CALIFORNIA DEPARTMENT OF TRANSPORTATION

2013 CALIFORNIA HIGH-OCCUPANCY VEHICLE LANE DEGRADATION DETERMINATION REPORT

Prepared by

Division of Traffic Operations
Office of Traffic Management

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EXECUTIVE SUMMARY

The California Department of Transportation (Caltrans) prepared the "2013 California High-Occupancy Vehicle Lane Degradation Determination Report" to report the performance of the high-occupancy vehicle (HOV) network in California as required by federal regulations. The "2013 California High-Occupancy Vehicle Lane Degradation Action Plan" discusses the causes of degradation and identifies remediation strategies to bring degraded HOV facilities into compliance with federal regulations.

Federal law authorizes states to allow inherently low-emission vehicles (ILEVs), certain gasoline/electric plug-in hybrid vehicles, and toll-paying vehicles to access HOV lanes without meeting occupancy requirements.[1] States that allow these exempted vehicles to use HOV lanes are required to monitor and report on the performance of those lanes. By federal definition, an HOV lane is considered degraded if the average traffic speed during the morning or evening weekday peak commute hour is less than 45 miles per hour (mph) for more than 10 percent of the time over a consecutive 180-day period. In other words, the HOV lane's average traffic speed cannot drop below 45 mph for more than two weekdays each month. If the lane is considered degraded, then the state must either limit or discontinue the use of the lane by the exempted vehicles or take other actions that will bring the operational performance up to the federal standard within 180 days after identification of the lane being degraded.

California regulates access by ILEV and plug-in hybrids to HOV lanes through issuance of vehicle decals. In 2013, an unlimited number were available for ILEVs, and up to 40,000 were available for the plug-in hybrid vehicles.[2] As of December 31, 2013, over 41,000 ILEVs and 28,000 plug-in hybrid vehicles were registered. Statewide distribution of hybrid and ILEV decal registrations by county is available in the Appendix, Table A-1. Toll-paying vehicles that do not meet occupancy requirements are allowed on certain HOV lanes also known as high-occupancy/toll lanes or express lanes.[3]

In 2013, Caltrans monitored 1,326 lane-miles of HOV lanes. This represents about 83 percent of the total 1,592 lane-miles of state HOV lanes in operation. The remaining 17 percent of the statewide HOV network have no data due to detector repairs and upgrades, or are express toll lanes which do not require degradation monitoring. Table 1 summarizes degradation on the monitored segments in the 2013 calendar year. From 2012 to 2013, the number of degraded lane-miles increased from 759 to 788. This trend is consistent with the 16 percent increase in vehicle hours of delay on the entire State Highway System during the same period. The overall

[1] Refer to title 23, United States Code, section 166

[2] Refer to Vehicle Code sections 5205.5 and 21655.9

[3] Refer to Streets and Highways Code sections 149.1 and 149.4 through 149.10

increase in state highway congestion, linked to HOV lane degradation, can be attributed in part to increases in employment levels and population.

Table 1

2013 STATEWIDE HOV LANE DEGRADATION SUMMARY

	First 180-Day Period January to June 2013	Second 180-Day Period July to December 2013
Degraded	54% (712 lane-miles)	59% (788 lane-miles)
Not Degraded	46% (614 lane-miles)	41% (538 lane-miles)
TOTAL	100% (1,326 lane-miles)	100% (1,326 lane-miles)

In 2013, HOV lanes carried over 285 million vehicle miles traveled (VMT) during the 8:00 a.m. to 9:00 a.m. peak commute hour, and 361 million VMT during the 5:00 p.m. to 6:00 p.m. peak commute hour. These high levels of traffic demand and the stringent threshold for degradation present challenges for California to achieve the federal performance standard.

Because past traffic trends typically show more degradation in the second half of the year than the first half, remediation actions were considered only for degraded facilities identified in the second half of the year. The data indicates that factors contributing to degradation include:

- Recurrent congestion on the highway.
- Motorists from the general-purpose lanes merging into the lane near the end of an HOV facility and backing up traffic into the HOV lane.
- Lane change conflicts from motorists who attempt to enter or exit the HOV lanes.
- Traffic disruptions on the highway due to severe weather or traffic incidents, both on or outside of the HOV lane. Caltrans continues to investigate a long-term methodology to systematically identify such occurrences and exclude the freeway segments from degradation analysis. The effort involves coordination with other agencies such as the California Highway Patrol to develop processes to record, categorize, and report incidents.

At this time, Caltrans is not considering prohibiting exempted vehicles such as ILEVs from the HOV lanes. The connection between exempted vehicles and degradation has yet to be established. Traffic counts indicate that exempted vehicles contribute a relatively small percentage of the peak hour HOV volume and are dispersed throughout the HOV network statewide. Route 99 in District 3 has consistent degradation yearly, but exempted vehicles represent only 2 percent of its peak hour HOV volume. District 7, with the highest number of exempted vehicle registration, recorded exempted vehicles on almost all the HOV lanes studied. Throughout District 7, exempted vehicles averaged less than 1 percent of peak HOV volume.

1. DETERMINATION METHODOLOGY

By definition, an HOV lane is considered degraded if the average speed of traffic during morning or evening weekday peak commute hour periods is less than 45 miles per hour (mph) for more than 10 percent of the time over a consecutive 180-day period.

Caltrans uses the Freeway Performance Measurement System (PeMS) software tool to monitor and analyze the operational performance of state highways. PeMS serves as a central repository to collect, store, and analyze traffic data from sources such as vehicle detectors and traffic census stations. The system reports operational information such as traffic speeds and volumes. Two data collection periods were used: January 1 to June 30, 2013, and July 1 to December 31, 2013. Weekday data was analyzed, including holidays that fall on weekdays. Weekend data was not analyzed since the federal standard only applies to weekdays. The data was analyzed as follows:

- Each HOV corridor was broken into segments of maximum five miles in length for analysis.
- The peak hour data for each segment was collected from 8:00 a.m. to 9:00 a.m. and from 5:00 p.m. to 6:00 p.m. These peak-hour periods were selected based on an analysis of the typical statewide peak traffic delay.
- Average speed for each segment was calculated by dividing the total vehicle-miles traveled by the total vehicle-hours traveled.
- A weekday was counted as degraded if either the morning or evening peak hour average speed was below 45 mph.
- A segment was identified as degraded if the percentage of degraded weekdays out of the total monitored weekdays exceeded 10 percent.

In 2013, Caltrans monitored approximately 83 percent of the total 1,592 HOV lane-miles across California. The remaining 17 percent of the statewide HOV network have no data due to detector repairs and upgrades, or are express toll lanes which do not require degradation monitoring. There were 1,326 lane-miles monitored in 2013. The number of lane-miles monitored was as follows:

	Total statewide HOV network	1,592 lane-miles
-	Segments with no data available or not monitored	- 266 lane-miles
	Total segments monitored	1,326 lane-miles

Many variables can affect daily traffic flow in HOV lanes. While the federal standard distinguishes HOV lane's performance as degraded or not degraded, Caltrans further assesses HOV lane performance by categorizing degradation into three categories: slightly degraded, very degraded, and extremely degraded. This categorization helps distinguish daily recurrent congestion from nonrecurring congestion and helps identify remediation strategies based on severity. The criteria for each category are as follows:

- Slightly Degraded—degradation occurs from 10 to 49 percent of the time, or three to nine weekdays per month.
- Very Degraded—degradation occurs from 50 to 74 percent of the time, or ten to 15 weekdays per month.
- Extremely Degraded—degradation occurs 75 percent or more of the time, or 16 or more weekdays per month.

2. ANALYSIS RESULTS—STATEWIDE

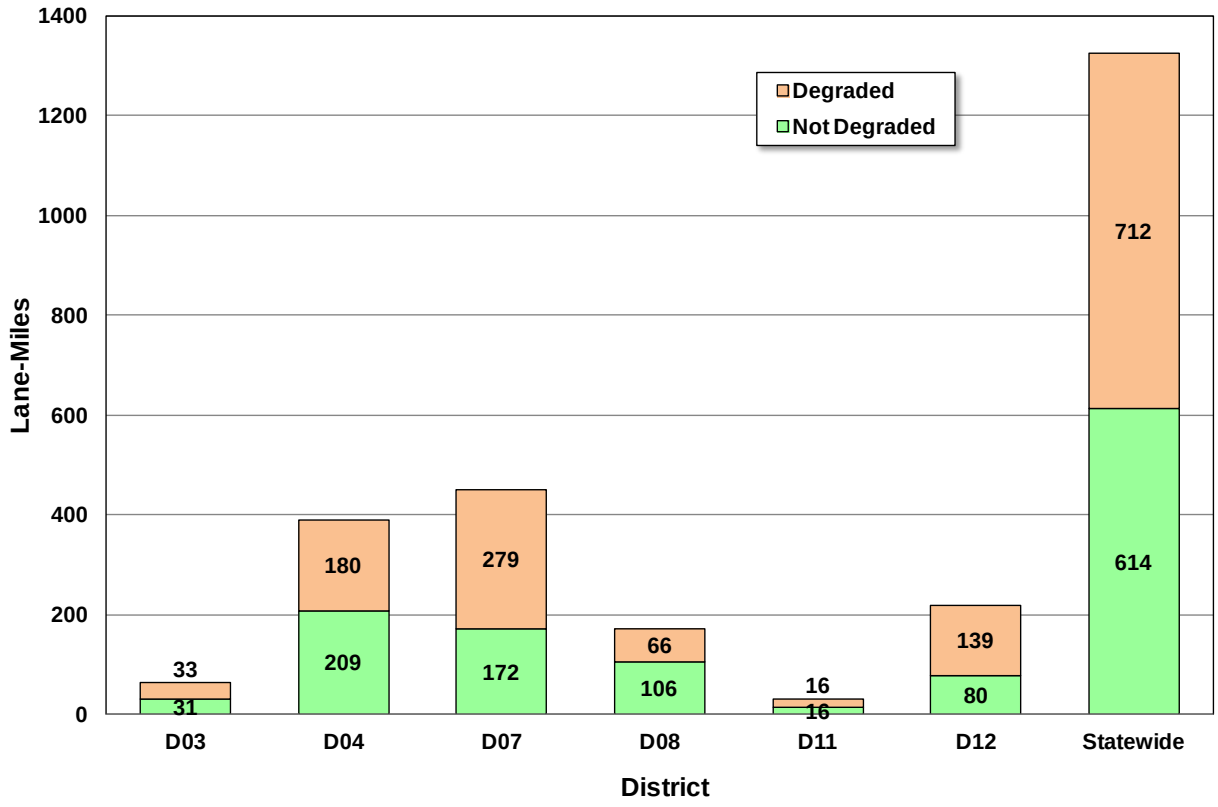
During the first half of 2013, from January through June, approximately 54 percent (712 of 1,326 lane-miles) of all monitored HOV lane segments were degraded and 46 percent (614 lane-miles) were not degraded. Figure 1 shows the amount of HOV degradation by district and statewide. Figure 2 shows the distribution of statewide degraded lane-miles by district. Figure 3 shows statewide degradation further categorized as slightly degraded, very degraded, and extremely degraded. More than half of the degraded segments, 57 percent, were categorized as slightly degraded (409 of 712 total degraded lane-miles).

