

District 06

Mobility Performance Report

2012



SR 41 & SR 180 Interchange. Photo by Kevin Kast



California Department of Transportation
Division of Traffic of Operations
Office of Performance

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1. SUMMARY ANALYSIS

Caltrans District 6 is composed of five different counties: Fresno, Kern, Kings*, Madera, and Tulare. Fresno County is the 10th most populated county in the State with a 2012 population of 952,166. The district has a 2012 population of 2,570,365, which represents 6.8 percent of the State's population. District 6 has seen a population increase of 0.8 percent between 2011 and 2012.

In District 6, the 2012 monthly employment average was 1,004,258. District-wide the unemployment rate dropped by 1.3 percent. The unemployment rate monthly average was 14.6 percent. The unemployment rate was highest in Tulare County at 15.8 percent and was lowest in Kern County at 13.3 percent. The gain in population, along with a 1.3 percent decrease in unemployment, are factors that contributed to a 2.8 percent increase in congestion measured in Vehicle Miles of Travel (VMT) in the district. In 2012, District 6 had a VMT of 2.3 billion miles. This was a VMT increase of 64 million. The most noticeable increase in VMT came from Kern County.

The Vehicle Hours of Delay (VHD) at 60 miles per hour increased by 2,347,312, an increase of 68.9 percent. VHD at 35 miles per hour, a measure of severe congestion, increased by 421,004 hours, an increase of 31.6 percent in 2012. One of the main reasons for the congestion increase was due to overall economy improvement in the region, especially in education, healthcare, wholesale trade, and agriculture. The highest VHD was on Madera SR-99 with 561,321, a 123 percent increase due to construction of the Madera 99 Design-Build Rehab project, a freeway widening project completed in 2014.

**Kings County is excluded from the District 6 analysis due to lack of detection on State Highways in that county.*

2. DESCRIPTIVE STATISTICS

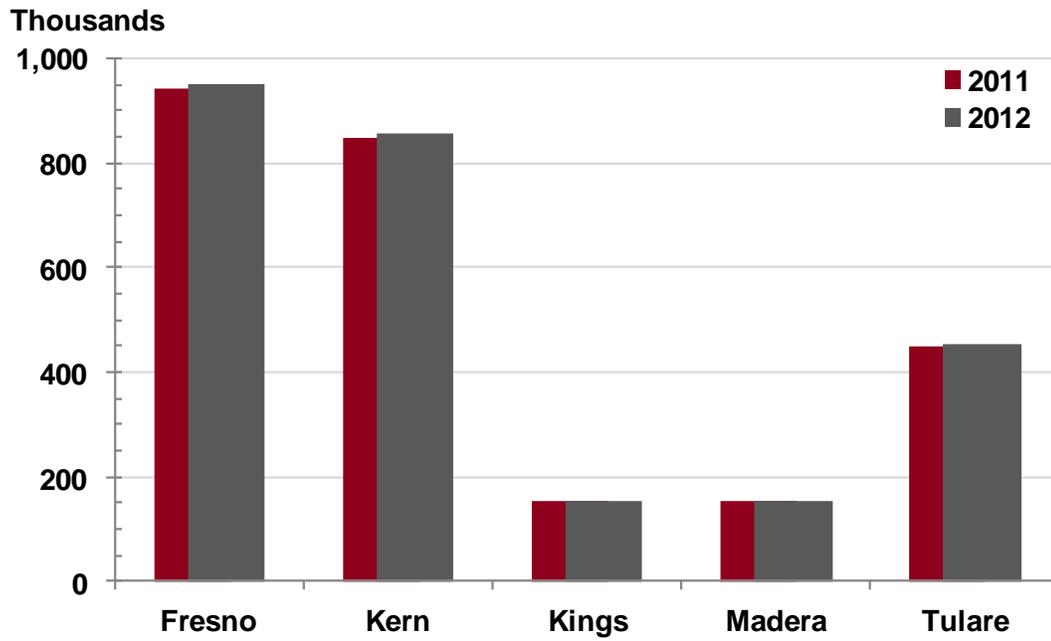
District Headquarters: Fresno
Counties: Fresno, Kern, Kings, Madera, Tulare
Counties without Detection: Kings
Population: 2,570,365 (0.8% increase over 2011)
Population as a Percentage of Statewide: 7 % of Statewide population

Table 1. POPULATION ESTIMATES AND ABSOLUTE AND PERCENT CHANGE, 2011-2012

County	2011	2012	Difference (2012 - 2011)	
	Population	Population	Absolute	Percent
Fresno	943,493	952,166	8,673	0.9%
Kern	849,977	857,882	7,905	0.9%
Kings	151,774	152,007	233	0.2%
Madera	152,325	152,711	386	0.3%
Tulare	451,540	455,599	4,059	0.9%
Total	2,549,109	2,570,365	21,256	0.8%
Kings County does not participate in mobility performance reporting. Source: State of California, Department of Finance, <i>E-1 Population Estimates for Cities, Counties, and the State—January 1, 2012 and 2013</i> . Sacramento, California, May 2013.				

