# District 06
# Mobility Performance Report

2022 First Quarter

DEPARTMENT OF TRANSPORTATION

July 11, 2022
: D06 – Traffic Operations

2022 First Quarter

## EXECUTIVE SUMMARY

### Overview

Caltrans District 6 is geographically diverse, and the second largest of the 12 Districts statewide, stretching from the southernmost part of Yosemite National Park in the north to the Mojave Desert. Also referred to as the Central Valley, District 6 encompasses Madera, Fresno, Tulare, Kings, and Kern counties. District 6 maintains and operates 476 miles of freeway and 1,554 miles of rural and urban highway. This District has the largest portion of road miles to maintain in the state highway system with 2,030 miles. Interstate 5 and State Route 99 span District 6, connecting the Central Valley to Northern and Southern California. These two routes and many others support substantial truck traffic for the agricultural base of the region.

The Mobility Performance Report (MPR) quarterly analysis compares current data with information from the same quarter of the previous year, and from the previous quarter using 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 continuous data collected by automated vehicle detector stations deployed on urban-area freeways with recurrent congestion. The MPR presents congestion delay information at two speed thresholds: delay from vehicles traveling below 35 miles per hour (mph),

and delay from vehicles traveling below 60 miles per hour (mph). The delay at the 35 miles per hour (mph) threshold represents severe congestion while delay at 60 mph represents all congestion. The criteria for speed thresholds are set by Caltrans and are based on engineering experience and District input.

## FINDINGS

In the first quarter, total delay equaled 295,000 vehicle hours of delay (VHD) at the 35mph speed threshold, which decreases slightly approximately 19 percent compare to last quarter (fourth quarter). The average (non-holiday) weekday of vehicle hours of delay experienced in this quarter was approximately 3495 VHD at 35mph speed threshold. Total delay reported at approximately 1.5 million VHD at 60mph speed threshold, which decreases about 13.4 percent compare to previous quarter. The average (non-holiday) weekday of vehicle hours of delay was reported as 20,000 VHD at 60mph speed threshold, which decreases approximately 7.9 percent compare to previous quarter. Kern and Fresno Counties continued to experience the largest delay among five counties in the District. Vehicle Miles Traveled (VMT) was reported as about 2.0 billion vehicle miles which decreases approximately 7.9 percent when compared to the last quarter. VMT for this quarter, compares to Q1 of last year, increases approximately 59.5.

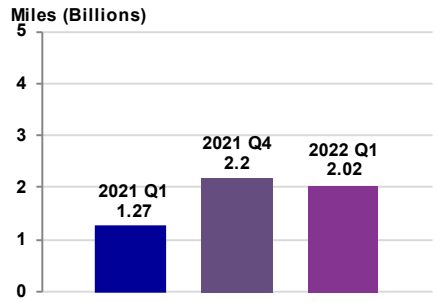
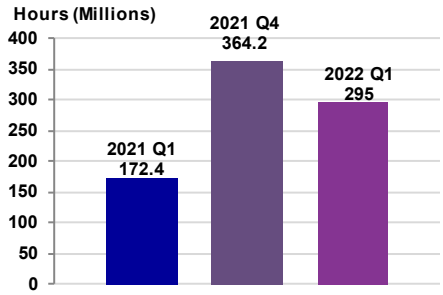
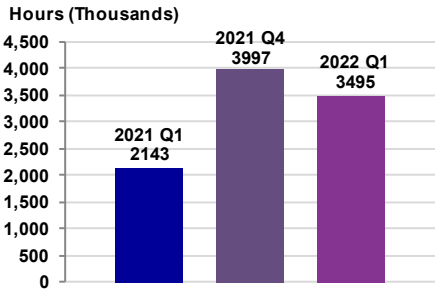
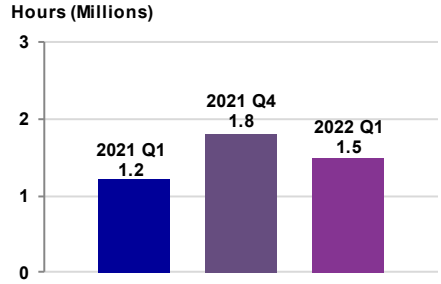
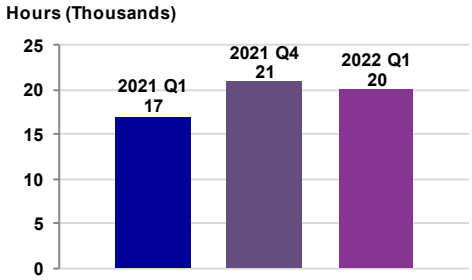
For this quarter, PEMS reported the change in good detectors increases approximately 4 percent comparing to the last quarter. As far as change in percentage of bad detectors, PEMS reports 12 percent decrease in bad detectors compare to last quarter. The average number of good as well as bad detectors are illustrated in the graph at the end of this report.