For the second half of 2013, from July through December, approximately 59 percent (788 of 1,326 lane-miles) of all monitored HOV lane segments were degraded and 41 percent (538 lane-miles) were not degraded. Figure 4 shows the amount of HOV degradation by district and statewide. Total degradation increased between the first and second half of the year. Figure 5 shows the distribution of statewide degraded lane-miles by district. Figure 6 shows statewide degradation further categorized as slightly degraded, very degraded, and extremely degraded. Similar to the first half of the year, slightly degraded facilities accounted for the majority of all degradation, at 51 percent (398 of 788 total degraded lane-miles).

For the 2012 and 2013 degradation report years, nine remediation strategies were completed: five in 2012 and four in 2013. At this time, Caltrans is unable to evaluate the effects of remediation efforts since a minimum of one full year is needed after completion of improvements to allow traffic patterns to normalize. Caltrans proposes to defer evaluation of the strategies to the 2014 Degradation Report. Other improvements identified in the reports represent medium and long term strategies that cannot be completed until future years due to development and coordination efforts required with other stakeholders such as local partners and other agencies.

Figure 1

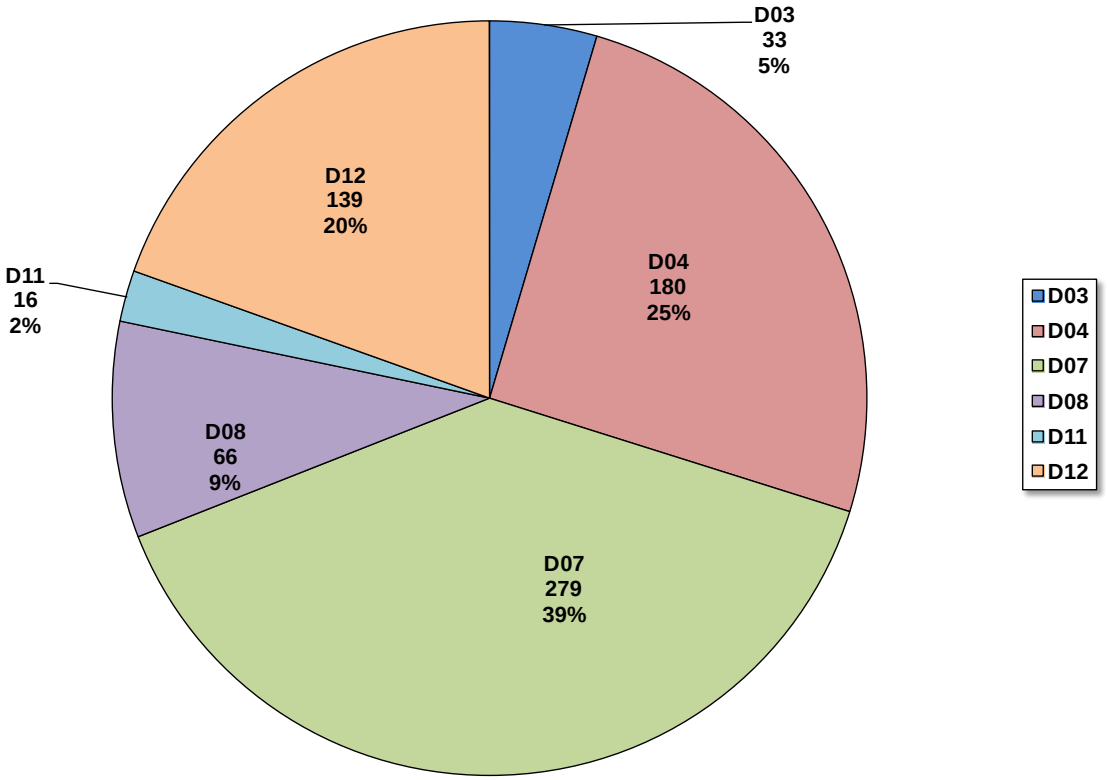
STATEWIDE DEGRADATION SUMMARY BY DISTRICT
JANUARY 1 TO JUNE 30, 2013



NOTE: 1,326 lane-miles total.

Figure 2

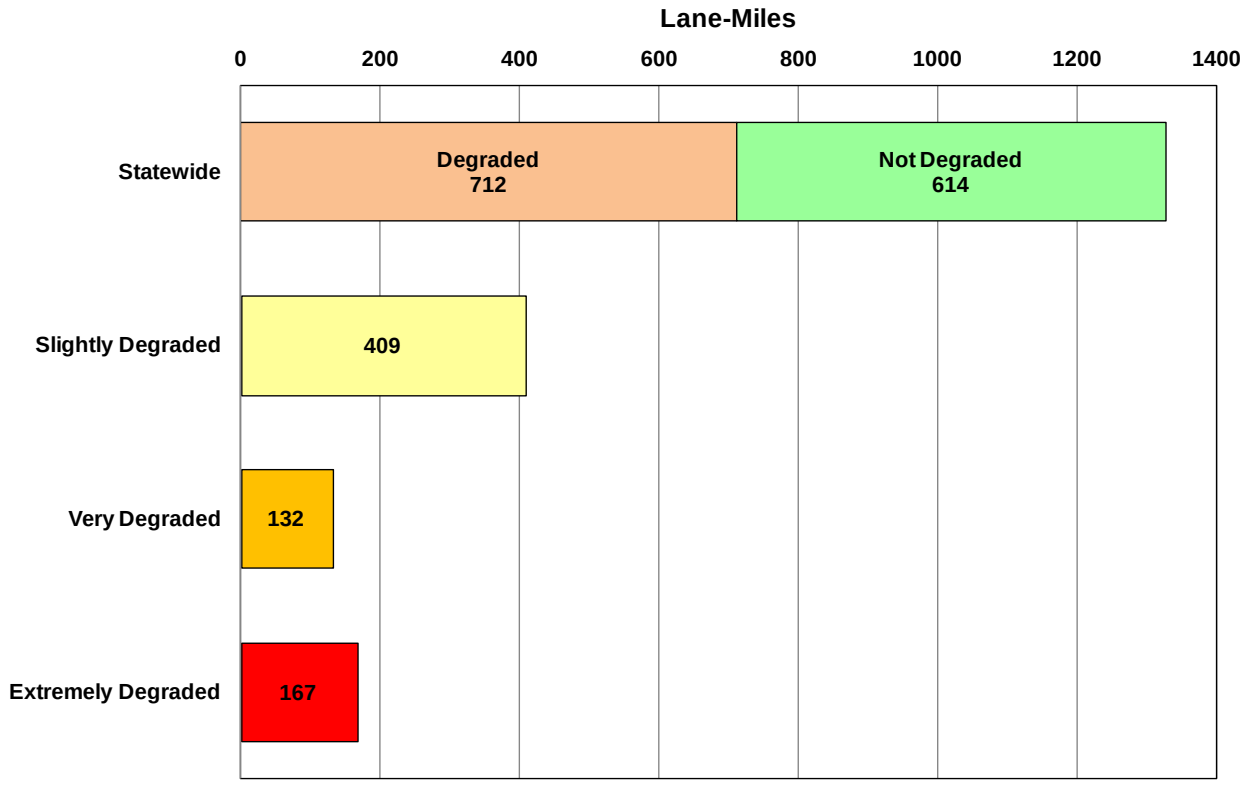
DISTRIBUTION OF STATEWIDE DEGRADED LANE-MILES BY DISTRICT
JANUARY 1 TO JUNE 30, 2013



NOTE: 712 degraded lane-miles total.