Numbers may not sum to total due to rounding

FIGURE 1
POPULATION, BY COUNTY, 2011-2012



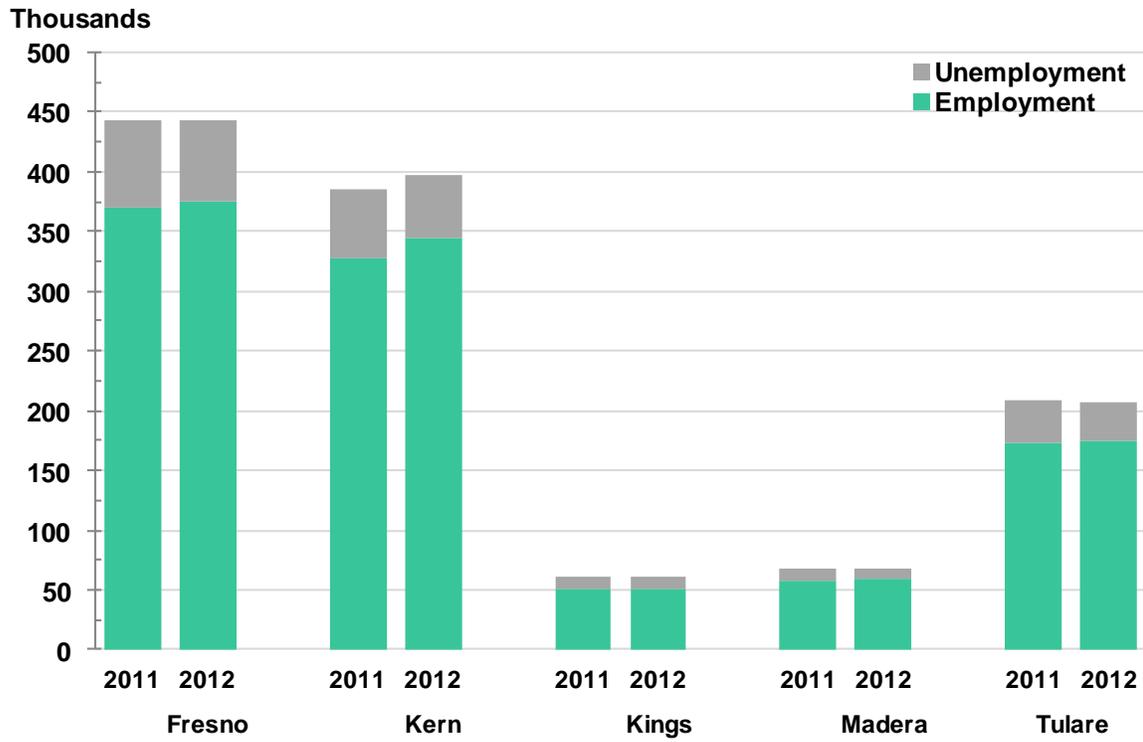
Employment, 2012 Monthly Average: 1,004,258
Unemployment Rate, 2012 Monthly Average: 14.6%, 1.3% decrease over 2011

Table 2. EMPLOYMENT, UNEMPLOYMENT, AND PERCENT CHANGE, BY COUNTY, 2011-2012

County	Unemployment Rate, 2011	Unemployment Rate, 2012	Percent Change in Rate of Unemployment (2012 - 2011)
Fresno	16.5%	15.2%	-1.3%
Kern	14.9%	13.3%	-1.6%
Kings	16.2%	15.3%	-0.9%
Madera	15.1%	13.6%	-1.4%
Tulare	16.7%	15.8%	-0.9%
District Total	15.9%	14.6%	-1.3%
Kings County does not participate in mobility performance reporting. Data not seasonally adjusted. Source: State of California, Employment Development Department (EDD), Labor Market Information Division; data downloaded September 9, 2013.			

Numbers may not sum to total due to rounding

FIGURE 2
EMPLOYMENT AND UNEMPLOYMENT, BY COUNTY, 2011-2012



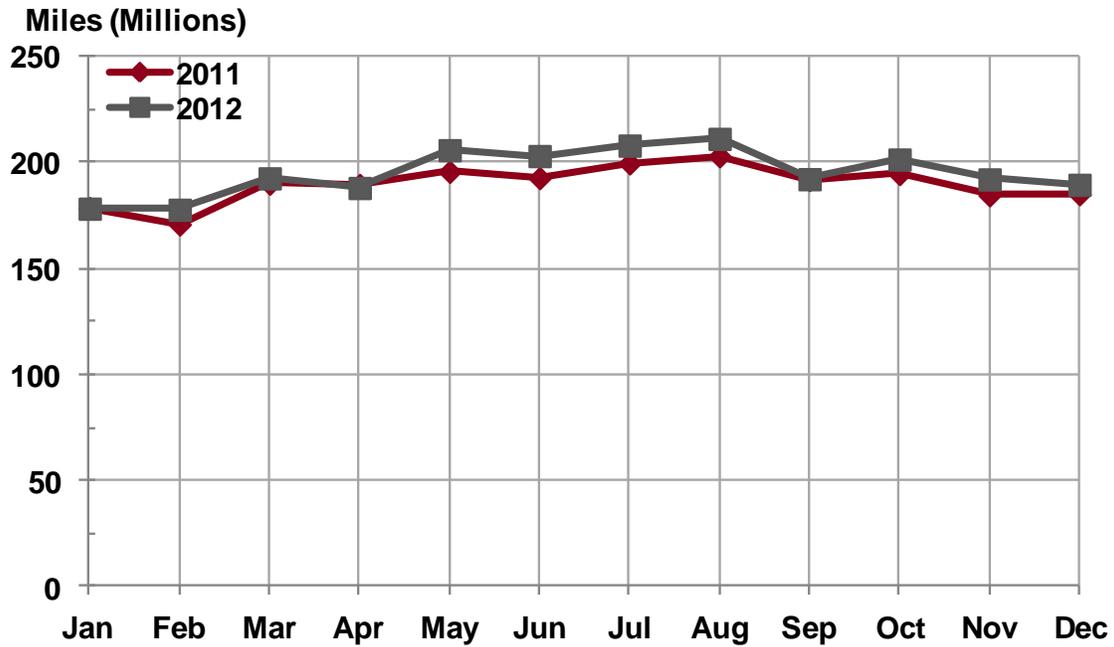
3. TRAVEL DEMAND

Vehicle Miles of Travel, 2012: 2.3 billion miles
Absolute and Percentage Change over 2011: 64 million VMT increase,
 2.8% increase over 2011
Peak Travel Month, Percentage Change over 2011: August, 211.1 million miles,
 4% increase over 2011

