC), CLOSED CIRCUIT TELEVISION CAMERAS (CCTV) AND CHANGEABLE MESSAGE SIGN (CMS); EA 0E551**

Install Fiber Optic Communication (FOC), Closed Circuit Television (CCTV) and Changeable Message Sign (CMS) PM 21.80/ 27.30

Approve Construction Contract Date- 01/11/17

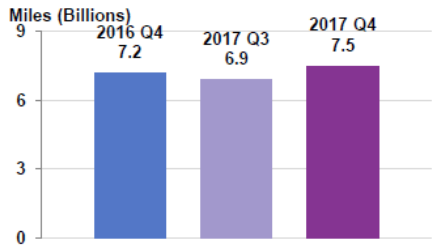
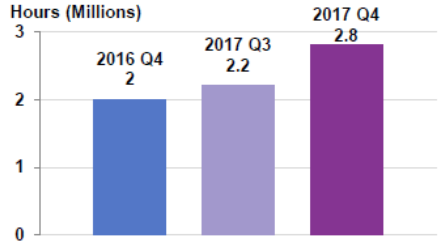
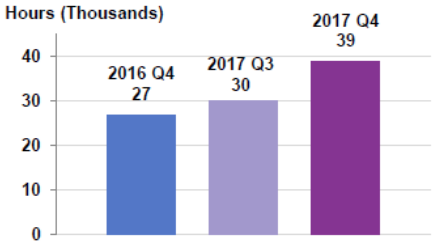
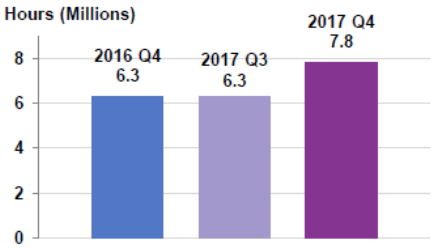
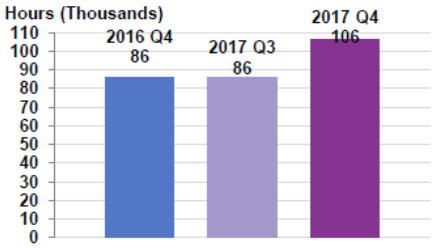
**Bottleneck 2017 Q4 AM**