Figure 3

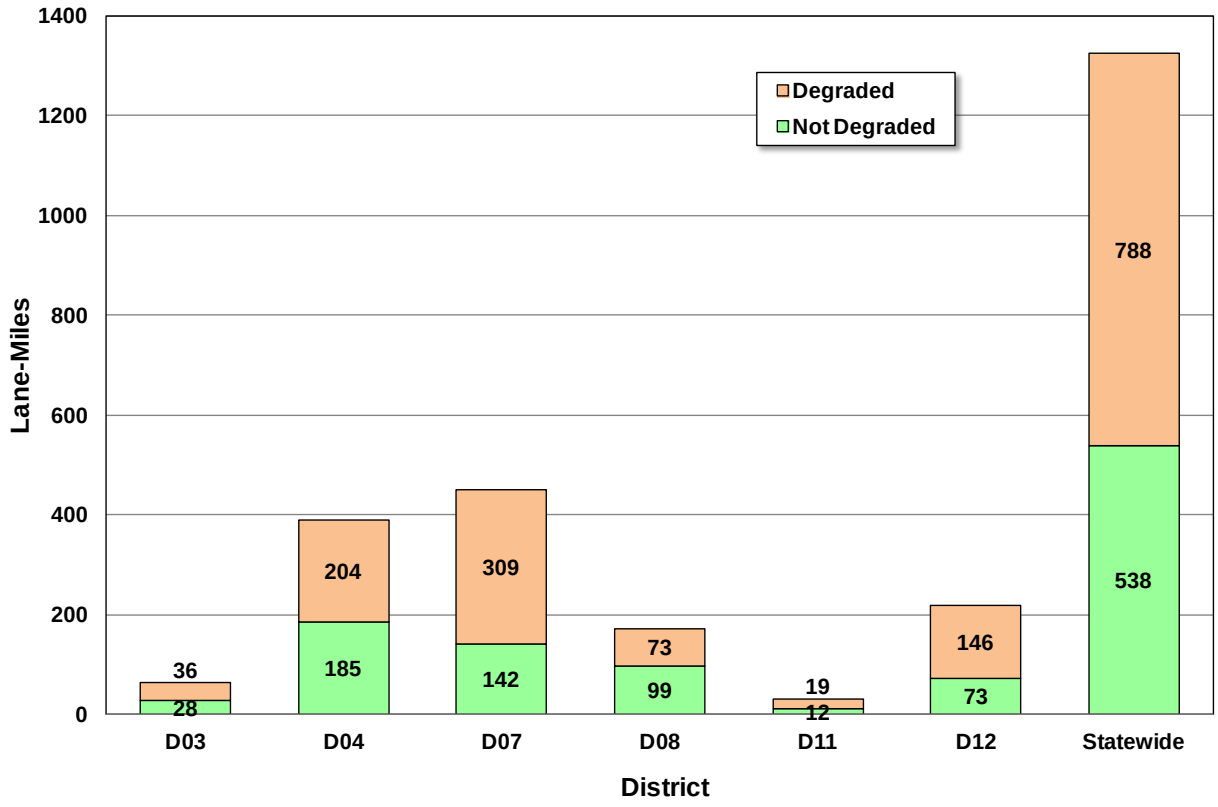
STATEWIDE DEGRADATION SUMMARY BY CATEGORY
JANUARY 1 TO JUNE 30, 2013



NOTE: 1,326 lane-miles total.

Figure 4

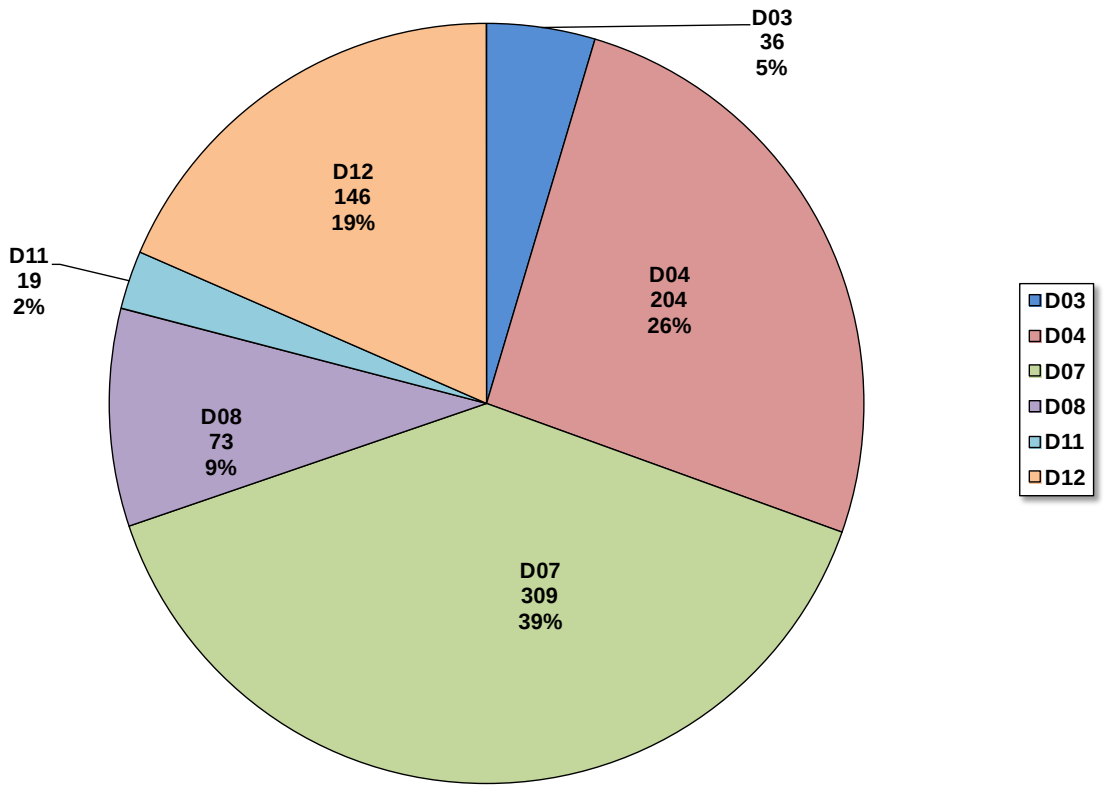
STATEWIDE DEGRADATION SUMMARY BY DISTRICT
JULY 1 TO DECEMBER 31, 2013



NOTE: 1,326 lane-miles total.

Figure 5

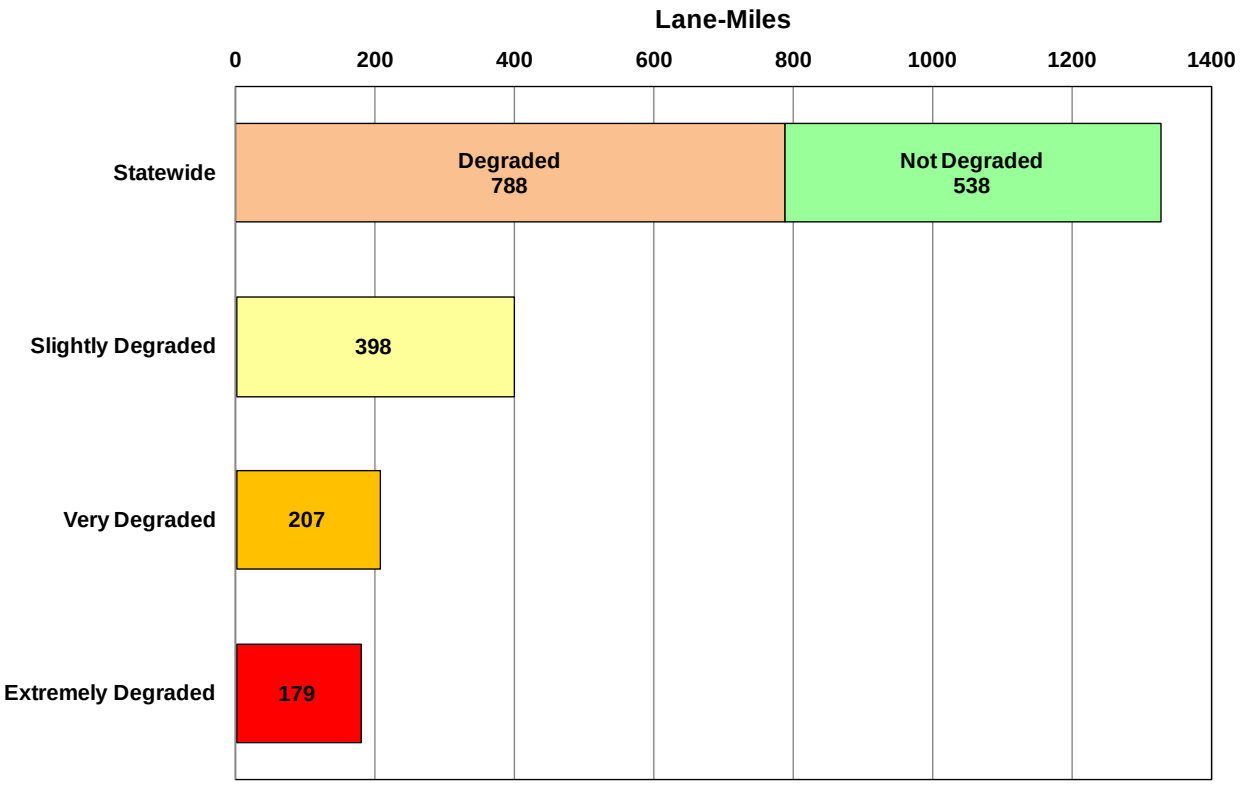
DISTRIBUTION OF STATEWIDE DEGRADED LANE-MILES BY DISTRICT
JULY 1 TO DECEMBER 31, 2013



NOTE: 788 degraded lane-miles total.

Figure 6

STATEWIDE DEGRADATION SUMMARY BY CATEGORY
JULY 1 TO DECEMBER 31, 2013



NOTE: 1,326 lane-miles total.

2.1. DISTRICT 3 ANALYSIS

District 3 includes 11 counties in the Sacramento Valley and Northern Sierra: Glenn, Butte, Colusa, Sierra, Sutter, Yuba, Placer, El Dorado, Sacramento, Yolo, and Nevada. Most of these counties are rural and agricultural except for the major urban areas around the Sacramento region. District 3 has a population of 2.75 million people.[4] The district is responsible for 1,516 centerline miles of highway and operates HOV lanes on Routes 50, 80, and 99.

Degradation increased from 33 lane-miles to 37 lane-miles between the first and second halves of 2013, respectively. Figure 7 and Figure 8 provide maps of the degraded segments in District 3. Degraded segments along the same route are combined into corridors for easier reference. The corridors may include gaps of non-degraded segments. Table 2 and Table 3 list the corridors with degraded HOV lanes in District 3.