Monthly Trend

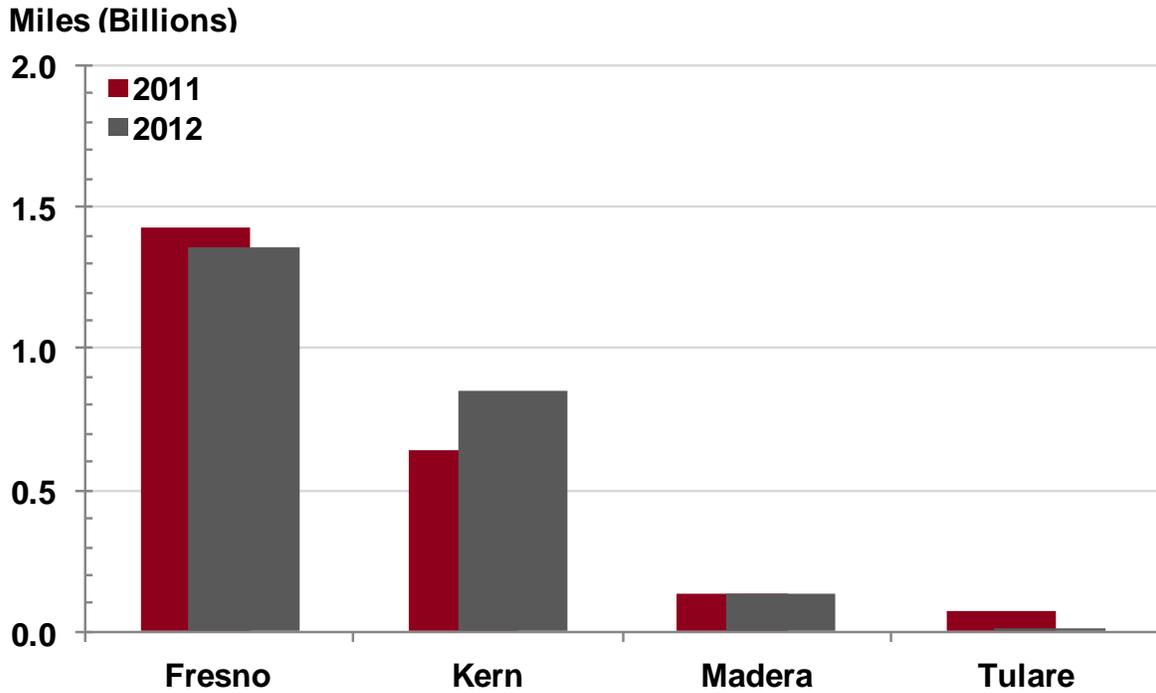
FIGURE 3 (A)

TOTAL VEHICLE MILES OF TRAVEL, BY MONTH, 2011-2012



County Trend

FIGURE 3 (B)
TOTAL VEHICLE MILES OF TRAVEL, BY COUNTY, 2011-2012



4. TRAFFIC CONGESTION

4.1. Total and Average Vehicle Hours of Delay at 35 and 60 Miles per Hour

4.1.1 Delay at 35 Miles per Hour

Vehicle Hours of Delay, 35 mph: 421,004 hours, 31.6% increase over 2011
Average Non-Holiday Weekday Delay, 35 mph: 1,521 hours, 51.6% increase over 2011
Percentage of Statewide VHD at 35 mph: 0.4%, .08% increase over 2011

FIGURE 4

TOTAL VEHICLE HOURS OF DELAY AT 35 MILES PER HOUR, BY MONTH, 2011-2012

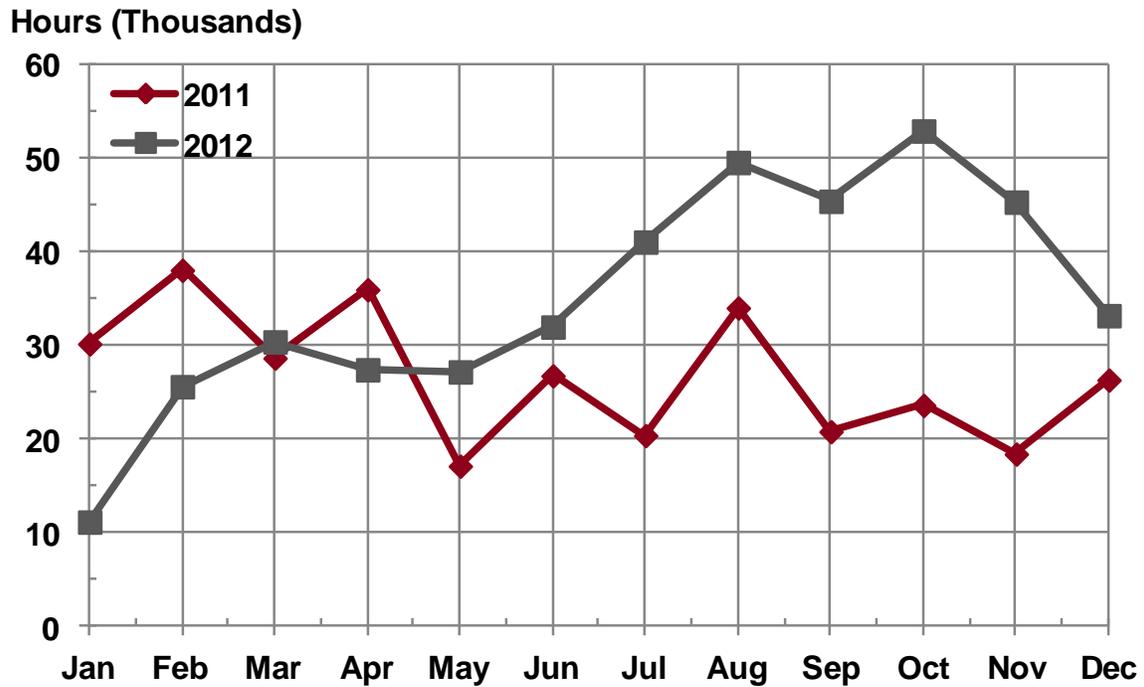
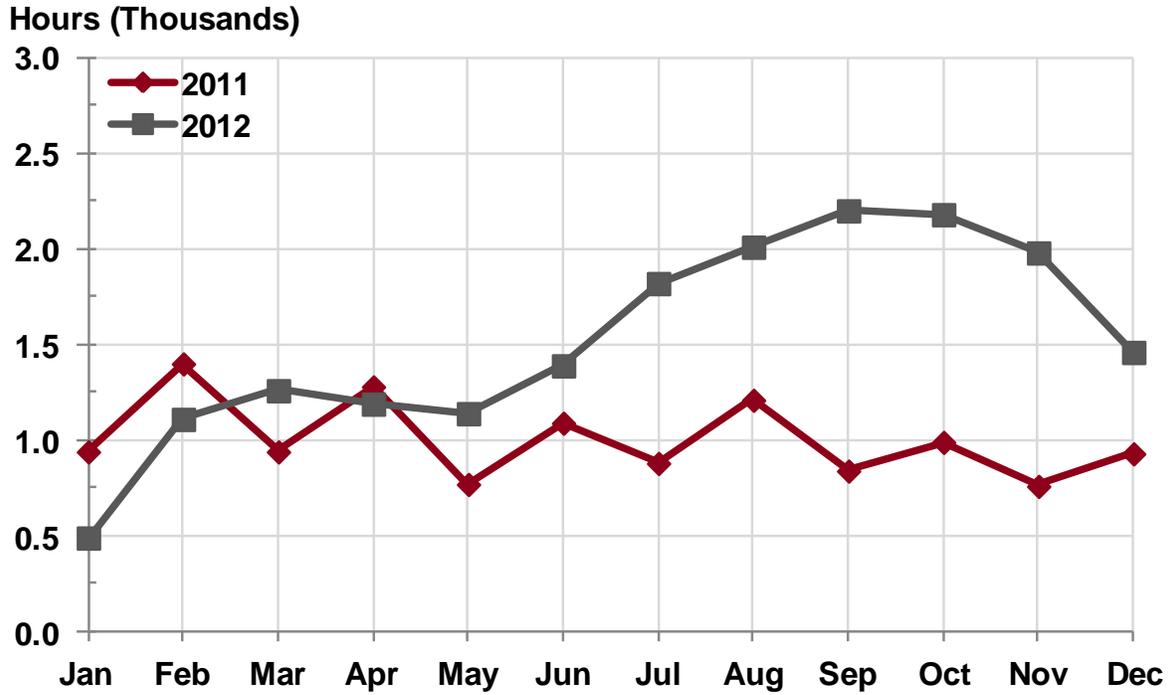