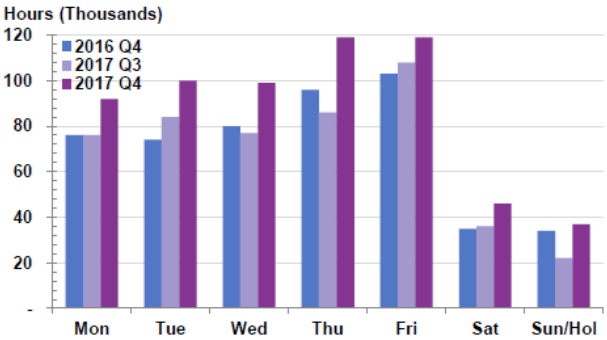
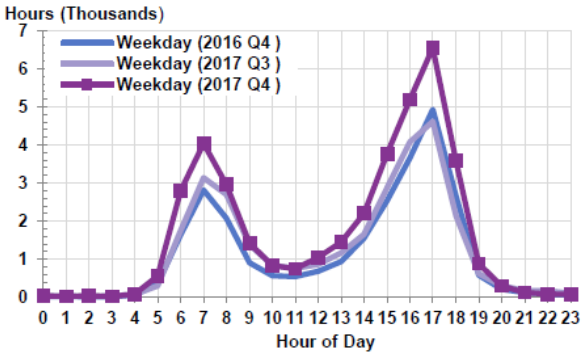
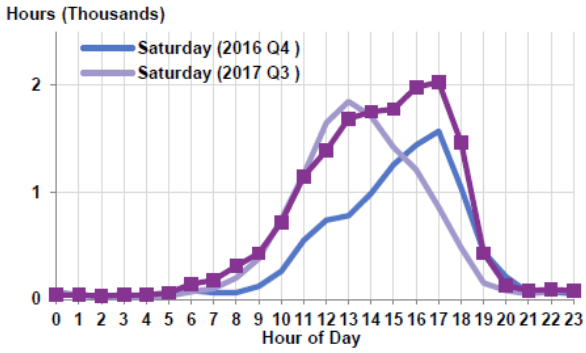
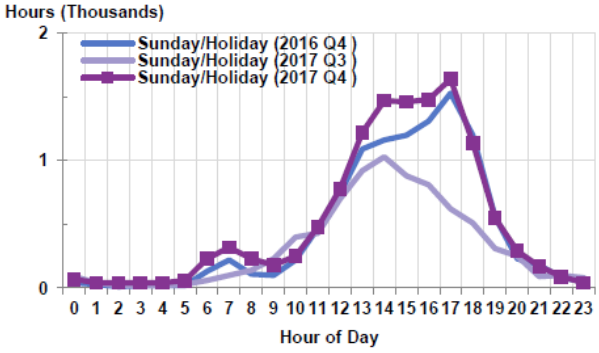
| Rank | County | Freeway | CA Postmile | Approximate Location | Average Extent (miles) | Total Delay (hours) | Total Duration (hours) | Period |
|---|---|---|---|---|---|---|---|---|
| 1 | Riverside | SR91-W | R.995 | GREEN RIVER | 1.50 | 61838 | 212 | AM |
| 2 | Riverside | SR71-S | 2.5 | S-O PRADO DAM RD | 3.18 | 37730 | 159 | AM |
| 3 | Riverside | I215-N | 40.929 | MARTIN LUTHER KING | 1.72 | 32631 | 206 | AM |
| 4 | Riverside | I215-S | 44.908 | Center St | 3.51 | 30400 | 109 | AM |
| 5 | Riverside | I15-N | 45.93 | .25 N-O 6th ST. | 2.11 | 21770 | 96 | AM |
| 6 | Riverside | SR91-W | R3.054 | SERFAS CLUB RD | 2.25 | 19026 | 35 | AM |
| 7 | San Bernardino | I15-S | .969 | JURUPA | 1.57 | 17587 | 95 | AM |
| 8 | Riverside | I15-N | 52.27 | PHILADELPHIA UC | 0.85 | 17071 | 149 | AM |
| 9 | Riverside | SR91-W | 10.724 | PIERCE | 1.27 | 10410 | 91 | AM |

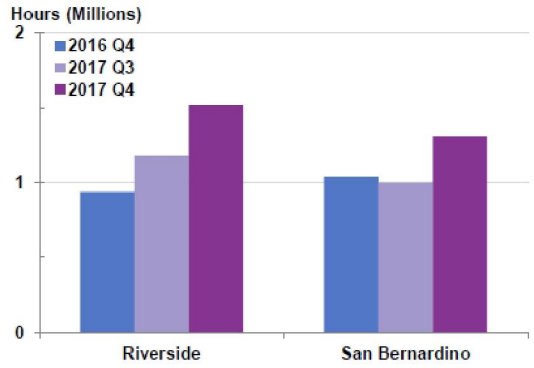
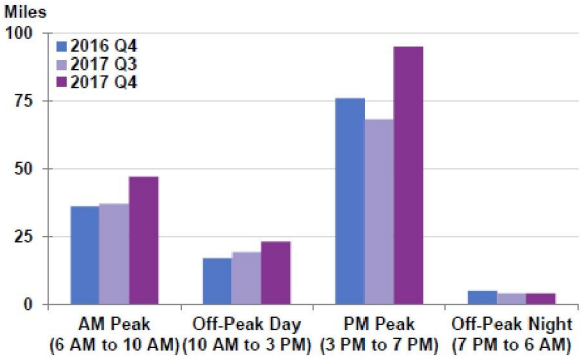
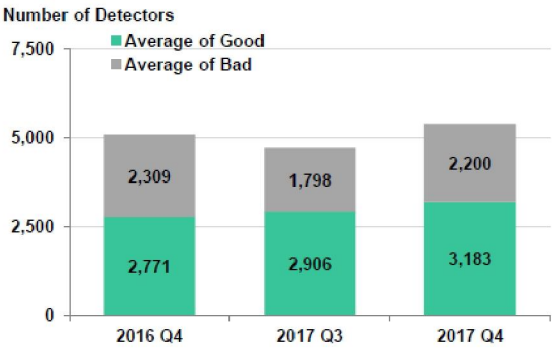
**Bottleneck 2017 Q4 PM**