[4] State of California, Department of Finance. *E-4 Population Estimates*. < http://www.dof.ca.gov/research/demographic/reports/estimates/e-4/2011-20/view.php/>

Figure 7

DISTRICT 3 DEGRADED HOV LANES
JANUARY 1 TO JUNE 30, 2013

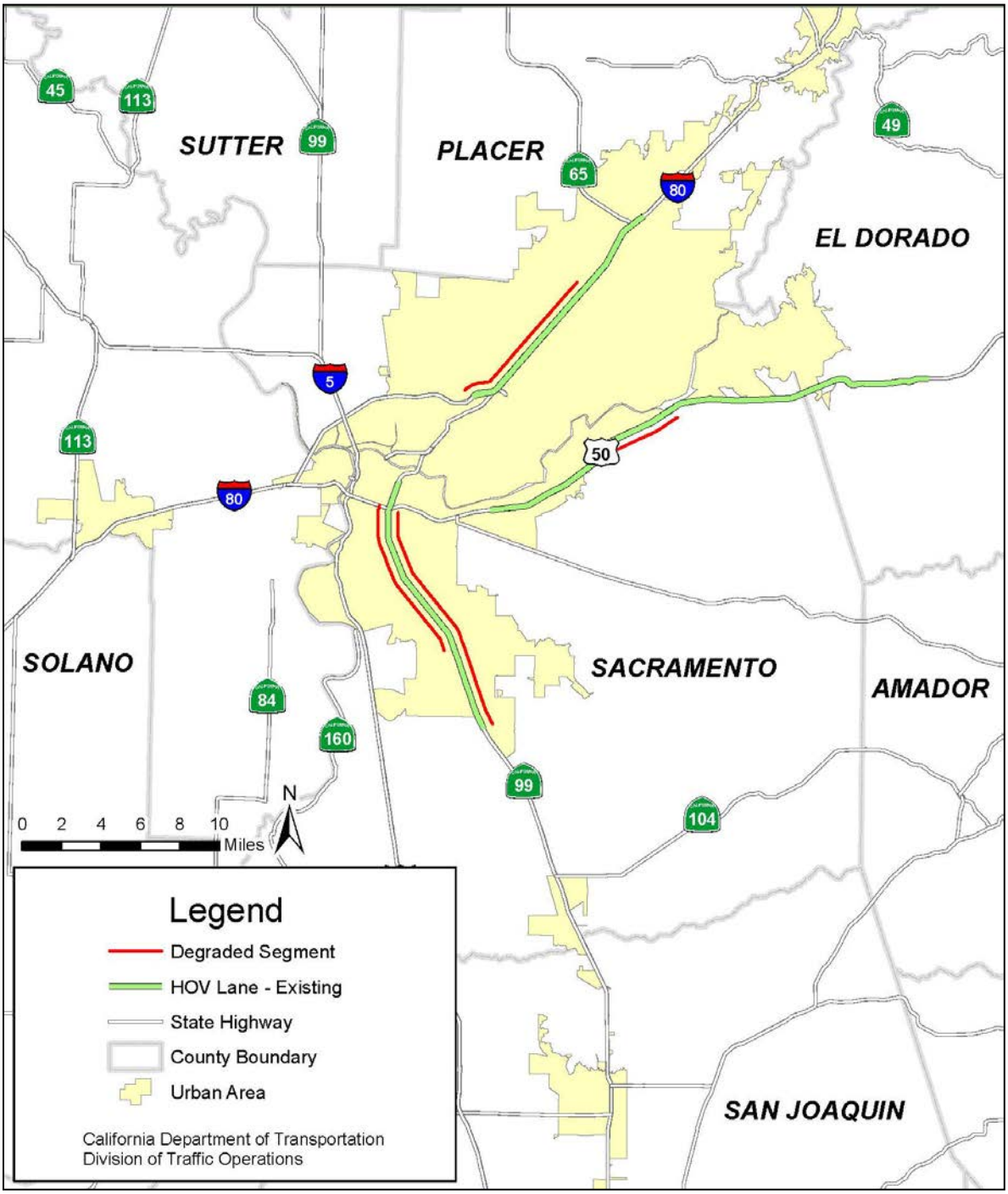


Figure 8

DISTRICT 3 DEGRADED HOV LANES
JULY 1 TO DECEMBER 31, 2013

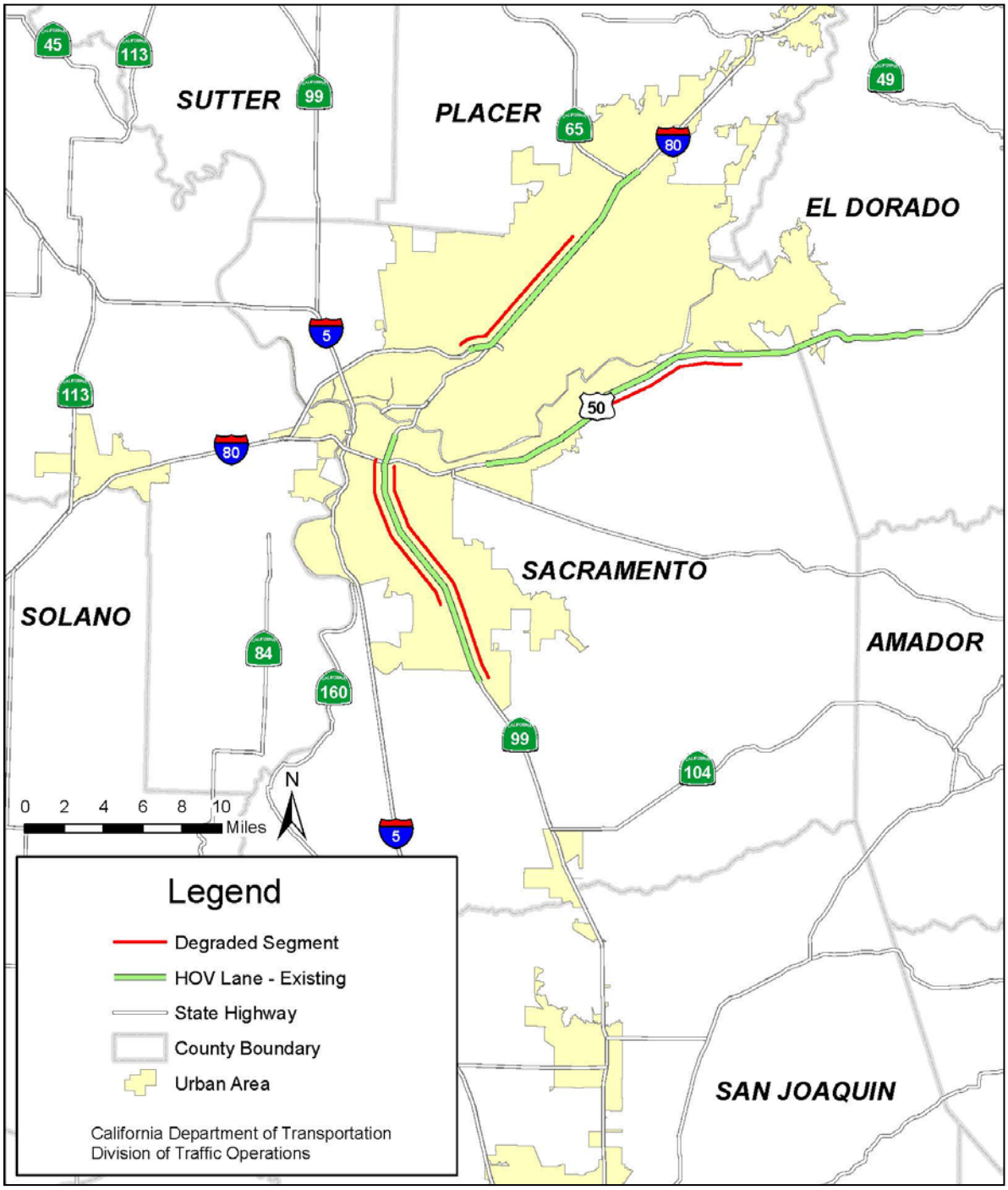


Table 2

DISTRICT 3 CORRIDORS WITH DEGRADED HOV LANES
JANUARY 1 TO JUNE 30, 2013

District	Route	Direction	Begin County	Begin Post Mile	End County	End Post Mile	Minimum Occupancy
3	50	EB	SAC	12.500	SAC	16.311	2
3	80	WB	PLA	0.000	SAC	M9.400	2
3	99	NB	SAC	11.900	SAC	R24.300	2
3	99	SB	SAC	R24.300	SAC	16.034	2

Table 3

DISTRICT 3 CORRIDORS WITH DEGRADED HOV LANES
JULY 1 TO DECEMBER 31, 2013

District	Route	Direction	Begin County	Begin Post Mile	End County	End Post Mile	Minimum Occupancy
3	50	EB	SAC	12.500	SAC	20.123	2
3	80	WB	PLA	0.000	SAC	M9.400	2
3	99	NB	SAC	11.900	SAC	R24.300	2
3	99	SB	SAC	R24.300	SAC	16.034	2

2.2. DISTRICT 4 ANALYSIS

District 4 includes 101 incorporated cities and nine counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. The district comprises of a mix of populated urbanized areas surrounding the San Francisco Bay and low population density suburban and agricultural areas located in the outskirts of the region. District 4 has a population of 7.42 million people.[4] The district is responsible for 1,460 centerline miles of highway and operates HOV lanes on Routes 4, 80, 84, 85, 87, 92, 101, 160, 237, 280, 580, 680, and 880.

Degradation increased from 173 lane-miles to 227 lane-miles between the first and second halves of 2013, respectively. Figure 9 and Figure 10 provide maps of the degraded segments in District 4. Degraded segments along the same route are combined into corridors for easier reference. The corridors may include gaps of non-degraded segments. Table 4 and Table 5 list the corridors with degraded HOV lanes in District 4.