FIGURE 5
AVERAGE NON-HOLIDAY WEEKDAY VEHICLE HOURS OF DELAY AT 35 MILES PER HOUR,
BY MONTH, 2011-2012



4.1.2 Delay at 60 Miles per Hour

Vehicle Hours of Delay, 60 mph: 2.3 million hours, 68.9% increase over 2011
Average Non-Holiday Weekday Delay, 60 mph: 7,742 hours, 70.4% increase over 2011
Percentage of Statewide VHD at 60 mph: 1.1%, 0.4% increase over 2011

FIGURE 6

TOTAL VEHICLE HOURS OF DELAY AT 60 MILES PER HOUR, BY MONTH, 2011-2012

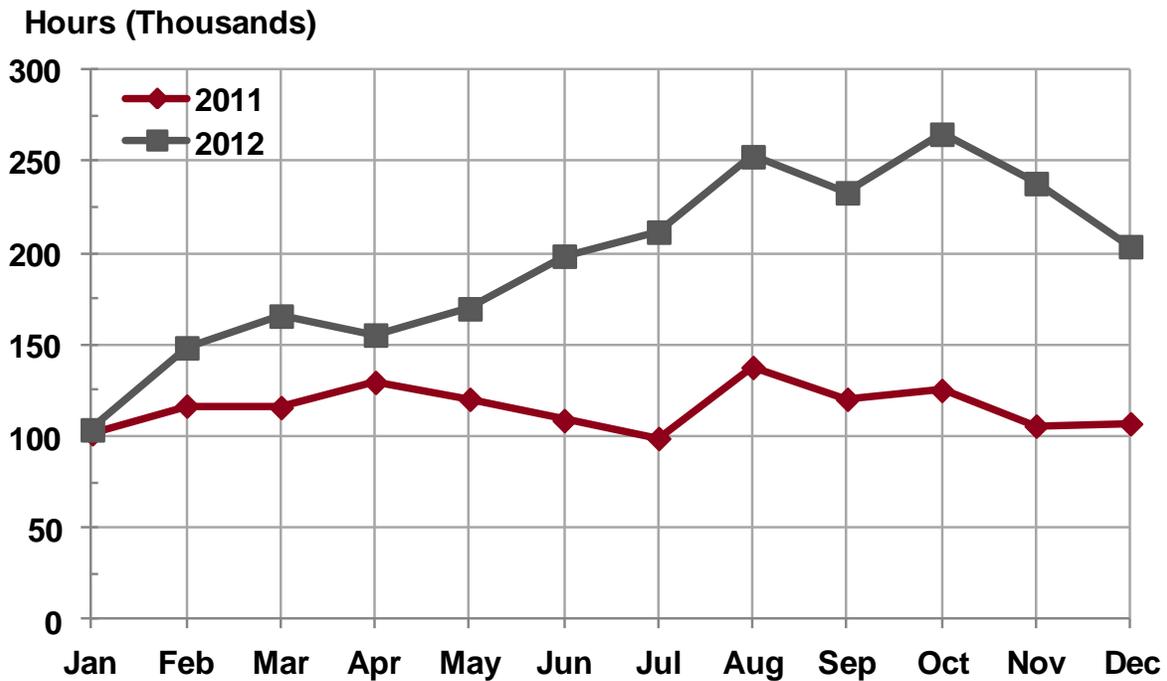
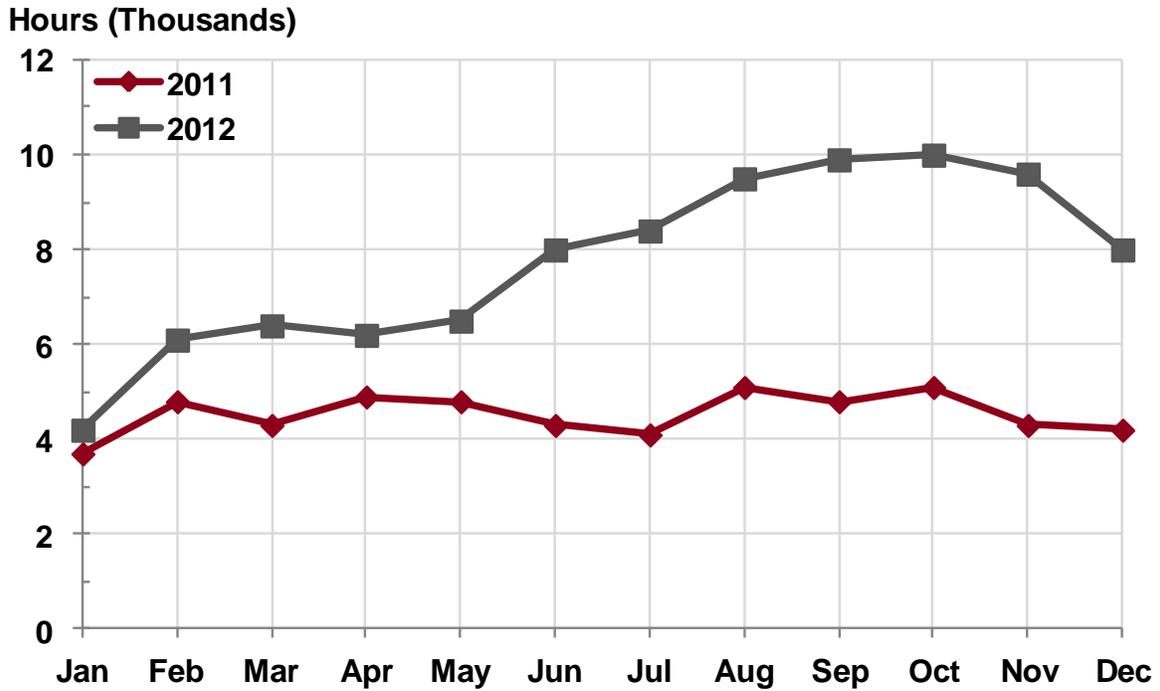