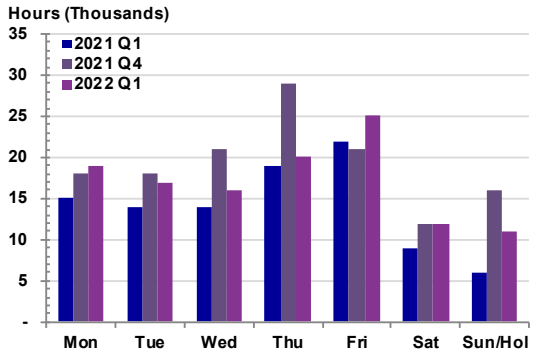
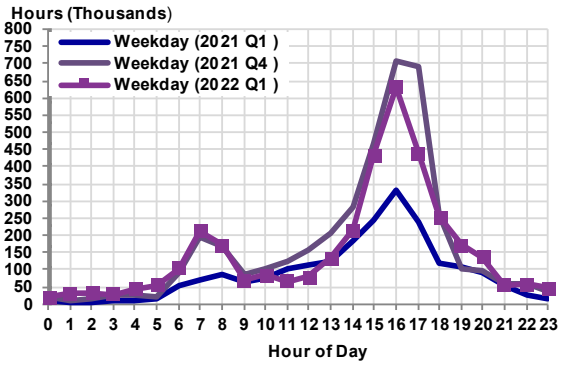
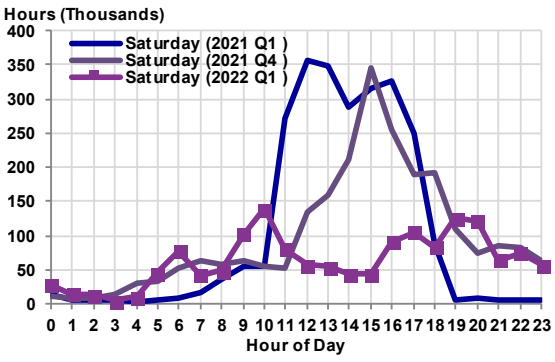
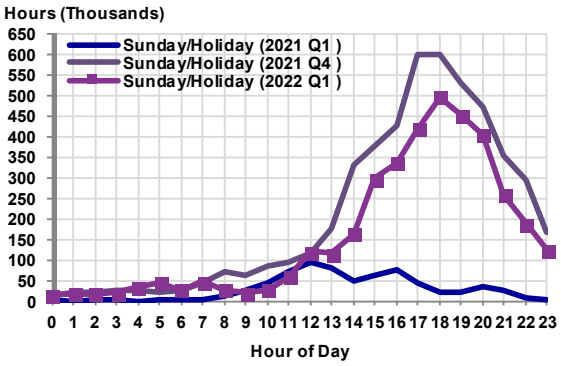
# Top Ten Bottlenecks for Quarter 1 - 2022