Figure 9

DISTRICT 4 DEGRADED HOV LANES
JANUARY 1 TO JUNE 30, 2013

Figure 10

DISTRICT 4 DEGRADED HOV LANES
JULY 1 TO DECEMBER 31, 2013

Table 4

DISTRICT 4 CORRIDORS WITH DEGRADED HOV LANES
JANUARY 1 TO JUNE 30, 2013

District	Route	Direction	Begin County	Begin Post Mile	End County	End Post Mile	Minimum Occupancy
4	4	EB	CC	R20.088	CC	24.400	2
4	80	EB	ALA	2.500	ALA	6.552	3
4	80	WB	CC	7.446	ALA	1.900	3
4	85	NB	SCL	4.795	SCL	R14.210	2
4	85	SB	SCL	R19.005	SCL	9.590	2
4	87	NB	SCL	0.200	SCL	7.297	2
4	101	NB	MRN	3.800	MRN	8.323	2
4	101	NB	SCL	30.810	SM	6.600	2
4	101	SB	MRN	18.900	MRN	12.846	2
4	101	SB	SM	6.600	SCL	R35.534	2
4	101	SB	SCL	R21.724	SCL	R17.000	2
4	237	EB	SCL	3.000	SCL	R6.241	2
4	280	NB	SCL	6.879	SCL	14.000	2
4	280	SB	SCL	10.439	SCL	6.879	2
4	580	EB	ALA	13.200	ALA	10.485	2
4	680	NB	CC	R3.898	CC	R11.900	2
4	680	SB	CC	R18.579	CC	16.300	2
4	880	NB	ALA	R34.700	ALA	R35.400	2
4	880	NB	SCL	8.700	ALA	19.300	2
4	880	SB	ALA	22.700	SCL	8.700	2

Table 5

DISTRICT 4 CORRIDORS WITH DEGRADED HOV LANES
JULY 1 TO DECEMBER 30, 2013

District	Route	Direction	Begin County	Begin Post Mile	End County	End Post Mile	Minimum Occupancy
4	4	EB	CC	R20.088	CC	24.400	2
4	4	WB	CC	R20.088	CC	R15.800	2
4	80	EB	ALA	2.500	CC	6.634	3
4	80	WB	CC	7.446	ALA	1.900	3
4	85	NB	SCL	4.795	SCL	R14.210	2
4	85	SB	SCL	R23.800	SCL	4.795	2
4	87	NB	SCL	0.200	SCL	7.297	2
4	87	SB	SCL	7.297	SCL	3.748	2
4	101	NB	SON	15.200	SON	18.400	2
4	101	NB	MRN	3.800	MRN	8.323	2
4	101	NB	SCL	30.810	SM	6.600	2
4	101	SB	MRN	18.900	MRN	12.846	2
4	101	SB	SM	6.600	SCL	R35.534	2
4	101	SB	SCL	R21.724	SCL	R17.000	2
4	237	EB	SCL	3.000	SCL	9.500	2
4	280	NB	SCL	6.879	SCL	14.000	2
4	280	SB	SCL	10.439	SCL	6.879	2
4	580	EB	ALA	13.200	ALA	R7.800	2
4	680	NB	CC	R3.898	CC	R11.900	2
4	680	SB	CC	R18.579	CC	16.300	2
4	880	NB	ALA	R34.700	ALA	R35.400	2
4	880	NB	SCL	8.700	ALA	19.300	2
4	880	SB	ALA	22.700	ALA	3.318	2

2.3. DISTRICT 7 ANALYSIS

District 7 includes two heavily populated urban counties, Los Angeles County and Ventura County. Los Angeles County, with over 9.96 million people, is the most populated county in California. In total, District 7 has a population of 10.88 million people.[4] The district is responsible for 1,113 centerline miles of highway and operates HOV lanes on Routes 5, 10, 14, 57, 60, 91, 105, 110, 118, 134, 170, 210, 405, and 605. On average, highways in District 7 support 100 million vehicle miles traveled every day.

Degradation increased from 279 lane-miles to 310 lane-miles between the first and second halves of 2013, respectively. Figure 11 and Figure 12 provide maps of the degraded segments in District 7. Degraded segments along the same route are combined into corridors for easier reference. The corridors may include gaps of non-degraded segments. Table 6 and Table 7 list the corridors with degraded HOV lanes in District 7.

Figure 11

DISTRICT 7 DEGRADED HOV LANES
JANUARY 1 TO JUNE 30, 2013

Figure 12

DISTRICT 7 DEGRADED HOV LANES
JULY 1 TO DECEMBER 31, 2013

Table 6

DISTRICT 7 CORRIDORS WITH DEGRADED HOV LANES
JANUARY 1 TO JUNE 30, 2013

District	Route	Direction	Begin County	Begin Post Mile	End County	End Post Mile	Minimum Occupancy
7	5	NB	LA	42.389	LA	R45.600	2
7	10	EB	LA	17.000	LA	31.200	2 (3 during peak periods)
7	10	EB	LA	42.400	LA	48.260	2 (3 during peak periods)
7	10	WB	LA	31.200	LA	17.000	2 (3 during peak periods)
7	14	NB	LA	42.775	LA	R47.256	2
7	14	NB	LA	R24.800	LA	R29.281	2
7	57	NB	LA	R0.000	LA	R4.500	2
7	57	SB	LA	R4.500	LA	R0.000	2
7	60	EB	LA	R26.725	LA	R30.450	2
7	60	WB	LA	R30.450	LA	R26.725	2
7	91	EB	LA	R6.400	LA	R20.700	2
7	91	WB	LA	R20.700	LA	R11.167	2
7	105	EB	LA	R2.200	LA	R18.090	2
7	105	WB	LA	R14.117	LA	R6.172	2
7	110	NB	LA	16.933	LA	20.500	2
7	118	EB	LA	R3.800	LA	R11.400	2
7	134	EB	LA	4.428	LA	R8.855	2
7	134	WB	LA	4.428	LA	0.000	2
7	170	NB	LA	R14.500	LA	R20.510	2
7	170	SB	LA	R17.505	LA	R14.500	2
7	210	EB	LA	R25.000	LA	R52.100	2
7	210	WB	LA	R47.532	LA	R25.000	2
7	405	NB	LA	4.842	LA	48.600	2
7	405	NB	LA	38.915	LA	48.600	2
7	405	SB	LA	43.758	LA	0.000	2
7	605	NB	LA	R4.140	LA	R16.560	2
7	605	SB	LA	R16.560	LA	R8.280	2

Table 7

DISTRICT 7 CORRIDORS WITH DEGRADED HOV LANES
JULY 1 TO DECEMBER 31, 2013

District	Route	Direction	Begin County	Begin Post Mile	End County	End Post Mile	Minimum Occupancy
7	5	NB	LA	42.389	LA	R45.600	2
7	5	SB	LA	42.389	LA	39.400	2
7	10	EB	LA	17.000	LA	31.200	2 (3 during peak periods)
7	10	EB	LA	42.400	LA	48.260	2 (3 during peak periods)
7	10	WB	LA	31.200	LA	17.000	2 (3 during peak periods)
7	14	NB	LA	42.775	LA	R47.256	2
7	14	NB	LA	R24.800	LA	R29.281	2
7	14	SB	LA	R29.281	LA	R24.788	2
7	57	NB	LA	R0.000	LA	R4.500	2
7	57	SB	LA	R4.500	LA	R0.000	2
7	60	EB	LA	R23.000	LA	R30.450	2
7	60	WB	LA	R30.450	LA	R23.000	2
7	91	EB	LA	R6.400	LA	R20.700	2
7	91	WB	LA	R20.700	LA	R11.167	2
7	105	EB	LA	R2.200	LA	R18.090	2
7	105	WB	LA	R14.117	LA	R6.172	2
7	110	NB	LA	9.800	LA	20.500	2
7	110	SB	LA	16.933	LA	13.367	2
7	118	EB	LA	R3.800	LA	R11.400	2
7	134	EB	LA	4.428	LA	R8.855	2
7	170	NB	LA	R17.505	LA	R20.510	2
7	170	SB	LA	R17.505	LA	R14.500	2
7	210	EB	LA	R25.000	LA	R52.100	2
7	210	WB	LA	R47.532	LA	R25.000	2
7	405	NB	LA	0.000	LA	26.400	2
7	405	NB	LA	38.915	LA	48.600	2
7	405	SB	LA	43.758	LA	0.000	2
7	605	NB	LA	R4.140	LA	20.700	2
7	605	SB	LA	R16.560	LA	R8.280	2

2.4. DISTRICT 8 ANALYSIS

District 8, located east of the Los Angeles metropolitan area, includes Riverside County and San Bernardino County, and 49 incorporated cities. District 8 has the largest land area of all the districts, but rural desert and mountain expanses comprise the majority of land. The district has a population of 4.37 million people.[4] Out of the 1,919 centerline miles of highway, the district is responsible for HOV lanes on Routes 10, 60, 71, 91, 210, and 215.

Degradation increased from 66 lane-miles to 73 lane-miles between the first and second halves of 2013, respectively. Figure 13 and Figure 14 provide maps of the degraded segments in District 8. Degraded segments along the same route are combined into corridors for easier reference. The corridors may include gaps of non-degraded segments. Table 8 and Table 9 list the corridors with degraded HOV lanes in District 8.