FIGURE 7
AVERAGE NON-HOLIDAY WEEKDAY VEHICLE HOURS OF DELAY AT 60 MILES PER HOUR,
BY MONTH, 2011-2012



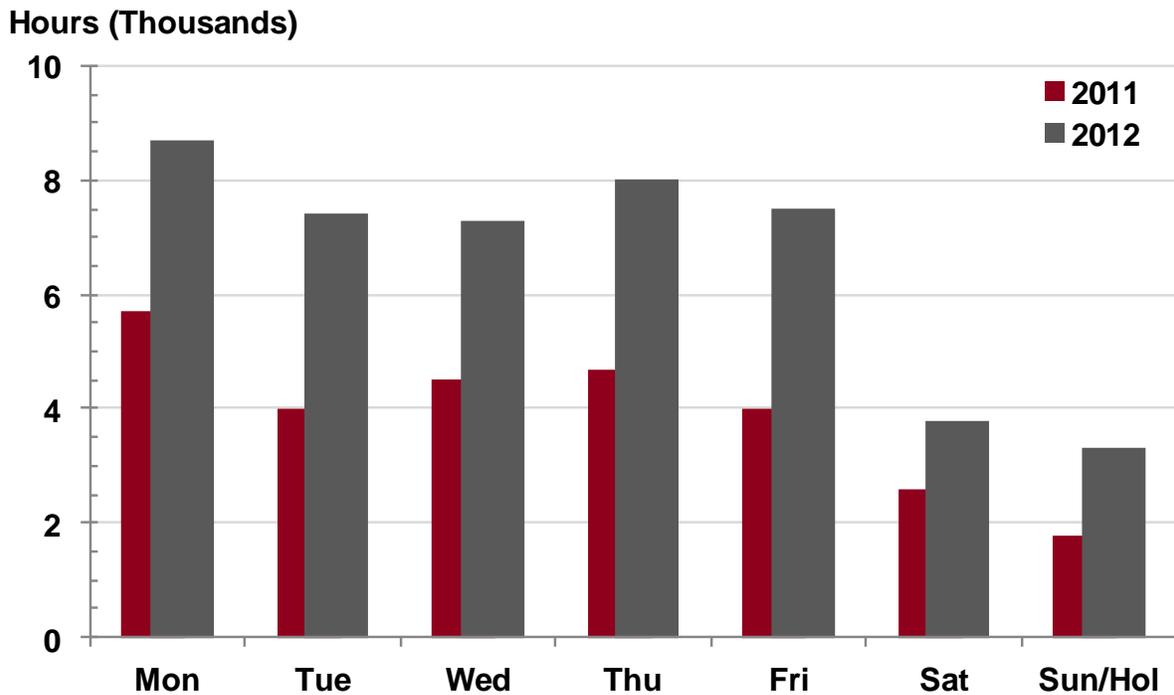
4.2. Average Vehicle Hours of Delay by Day of Week

Most Congested Day of the Week, 60 mph: Monday, 8,683 hours,
 52% increase over 2011
Highest Absolute Change in Delay, 60 mph: Friday, 3,518 VHD increase,
 88% increase over 2011
Highest Percentage Change in Delay: Friday, 3,518 VHD increase,
 88% increase over 2011