| Rank | County | Freeway | CA Postmile | Approximate Location | Average Extent (miles) | Total Delay (hours) | Total Duration (hours) | Period |
|---|---|---|---|---|---|---|---|---|
| 1 | San Bernardino | I15-N | 3.2 | 4TH ST NB ONR | 2.63 | 94622 | 246 | PM |
| 2 | San Bernardino | I15-S | .969 | JURUPA | 2.14 | 55490 | 178 | PM |
| 3 | Riverside | I15-N | 45.93 | .25 N-O 6th ST. | 2.35 | 42584 | 162 | PM |
| 4 | San Bernardino | I10-E | 30.7 | ORANGE ST | 2.31 | 40131 | 122 | PM |
| 5 | Riverside | I215-S | 40.76 | MLK SB ON | 2.37 | 39604 | 184 | PM |
| 6 | San Bernardino | I10-E | 13.041 | Cherry Ave(T) | 2.85 | 38151 | 123 | PM |
| 7 | Riverside | SR91-W | 10.724 | PIERCE | 1.76 | 36911 | 215 | PM |
| 8 | Riverside | I215-S | R32.5 | OLEANDER AVE | 3.80 | 33281 | 147 | PM |
| 9 | San Bernardino | I10-E | 13.8 | FONTANA REST | 0.74 | 26194 | 215 | PM |
| 10 | San Bernardino | I210-E | 8.7 | .75 E-O MILLIKEN | 3.42 | 24698 | 72 | PM |

## Quarterly Mobility Statistics

| Measure | Graph | Percentage Change | |
|---|---|---|---|
| | | Over one year ago | Over last quarter |
| **Vehicle Miles of Travel (VMT)** |  | 3.9% ↓ | 7.8% ↓ |
| **Total Vehicle Hours of Delay (VHD) at 35 mph** |  | 42.7% ↑ | 29.8% ↑ |
| **Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph** |  | 42.9% ↑ | 29.8% ↑ |
| **Total Vehicle Hours of Delay (VHD) at 60 mph** |  | 23.8% ↑ | 24.2% ↑ |
| **Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph** |  | 23.7% ↑ | 22.5% ↑ |

| Measure | Graph | Percentage Change | |
|---|---|---|---|
| Average Vehicle Hours of Delay by Day of Week at 60 mph |  | Largest Magnitude Decrease over one year ago<br>– | Largest Magnitude Decrease over last quarter<br>– |
| | | Largest Magnitude Increase over one year ago<br>Tuesday<br>34.2% | Largest Magnitude Increase over last quarter<br>Thursday<br>39% |
| Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays |  | Largest Magnitude Weekday Decrease over one year ago<br>– | Largest Magnitude Weekday Decrease over last quarter<br>10 PM<br>-48% |
| | | Largest Magnitude Weekday Increase over one year ago<br>5 PM<br>32.6% | Largest Magnitude Weekday Increase over last quarter<br>5 PM<br>41.8% |
| Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays |  | Largest Magnitude Saturday Decrease over one year ago<br>8 PM<br>-34.7% | Largest Magnitude Saturday Decrease over last quarter<br>12 PM<br>-15.8% |
| | | Largest Magnitude Saturday Increase over one year ago<br>1 PM<br>115.6% | Largest Magnitude Saturday Increase over last quarter<br>5 PM<br>136.1% |
| Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/ Holidays |  | Largest Magnitude Sun./Holiday Decrease over one year ago<br>6 PM<br>-4.9% | Largest Magnitude Sun./Holiday Decrease over last quarter<br>10 AM<br>-37.2% |
| | | Largest Magnitude Sun./Holiday Increase over one year ago<br>2 PM<br>27.3% | Largest Magnitude Sun./Holiday Increase over last quarter<br>5 PM<br>165.9% |