Figure 13

DISTRICT 8 DEGRADED HOV LANES
JANUARY 1 TO JUNE 30, 2013

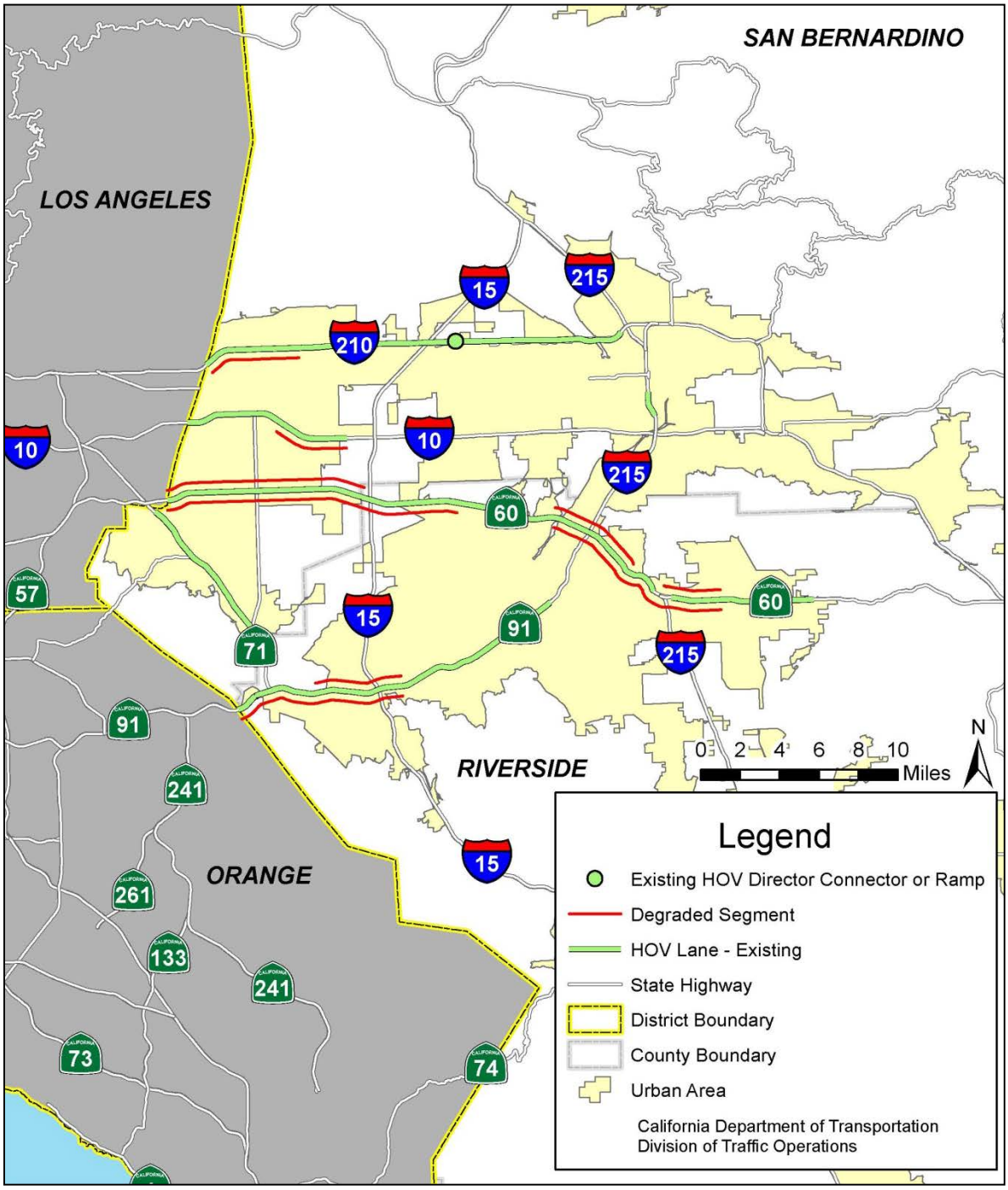


Figure 14

DISTRICT 8 DEGRADED HOV LANES
JULY 1 TO DECEMBER 31, 2013

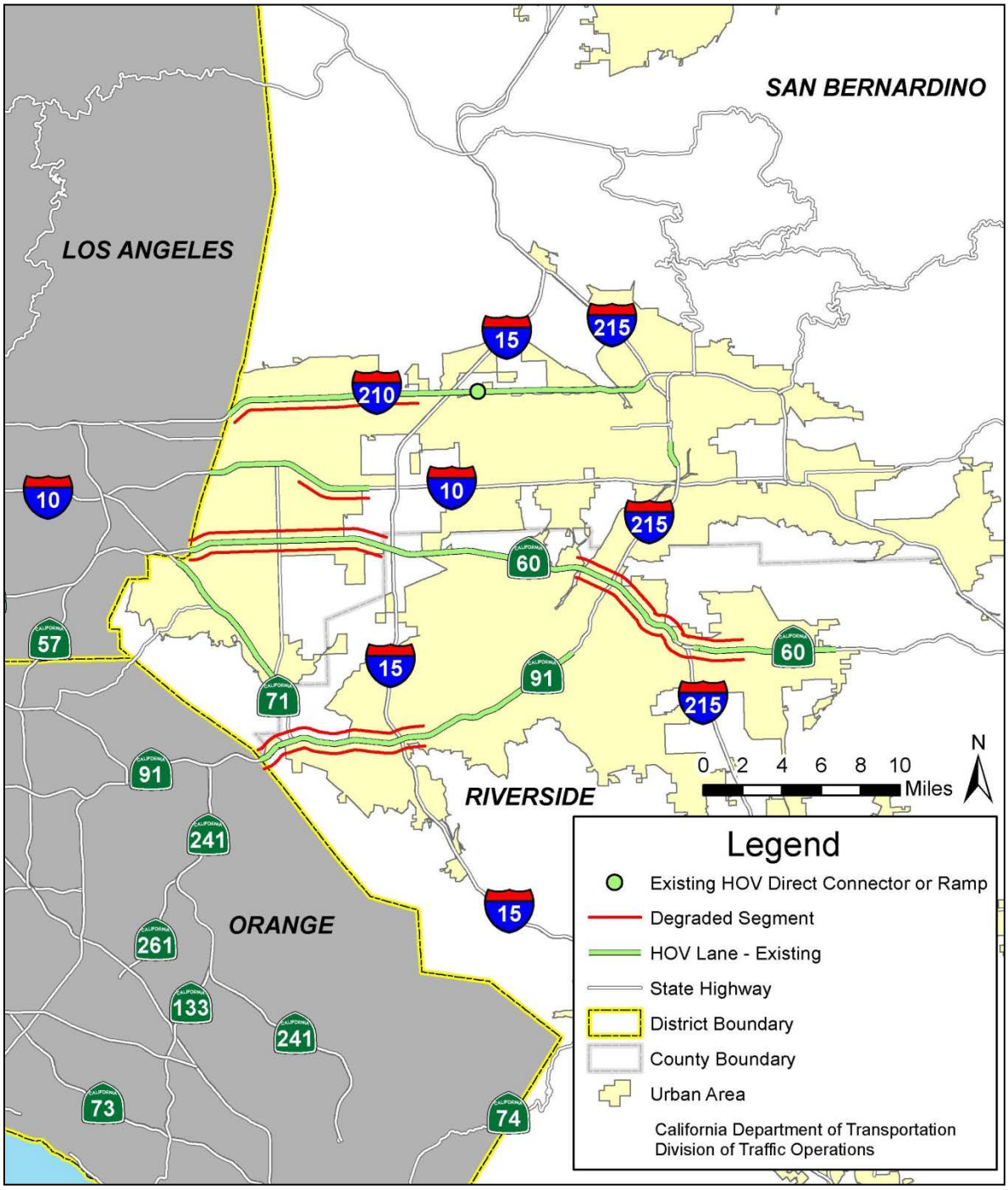


Table 8

DISTRICT 8 CORRIDORS WITH DEGRADED HOV LANES
JANUARY 1 TO JUNE 30, 2013

District	Route	Direction	Begin County	Begin Post Mile	End County	End Post Mile	Minimum Occupancy
8	10	EB	SBD	4.950	SBD	9.900	2
8	60	EB	SBD	R0.000	RIV	15.413	2
8	60	WB	RIV	15.413	RIV	10.266	2
8	60	WB	RIV	R0.017	SBD	R0.000	2
8	91	EB	RIV	R0.000	RIV	8.644	2
8	91	WB	RIV	8.644	RIV	4.266	2
8	210	EB	SBD	0.000	SBD	4.933	2
8	215	NB	RIV	40.646	RIV	43.300	2
8	215	SB	RIV	43.300	RIV	R38.300	2

Table 9

DISTRICT 8 CORRIDORS WITH DEGRADED HOV LANES
JULY 1 TO DECEMBER 31, 2013

District	Route	Direction	Begin County	Begin Post Mile	End County	End Post Mile	Minimum Occupancy
8	10	EB	SBD	4.950	SBD	9.900	2
8	60	EB	RIV	10.266	RIV	15.413	2
8	60	EB	SBD	R0.000	RIV	R0.017	2
8	60	WB	RIV	15.413	RIV	10.266	2
8	60	WB	RIV	R0.017	SBD	R0.000	2
8	91	EB	RIV	R0.000	RIV	8.644	2
8	91	WB	RIV	8.644	RIV	R0.000	2
8	210	EB	SBD	0.000	SBD	9.867	2
8	215	NB	RIV	R38.300	RIV	43.300	2
8	215	SB	RIV	43.300	RIV	R38.300	2

2.5. DISTRICT 11 ANALYSIS

District 11, the southernmost district in California, borders Mexico. It includes San Diego County and Imperial County. District 11 has a population of 3.38 million people.[4] The district manages 1,029 centerline miles of highway, and it is responsible for HOV lanes on Routes 5, 15, 163, 805, and 905.

Degradation increased from 16 lane-miles to 20 lane-miles between the first and second halves of 2013, respectively. Figure 15 and Figure 16 provide maps of the degraded segments in District 11. Degraded segments along the same route are combined into corridors for easier reference. The corridors may include gaps of non-degraded segments. Table 10 and Table 11 list the corridors with degraded HOV lanes in District 11.