Delay at 60 miles per hour

FIGURE 8

AVERAGE VEHICLE HOURS OF DELAY AT 60 MILES PER HOUR, BY DAY OF WEEK, 2011-2012



4.3. Average Vehicle Hours of Delay by Hour of Day

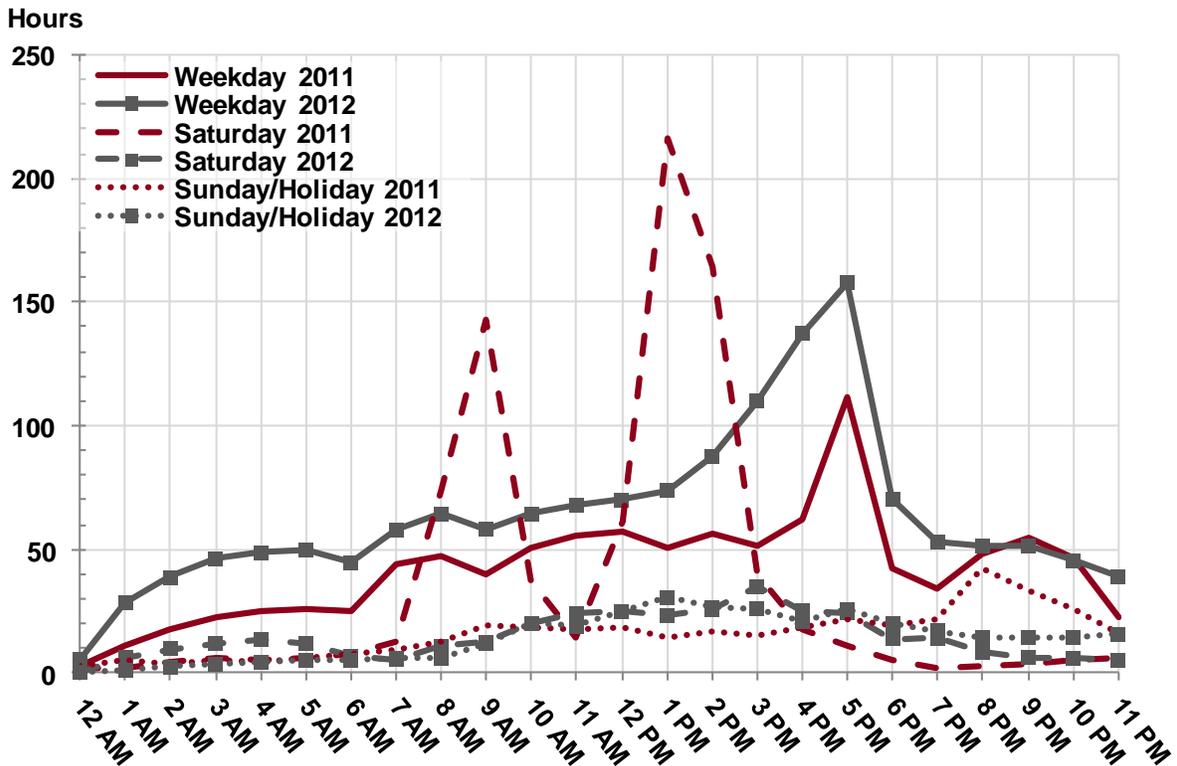
4.3.1 Delay at 35 Miles per Hour

- Weekday PM Peak Hour, 35 mph:** 5 PM, 158 hours, 42% increase over 2011
- Weekday AM Peak Hour, 35 mph:** 8 AM, 64 hours, 37% increase over 2011
- Saturday Peak Hour, 35 mph:** 3 PM, 35 hours, 13% increase over 2011
- Sunday/Holiday Peak Hour, 35 mph:** 1 PM, 31 hours, 113% increase over 2011

Delay at 35 miles per hour

FIGURE 9

AVERAGE VEHICLE HOURS OF DELAY AT 35 MILES PER HOUR, BY HOUR OF DAY, 2011-2012



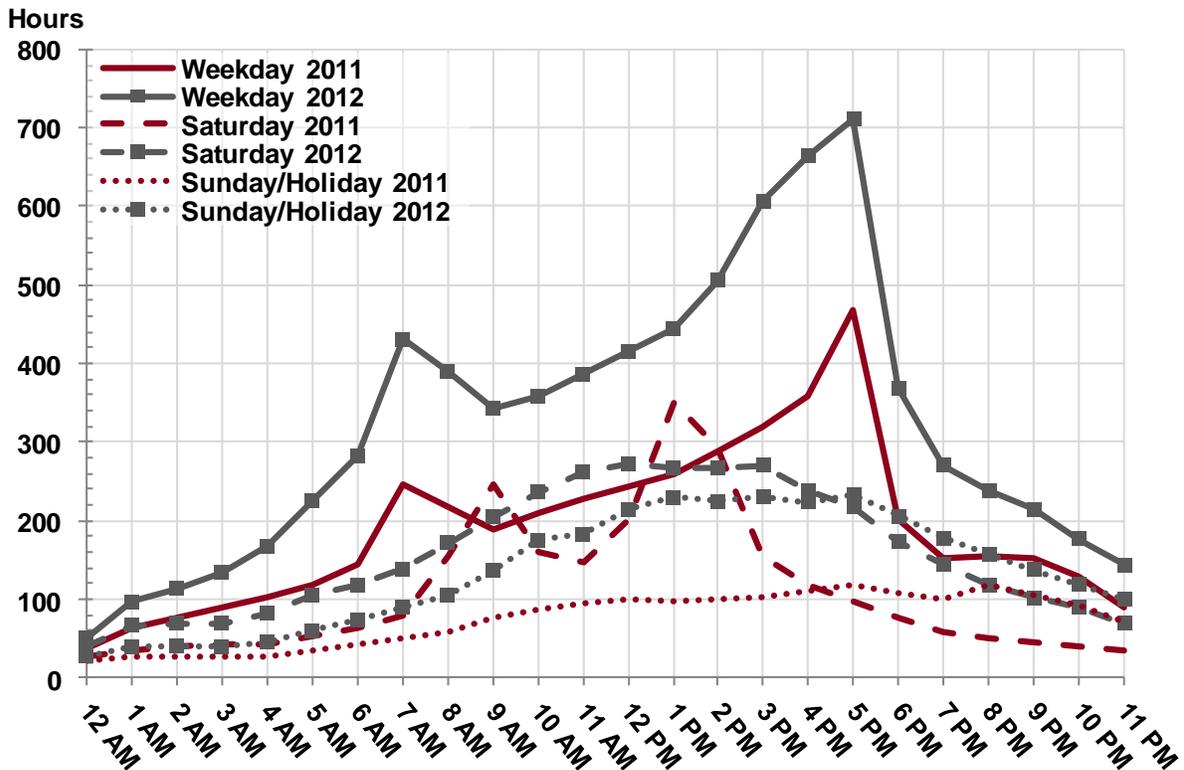
4.3.2 Delay at 60 Miles per Hour

Weekday PM Peak Hour, 60 mph: 5 PM, 712 hours, 52% increase over 2011
Weekday AM Peak Hour, 60 mph: 7 AM, 431 hours, 75% increase over 2011
Saturday Peak Hour, 60 mph: 12 PM, 273 hours, 36% increase over 2011
Sunday/Holiday Peak Hour, 60 mph: 5 PM, 233 hours, 96% increase over 2011