| Measure | Graph | Percentage Change | |
|---|---|---|---|
| Total Vehicle Hours of Delay (VHD) by County at 35 mph |  | Largest Magnitude Decrease over one year ago<br>– | Largest Magnitude Decrease over last quarter<br>– |
| | | Largest Magnitude Increase over one year ago<br>Riverside 61.3% | Largest Magnitude Increase over last quarter<br>Riverside 29.3% |
| Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph |  | Largest Magnitude Decrease over one year ago<br>Off-Peak Night -5% | Largest Magnitude Decrease over last quarter<br>– |
| | | Largest Magnitude Increase over one year ago<br>PM Peak 25.2% | Largest Magnitude Increase over last quarter<br>PM Peak 40.9% |
| Average Number of Good and Bad Detectors |  | Change in Good over one year ago<br>15% | Change in Good over last quarter<br>10% |
| | | Change in Bad over one year ago<br>-5% | Change in Bad over last quarter<br>22% |

| Congestion by Route | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Vehicle Hours of Delay at 35 mph | | | Difference 2017 Q4-2016 Q4 | | Difference 2017 Q4-2017 Q3 | | Rank | | |
| Route | County | 2016 Q4 | 2017 Q3 | 2017 Q4 | Absolute | Percentage | Absolute | Percentage | 2016 Q4 | 2017 Q3 | 2017 Q4 |
| SR91 | Riverside | 294210.7 | 444018.5 | 549386.6 | 255175.9 | 87% | 105,368 | 24% | 2 | 1 | 1 |
| I15 | Riverside | 213823.8 | 276040.8 | 462625.6 | 248801.8 | 116% | 186,585 | 68% | 5 | 4 | 2 |
| I10 | San Bernardino | 291819.5 | 216865.8 | 396181.8 | 104362.3 | 36% | 179,316 | 83% | 3 | 5 | 3 |
| I15 | San Bernardino | 326717 | 391579.9 | 381892.2 | 55175.2 | 17% | (9,688) | -2% | 1 | 2 | 4 |
| I215 | Riverside | 272371.6 | 312981.6 | 339758.9 | 67387.3 | 25% | 26,777 | 9% | 4 | 3 | 5 |
| I210 | San Bernardino | 174932.4 | 158556.4 | 235178.4 | 60246 | 34% | 76,622 | 48% | 6 | 6 | 6 |
| SR60 | San Bernardino | 133065.1 | 117265.6 | 147314.2 | 14249.1 | 11% | 30,049 | 26% | 7 | 7 | 7 |
| SR60 | Riverside | 104978.9 | 100767 | 96890.3 | -8088.6 | -8% | (3,877) | -4% | 8 | 8 | 8 |
| I215 | San Bernardino | 73762.4 | 49212.3 | 94447.7 | 20685.3 | 28% | 45,235 | 92% | 9 | 10 | 9 |
| SR71 | San Bernardino | 38026 | 68621.7 | 51574.1 | 13548.1 | 36% | (17,048) | -25% | 10 | 9 | 10 |
| I10 | Riverside | 25937.2 | 14084.4 | 39598.8 | 13661.6 | 53% | 25,514 | 181% | 12 | 12 | 11 |
| SR71 | Riverside | 32375.8 | 29478.2 | 33789.7 | 1413.9 | 4% | 4,312 | 15% | 11 | 11 | 12 |
| SR259 | San Bernardino | 13.5 | 0 | 59.3 | 45.8 | 339% | 59 | | 13 | | 13 |
| TOTALS | | 1,982,034 | 2,179,472 | 2,828,698 | 846,664 | 42.7% | 649,225 | 29.8% | | | |