Figure 15

DISTRICT 11 DEGRADED HOV LANES
JANUARY 1 TO JUNE 30, 2013

Figure 16

DISTRICT 11 DEGRADED HOV LANES
JULY 1 TO DECEMBER 31, 2013

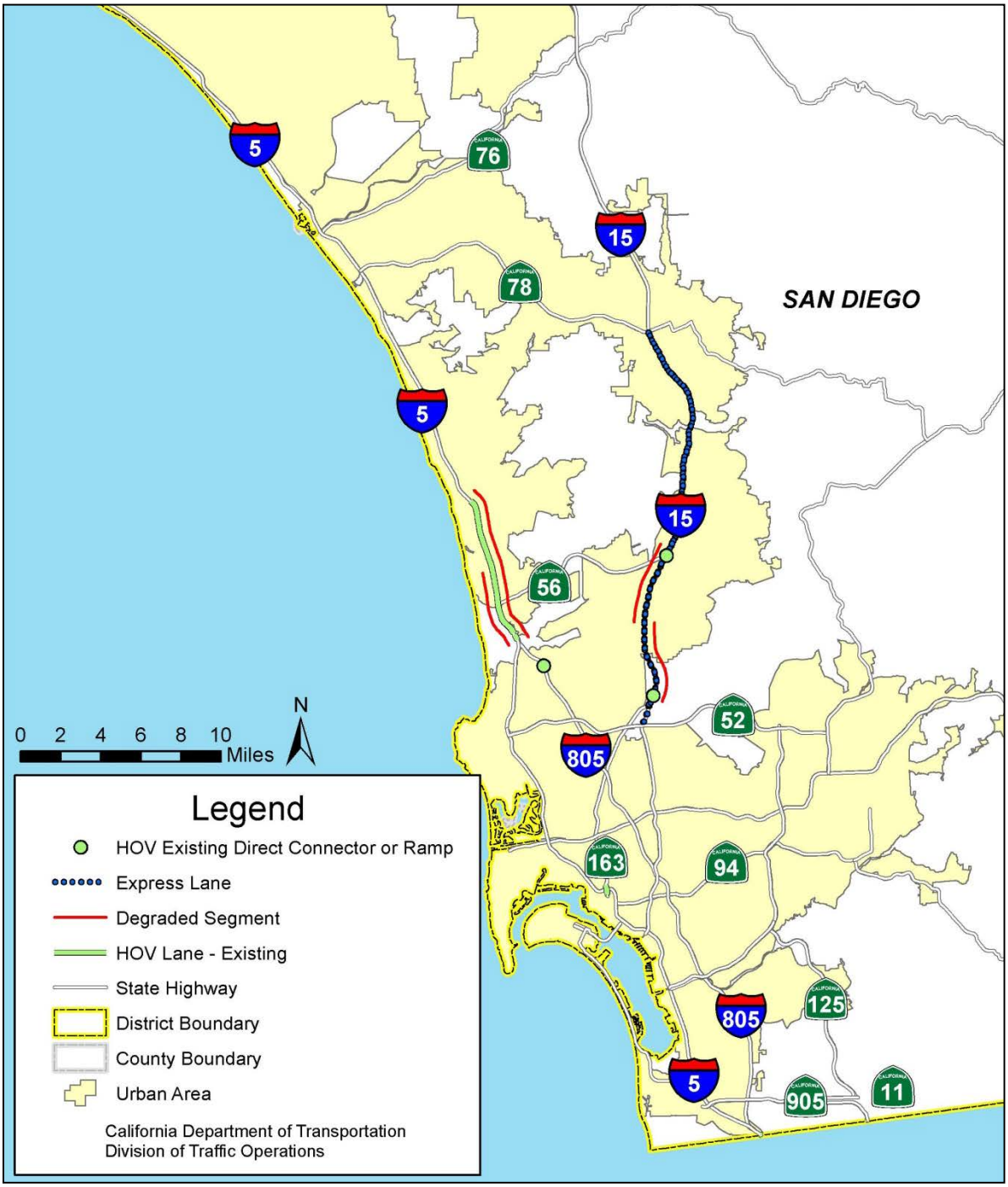


Table 10

DISTRICT 11 CORRIDORS WITH DEGRADED HOV LANES
JANUARY 1 TO JUNE 30, 2013

District	Route	Direction	Begin County	Begin Post Mile	End County	End Post Mile	Minimum Occupancy
11	5	NB	SD	R30.700	SD	R38.500	2
11	15	NB	SD	M12.000	SD	M15.900	2
11	15	SB	SD	M19.800	SD	M15.900	2

Table 11

DISTRICT 11 CORRIDORS WITH DEGRADED HOV LANES
JULY 1 TO DECEMBER 31, 2013

District	Route	Direction	Begin County	Begin Post Mile	End County	End Post Mile	Minimum Occupancy
11	5	NB	SD	R30.700	SD	R38.500	2
11	5	SB	SD	R34.616	SD	R30.700	2
11	15	NB	SD	M12.000	SD	M15.900	2
11	15	SB	SD	M19.800	SD	M15.900	2

2.6. DISTRICT 12 ANALYSIS

District 12, located in Orange County, was established by the California State Legislature in 1988. The district has a population of 3.11 million people.[4] District 12 is responsible for 284 centerline miles of highway and operates HOV lanes on Routes 5, 22, 55, 57, 91, 405 and 605.

Degradation increased from 139 lane-miles to 146 lane-miles between the first and second halves of 2013, respectively. Figure 17 and Figure 18 provide maps of the degraded segments in District 12. Degraded segments along the same route are combined into corridors for easier reference. The corridors may include gaps of non-degraded segments. Table 12 and Table 13 list the corridors with degraded HOV lanes in District 12.

Figure 17

DISTRICT 12 DEGRADED HOV LANES
JANUARY 1 TO JUNE 30, 2013

Figure 18

DISTRICT 12 DEGRADED HOV LANES
JULY 1 TO DECEMBER 31, 2013

Table 12

DISTRICT 12 CORRIDORS WITH DEGRADED HOV LANES
JANUARY 1 TO JUNE 30, 2013

District	Route	Direction	Begin County	Begin Post Mile	End County	End Post Mile	Minimum Occupancy
12	5	NB	ORA	11.299	ORA	34.302	2
12	5	SB	ORA	34.302	ORA	15.898	2
12	22	EB	ORA	R4.368	ORA	R8.036	2
12	22	WB	ORA	R4.368	ORA	R0.700	2
12	55	NB	ORA	R6.000	ORA	17.300	2
12	55	SB	ORA	17.300	ORA	R9.761	2
12	57	NB	ORA	10.800	ORA	R22.500	2
12	57	SB	ORA	R22.500	ORA	10.800	2
12	91	EB	ORA	R0.000	ORA	R9.859	2
12	91	WB	ORA	R9.870	ORA	R0.000	2
12	405	NB	ORA	0.230	LA	0.000	2
12	405	SB	LA	0.000	ORA	0.230	2

Table 13

DISTRICT 12 CORRIDORS WITH DEGRADED HOV LANES
JULY 1 TO DECEMBER 31, 2013

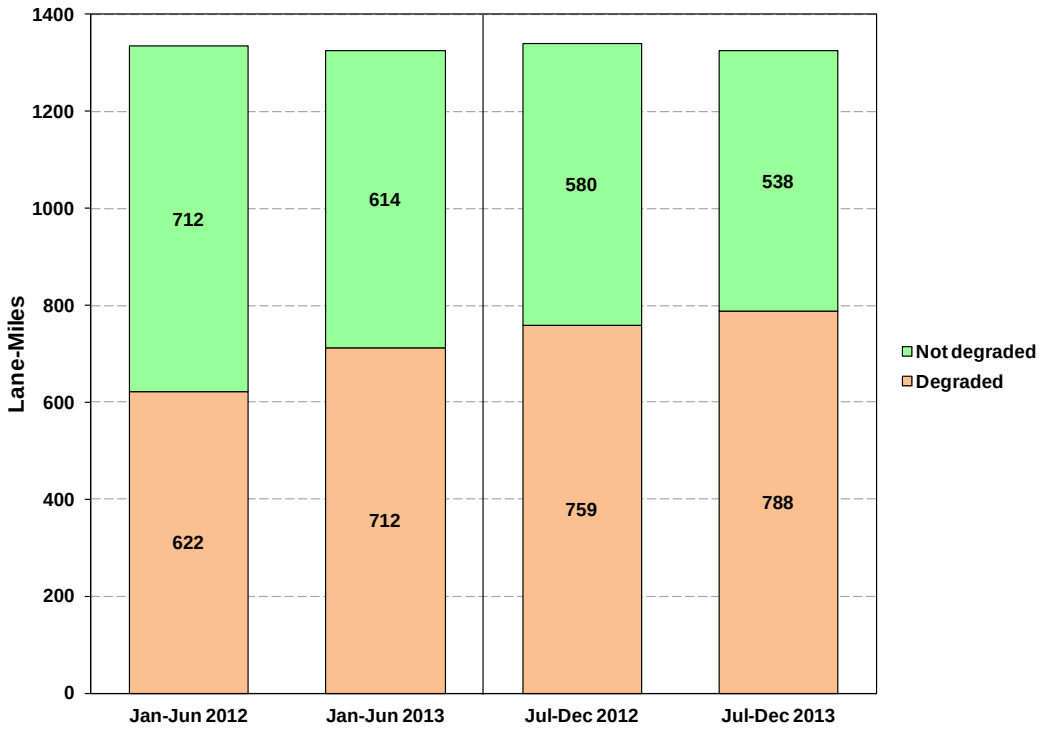
District	Route	Direction	Begin County	Begin Post Mile	End County	End Post Mile	Minimum Occupancy
12	5	NB	ORA	11.299	ORA	34.302	2
12	5	SB	ORA	38.901	ORA	15.898	2
12	22	EB	ORA	R4.368	ORA	R8.036	2
12	22	WB	ORA	R4.368	ORA	R0.700	2
12	55	NB	ORA	R6.000	ORA	17.300	2
12	55	SB	ORA	17.300	ORA	R9.761	2
12	57	NB	ORA	14.700	ORA	18.600	2
12	57	SB	ORA	18.600	ORA	10.800	2
12	91	EB	ORA	0.864	ORA	R9.859	2
12	91	WB	ORA	R9.870	ORA	R0.000	2
12	405	NB	ORA	0.230	LA	0.000	2
12	405	SB	LA	0.000	ORA	0.230	2

3. YEAR-TO-YEAR COMPARISON BETWEEN 2012 AND 2013

Figure 19 shows the comparison of the number of degraded HOV lane-miles between 2012 and 2013. More degradation was identified in 2013 than in 2012. That trend is consistent with a 16 percent increase in overall State Highway System congestion during the same time period. From 2012 to 2013, statewide delay increased from 109 million vehicle hours of delay to 126 million vehicle hours of delay. Congestion on HOV lanes is measured as vehicle hours of delay at speeds of 45 mph[5]. The first halves of 2012 and 2013 showed a 15 percent increase in degradation (from 622 to 712 lane-miles). The second halves of 2012 and 2013 showed a 4 percent increase in degradation (from 759 to 789 lane-miles).