Delay at 60 miles per hour

FIGURE 10

AVERAGE VEHICLE HOURS OF DELAY AT 60 MILES PER HOUR, BY HOUR OF DAY, 2011-2012



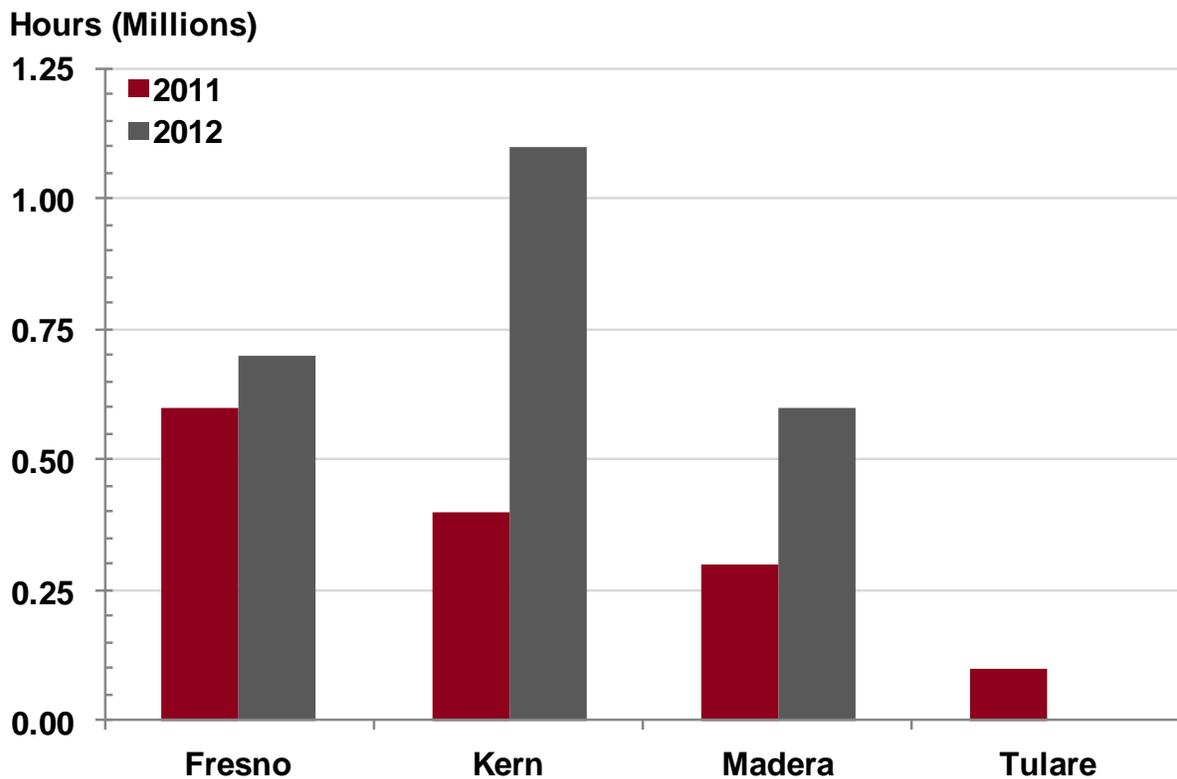
4.4. Total Vehicle Hours of Delay by County

County with Largest Delay, 60 mph:	Kern, 1.1 million hours, 197.7% increase over 2011 VHD, 46% of District total VHD
County with 2nd Largest Delay, 60 mph:	Fresno, 694,989 hours, 8.5% increase over 2011 VHD, 30% of District total VHD
County with Largest Increase in Delay, 60 mph:	Kern, 711,722 hours, 197.7% increase over 2011
County with Largest Decrease in Delay, 60 mph:	Tulare, -116,820 hours, 86.3% decrease over 2011

Delay at 60 miles per hour

FIGURE 11

TOTAL ANNUAL VEHICLE HOURS OF DELAY AT 60 MILES PER HOUR, BY COUNTY, 2011-2012



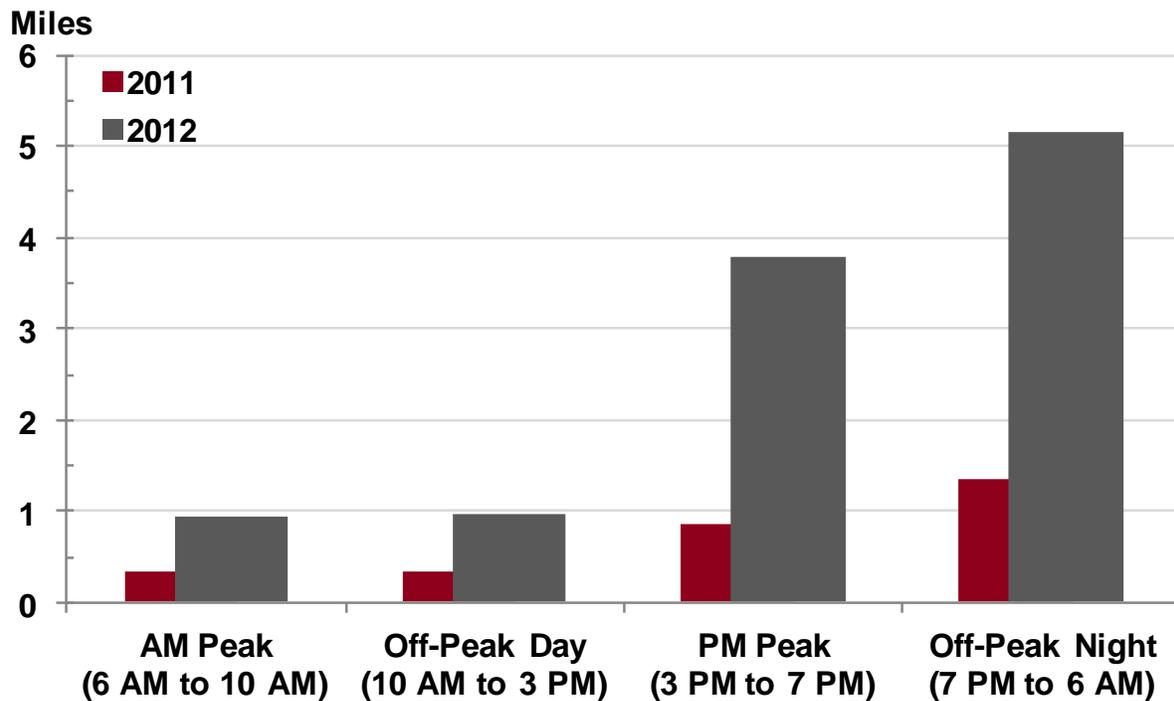
4.5. Lost Productivity

AM Peak: 0.94 miles, 172% increase over 2011
Off-Peak Day: 0.98 miles, 183% increase over 2011
PM Peak: 3.80 miles, 346% increase over 2011
Off-Peak Night: 5.15 miles, 281% increase over 2011