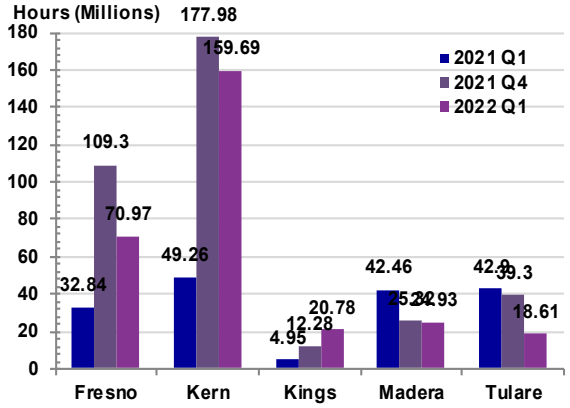
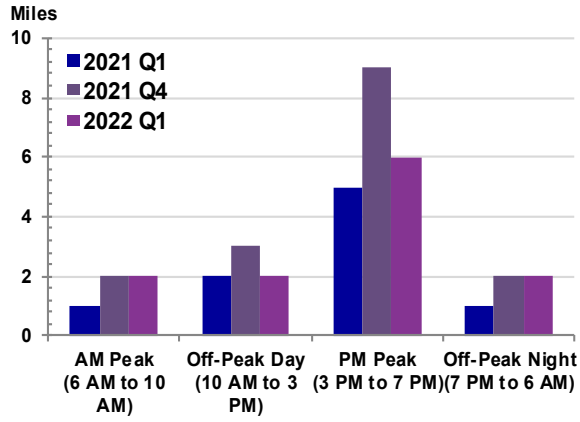
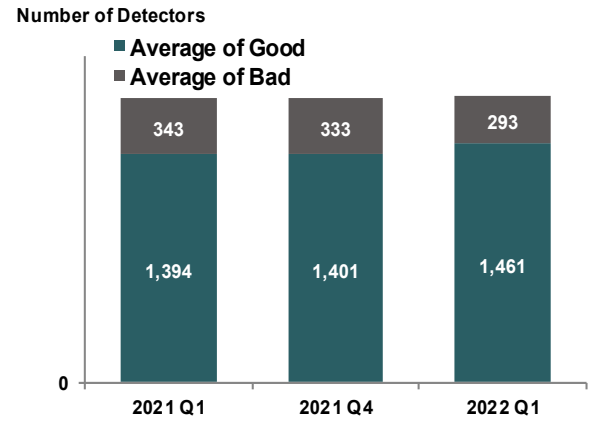
| County | Fwy | Locations | Type | Shift | Abs PM | CA PM | Latitude | Longitude | # Days Active | Avg Extent (Miles) | Avg Delay (Veh-hrs) | Avg Duration (mins) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Madera | 99S | S. O Ave. 12 | ML | PM | 150.90 | R6.962 | 36.92 | -120.02 | 39 | 1.63 | 153.29 | 87.44 |
| Kern | 58 W | H Street | ML | PM | 110.13 | R53.307 | 35.35 | -119.02 | 27 | 1.84 | 135.51 | 68.70 |
| Fresno | 41 S | Shaw Ave | ML | PM | 130.15 | R28.395 | 36.81 | -119.79 | 46 | 1.05 | 108.75 | 118.10 |
| Kern | 99 S | S.O SR 65 | ML | PM | 29.99 | R29.171 | 35.43 | -119.07 | S | 1.54 | 371.56 | 128.92 |
| Fresno | 41 S | Dakota Avenue | ML | PM | 128.70 | R26.951 | 36.79 | -119.78 | 19 | 2.33 | 202.97 | 43.16 |
| Madera | 99 S | Avenue 7 | ML | PM | 144.88 | R0.9517 | 36.85 | -119.95 | 42 | 0.9 | 105.67 | 108.93 |

For this quarter, PEMS system reports 6 active bottleneck locations for the District. These bottleneck locations are mainly on SR 41 in Fresno, SR 99 in Madera well as SR 58 and SR 99 in the City of Bakersfield in Kern County. Further investigation at these locations, it appears that bottleneck locations on SR 99 and SR 58 in Kern as well as SR 99 in Madera were within the active construction zones. Active bottleneck locations are defined (or computed by PeMS) as delay (VHD) be at least 20 percent of all weekdays during the quarter, persisted for at least 15 minutes on average, and caused more than 100 vehicle hours of delay (VHD) per weekday. Bottlenecks reported in Fresno 41 is a typical daily recurrent congestion in the City of Fresno during peak hours commute.

## Quarterly Mobility Statistics

| Measure | Graph | Percentage Change | |
|---|---|---|---|
| | | Over one year ago | Over last quarter |
| Vehicle Miles of Travel (VMT) |  | 59.5% | -7.9% |
| Total Vehicle Hours of Delay (VHD) at 35 mph |  | 71.1% | -19% |
| Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph |  | 63.1% | -12.5% |
| Total Vehicle Hours of Delay (VHD) at 60 mph |  | 23.3% | -13.4% |
| Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph |  | 16.9% | -7.9% |

| 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>Thursday -29.8% |
| | | Largest Magnitude Increase over one year ago<br>Sun/Hol 77.9% | Largest Magnitude Increase over last quarter<br>Friday 19.3% |
| Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays |  | Largest Magnitude Weekday Decrease over one year ago<br>11 AM -33.4% | Largest Magnitude Weekday Decrease over last quarter<br>5 PM -36.4% |
| | | Largest Magnitude Weekday Increase over one year ago<br>4 PM 91.4% | Largest Magnitude Weekday Increase over last quarter<br>7 PM 67.7% |
| Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays |  | Largest Magnitude Saturday Decrease over one year ago<br>12 PM -83.9% | Largest Magnitude Saturday Decrease over last quarter<br>3 PM -87.7% |
| | | Largest Magnitude Saturday Increase over one year ago<br>7 PM 2368.3% | Largest Magnitude Saturday Increase over last quarter<br>10 AM 157.8% |
| Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/ Holidays |  | Largest Magnitude Sun./Holiday Decrease over one year ago<br>10 AM -38.5% | Largest Magnitude Sun./Holiday Decrease over last quarter<br>5 PM -30.1% |
| | | Largest Magnitude Sun./Holiday Increase over one year ago<br>6 PM 2270.9% | Largest Magnitude Sun./Holiday Increase over last quarter<br>5 AM 123.5% |