Lost Lane Miles at 35 miles per hour

FIGURE 12

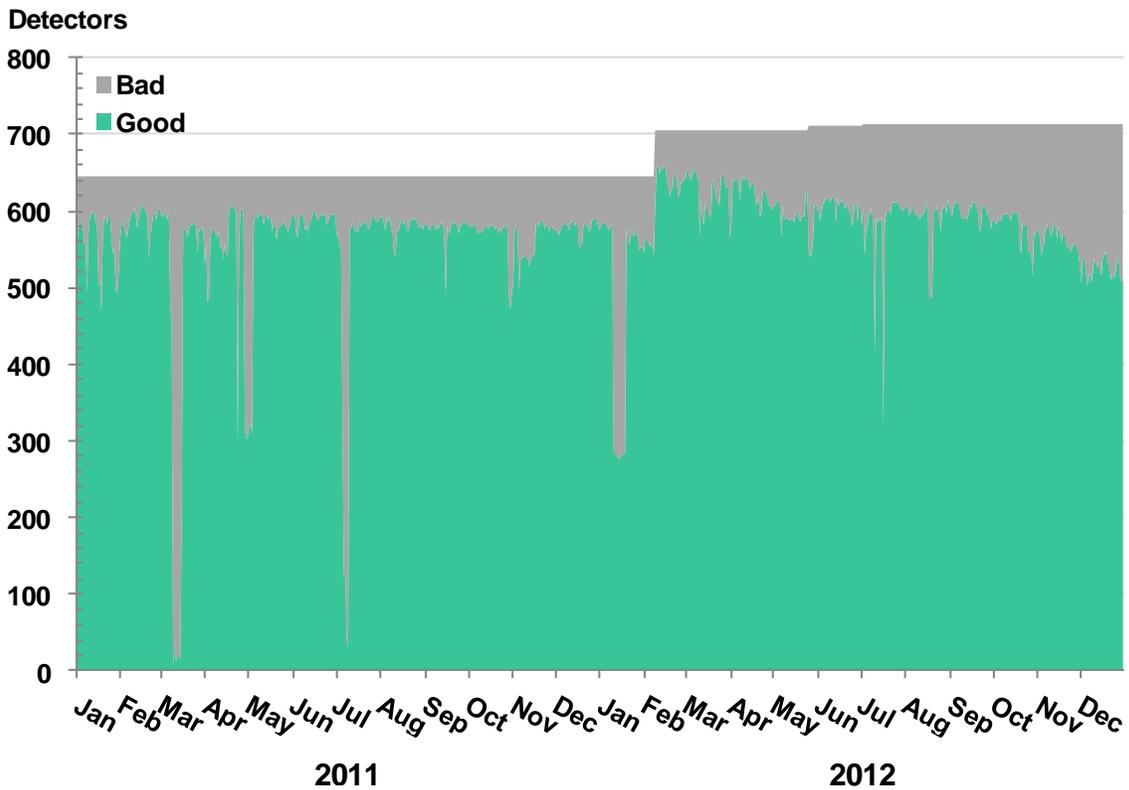
AVERAGE NON-HOLIDAY WEEKDAY EQUIVALENT LOST LANE MILES



5. DETECTOR HEALTH AND DATA QUALITY

Directional Mainline Miles: 4,073 miles
Directional Mainline Miles with Detection: 205 miles
Number of Detectors at End of 2012: 714, 10% increase over 2011
Average Percentage of Good and Bad Detection: 83% good, 5.2% increase over 2011;
 17% bad, 4.3% increase over 2011
**Number of Days Reporting less Than
 50% Working Detection:** 10

FIGURE 13
DETECTOR HEALTH BY DAY, 2011-2012



6. FREEWAY CONGESTION AND BOTTLENECK LOCATIONS

6.1. Congestion by Freeway

Top Freeways Contributing to Congestion in District 6: 2,346,615 hours,
99.97% of total VHD in 2012

Table 3. TOP CONGESTED FREEWAYS, 2011-2012

Route	County	Vehicle Hours of Delay at 60 mph		Difference (2012 - 2011)		Rank	
		2011	2012	Absolute	Percent	2011	2012
SR-99	Madera	251,998	561,321	309,323	123%	2	1
SR-58	Kern	0	547,373	547,373			2
SR-99	Kern	359,963	406,902	46,940	13%	1	3
SR-99	Fresno	183,645	369,233	185,588	101%	4	4
SR-41	Fresno	184,538	197,930	13,392	7%	3	5
I-5	Kern	0	117,410	117,410			6
SR-180	Fresno	129,553	91,964	-37,590	-29%	6	7
SR-168S	Fresno	25,785	24,245	-1,540	-6%	8	8
SR-99	Tulare	135,441	18,620	-116,820	-86%	5	9
I-5	Fresno	117,293	11,618	-105,675	-90%	7	10
TOTALS		1,388,216	2,346,615	958,399	69%		

6.2. Bottleneck Locations

Total Delay, All AM Bottlenecks, 2012: 41,300 hours
Top Ten Bottleneck Delay, AM, 2012: 41,300 hours
Percentage Top Ten Bottleneck Delay of Total Bottleneck Delay, AM, 2012: 100%

Table 4 (A). TOP BOTTLENECKS, AM PEAK PERIOD, 2012

Rank	County	City	Freeway	CA Postmile	Approximate Location	Average Extent (miles)	Total Delay (hours)	Average Daily Delay (hours)	Average Duration (hours)	Percent of Days Active
1	Kern	Bakersfield	SR58-W	52.321	East of SR-99	3	41,300	184	4.4	90%

Total Delay, All PM Bottlenecks, 2012: 101,089 hours
Top Ten Bottleneck Delay, PM, 2012: 101,089 hours
Percentage Top Ten Bottleneck Delay of Total Bottleneck Delay, PM, 2012: 100%

Table 4 (B). TOP BOTTLENECKS, PM PEAK PERIOD, 2012

Rank	County	City	Freeway	CA Postmile	Approximate Location	Average Extent (miles)	Total Delay (hours)	Average Daily Delay (hours)	Average Duration (hours)	Percent of Days Active
1	Kern	Bakersfield	SR58-W	52.321	East of SR-99	3.00	77,265	343	5.0	90%
2	Kern	Bakersfield	SR99-S	30.491	South of 7th Standard Rd	1.81	12,684	167	1.2	30%
3	Kern	Bakersfield	SR99-S	29.131	North of Norris Rd	2.86	11,140	177	1.0	25%

FIGURE 14 (A)
BOTTLENECKS AND CONGESTED SEGMENTS, AM PEAK PERIOD, 2012