| Measure | Graph | Percentage Change | |
|---|---|---|---|
| Total Vehicle Hours of Delay (VHD) by County at 35 mph |  | Largest Magnitude Decrease over one year ago<br>Tulare<br>-56.6% | Largest Magnitude Decrease over last quarter<br>Fresno<br>-35.1% |
| | | Largest Magnitude Increase over one year ago<br>Kern<br>224.2% | Largest Magnitude Increase over last quarter<br>Kings<br>69.2% |
| Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph |  | Largest Magnitude Decrease over one year ago<br>Off-Peak Day<br>-27.8% | Largest Magnitude Decrease over last quarter<br>PM Peak<br>-34.3% |
| | | Largest Magnitude Increase over one year ago<br>PM Peak<br>21% | Largest Magnitude Increase over last quarter<br>AM Peak<br>10.5% |
| Average Number of Good and Bad Detectors |  | Change in Good over one year ago<br>5% | Change in Good over last quarter<br>4% |
| | | Change in Bad over one year ago<br>-14% | Change in Bad over last quarter<br>-12% |

| Congestion by Route | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Vehicle Hours of Delay at 35 mph | | | Difference 2022 Q1-2021 Q1 | | Difference 2022 Q1-2021 Q4 | | Rank | | |
| Route | County | 2021 Q1 | 2021 Q4 | 2022 Q1 | Absolute | Percentage | Absolute | Percentage | 2021 Q1 | 2021 Q4 | 2022 Q1 |
| SR99 | Kern | 21,327 | 84,492 | 98,461 | 77,134 | 361.7% | 13,969 | 16.5% | 4 | 1 | 1 |
| I5 | Kern | 22,787 | 71,986 | 53,760 | 30,972 | 135.9% | -18,227 | -25.3% | 3 | 2 | 2 |
| SR99 | Madera | 42,234 | 24,974 | 24,930 | -17,304 | -41.0% | -45 | -0.2% | 1 | 7 | 3 |
| SR41 | Fresno | 11,301 | 29,610 | 23,077 | 11,776 | 104.2% | -6,534 | -22.1% | 6 | 5 | 4 |
| SR99 | Fresno | 13,584 | 40,995 | 22,433 | 8,849 | 65.1% | -18,562 | -45.3% | 5 | 3 | 5 |
| I5 | Kings | 1,250 | 11,064 | 19,064 | 17,814 | 1425.1% | 8,001 | 72.3% | 12 | 9 | 6 |
| SR99 | Tulare | 40,595 | 36,032 | 17,487 | -23,109 | -56.9% | -18,546 | -51.5% | 2 | 4 | 7 |
| I5 | Fresno | 2,801 | 27,168 | 16,378 | 13,577 | 484.7% | -10,790 | -39.7% | 10 | 6 | 8 |
| SR58 | Kern | 4,167 | 21,488 | 7,442 | 3,275 | 78.6% | -14,046 | -65.4% | 7 | 8 | 9 |
| SR180 | Fresno | 3,918 | 9,107 | 5,156 | 1,238 | 31.6% | -3,951 | -43.4% | 8 | 10 | 10 |
| SR168 | Fresno | 1,242 | 2,422 | 3,931 | 2,689 | 216.6% | 1,509 | 62.3% | 13 | 12 | 11 |
| SR198 | Tulare | 2,303 | 3,268 | 1,126 | -1,177 | -51.1% | -2,142 | -65.5% | 11 | 11 | 12 |
| SR41 | Kings | 3,520 | 1,094 | 1,018 | -2,502 | -71.1% | -75 | -6.9% | 9 | 13 | 13 |
| SR198 | Kings | 176 | 124 | 701 | 525 | 299.4% | 577 | 467.1% | 16 | 15 | 14 |
| SR46 | Kern | 977 | 17 | 27 | -950 | -97.2% | 11 | 64.8% | 14 | 17 | 15 |
| SR178 | Kern | 0 | 0 | 1 | 1 | | 1 | | | | 16 |
| **TOTALS** | | **172,179** | **363,839** | **294,990** | **122,811** | **71.3%** | **-68,848** | **-18.9%** | | | |