Figure 19

2013 AND 2012 STATEWIDE DEGRADATION COMPARISION



NOTE: 1,326 lane-miles monitored in 2013; 1,339 lane-miles monitored in 2012.

[5] PeMS. Mobility Performance Report – Summary.
< http://pems.dot.ca.gov/?dnode=State&content=trends&tab=trd_totals>

4. CONCLUSION

In 2013, HOV facilities carried 285 million VMT during of the morning peak hour. During the evening peak hour, this number increased to over 361 million VMT. The levels of traffic demand and the stringent threshold for degradation presents challenges for California to achieve the federal performance standard requirement.

Similar to previous years, the HOV network experience more degradation in the second half of the year than the first half. This increase in degradation during the second half of the year is a trend that was also observed in previous years after the 85,000 yellow decal program ended after June 30, 2011. Previous data shows an overall increase in congestion on the freeway system in the latter half of the year, particularly after school begins in the late summer. These trends suggest that recurrent congestion or other factors could cause degradation. Other factors include:

- Motorists from the general-purpose lanes merging into the lane near the end of an HOV facility and backing up traffic into the HOV lane.
- Lane change conflicts from vehicles attempting to enter or exit the HOV lanes.
- Traffic disruptions on the highway due to severe weather or traffic incidents, both on or outside of the HOV lane. Caltrans continues to investigate a long-term methodology to systematically identify such occurrences and exclude the freeway segments from degradation analysis.

The connection between exempted vehicles and degradation has yet to be established. Traffic counts indicate that exempted vehicles constitute a relatively small percentage of the peak hour HOV volume and are dispersed throughout the HOV network statewide. District 7, with the highest exempted vehicle registration, recorded exempted vehicles on almost all the HOV lanes studied. Throughout District 7, exempted vehicles averaged less than 1 percent of peak HOV volume. On individual freeway segments, exempted vehicles constitute up to 5 percent of the peak HOV traffic. For example, Route 99 in District 3 has consistent degradation yearly, but exempted vehicles represent only 2 percent of its peak hour HOV volume.

Caltrans reviewed the data to identify additional possible causes of degradation and developed an action plan to bring degraded HOV facilities into compliance within 180 days. Since degradation tends to increase in the second half of the year, Caltrans and FHWA have agreed that action will be taken only on facilities identified as degraded in the second half of 2013.

APPENDIX

Table A–1

DISTRIBUTION OF HYBRID AND ILEV DECALS BY COUNTY

County	Number of Green Hybrid Decals as of 12/31/2013	Number of White ILEV Decals as of 12/31/2013	County	Number of Green Hybrid Decals as of 12/31/2013	Number of White ILEV Decals as of 12/31/2013
Alameda	1,839	2,710	Placer	218	229
Alpine	1	2	Plumas	1	2
Amador	3	2	Riverside	908	948
Butte	10	11	Sacramento	548	878
Calaveras	6	7	San Benito	32	18
Colusa			San Bernardino	719	546
Contra Costa	1,293	1,328	San Diego	1,591	2,405
Del Norte	1		San Francisco	448	1,749
El Dorado	120	77	San Joaquin	148	85
Fresno	49	54	San Luis Obispo	37	32
Glenn	1	5	San Mateo	944	1,894
Humboldt	11	2	Santa Barbara	47	70
Imperial	9	3	Santa Clara	3,918	5,828
Inyo			Santa Cruz	209	287
Kern	32	40	Shasta	9	1
Kings	2	2	Sierra		1
Lake	9	6	Siskiyou	1	
Lassen		4	Solano	290	365
Los Angeles	8,564	13,010	Sonoma	400	401
Madera	2	30	Stanislaus	31	14
Marin	431	528	Sutter	3	5
Mariposa	1	2	Tehama	2	
Mendocino	17	11	Trinity		
Merced	28	5	Tulare	22	25
Modoc	1		Tuolumne	1	4
Mono	1		Ventura	554	364
Monterey	84	69	Yolo	92	148
Napa	89	104	Yuba	3	3
Nevada	13	14	Out-of-State	45	782
Orange	4,179	5,527	Unknown	331	569
			Total	28,348	41,206

Table A–2

2013 STATEWIDE HOV LANE SEGMENTS DEGRADATION ANALYSIS

District	Route	Direction	Segment Limit					Degradation Level January 1 to June 30, 2013		Degradation Level July 1 to December 31, 2013	
			Begin County	Begin Post Mile	End County	End Post Mile	Length (Mile)	Percentage of Days Degraded	Degradation Frequency	Percentage of Days Degraded	Degradation Frequency
3	50	EB	SAC	12.500	SAC	16.311	3.811	28.7	Slightly Degraded	34.8	Slightly Degraded
3	50	EB	SAC	16.312	SAC	20.123	3.811	2.3	Not Degraded	18.9	Slightly Degraded
3	50	EB	SAC	20.124	ED	0.800	3.812	0.0	Not Degraded	0.8	Not Degraded
3	50	WB	ED	0.800	SAC	20.125	3.811	3.1	Not Degraded	2.3	Not Degraded
3	50	WB	SAC	20.124	SAC	16.313	3.811	0.0	Not Degraded	2.3	Not Degraded
3	50	WB	SAC	16.312	SAC	12.500	3.812	0.0	Not Degraded	0.8	Not Degraded
3	80	EB	SAC	M9.399	SAC	13.902	4.098	1.6	Not Degraded	2.3	Not Degraded
3	80	EB	SAC	13.903	PLA	0.000	4.097	0.0	Not Degraded	0.0	Not Degraded
3	80	WB	PLA	0.000	SAC	13.904	4.096	12.4	Slightly Degraded	10.6	Slightly Degraded
3	80	WB	SAC	13.903	SAC	M9.400	4.098	14.0	Slightly Degraded	28.8	Slightly Degraded
3	99	NB	SAC	11.900	SAC	16.030	4.131	16.3	Slightly Degraded	17.4	Slightly Degraded
3	99	NB	SAC	16.031	SAC	20.165	4.134	72.1	Very Degraded	61.4	Very Degraded
3	99	NB	SAC	20.166	SAC	R24.300	4.134	16.3	Slightly Degraded	50.0	Very Degraded
3	99	SB	SAC	R24.300	SAC	20.167	4.133	48.1	Slightly Degraded	60.6	Very Degraded
3	99	SB	SAC	20.168	SAC	16.034	4.134	73.6	Very Degraded	72.0	Very Degraded
3	99	SB	SAC	16.055	SAC	11.925	4.130	0.0	Not Degraded	0.0	Not Degraded
4	4	EB	CC	R15.800	CC	R20.088	4.288	0.8	Not Degraded	0.0	Not Degraded
4	4	EB	CC	R20.088	CC	24.400	4.288	59.1	Very Degraded	31.1	Slightly Degraded
4	4	WB	CC	R20.088	CC	R15.800	4.288	7.1	Not Degraded	11.4	Slightly Degraded

Table A–2

2013 STATEWIDE HOV LANE SEGMENTS DEGRADATION ANALYSIS

District	Route	Direction	Segment Limit					Degradation Level January 1 to June 30, 2013		Degradation Level July 1 to December 31, 2013	
			Begin County	Begin Post Mile	End County	End Post Mile	Length (Mile)	Percentage of Days Degraded	Degradation Frequency	Percentage of Days Degraded	Degradation Frequency
Continue from page A2											
4	80	EB	ALA	2.500	ALA	6.552	4.052	92.9	Extremely Degraded	93.9	Extremely Degraded
4	80	EB	ALA	6.552	CC	2.582	4.053	6.3	Not Degraded	19.7	Slightly Degraded
4	80	EB	CC	2.582	CC	6.634	4.052	4.7	Not Degraded	31.1	Slightly Degraded
4	80	EB	CC	6.634	CC	9.900	3.266	6.3	Not Degraded	3.8	Not Degraded
4	80	WB	SOL	R11.400	SOL	5.600	5.800	0.8	Not Degraded	0.0	Not Degraded
4	80	WB	SOL	0.900	CC	9.900	5.139	0.0	Not Degraded	0.8	Not Degraded
4	80	WB	CC	9.900	CC	7.446	2.454	no data	No Data	no data	No Data
4	80	WB	CC	7.446	CC	2.923	4.523	13.4	Slightly Degraded	12.1	Slightly Degraded
4	80	WB	CC	2.923	ALA	6.423	4.523	55.1	Very Degraded	63.6	Very Degraded
4	80	WB	ALA	6.423	ALA	1.900	4.523	63.0	Very Degraded	76.5	Extremely Degraded
4	85	NB	SCL	0.000	SCL	4.795	4.795	0.8	Not Degraded	2.3	Not Degraded
4	85	NB	SCL	4.795	SCL	9.590	4.795	13.4	Slightly Degraded	34.8	Slightly Degraded
4	85	NB	SCL	9.590	SCL	R14.210	4.796	16.5	Slightly Degraded	40.2	Slightly Degraded
4	85	NB	SCL	R14.210	SCL	R19.005	4.795	0.0	Not Degraded	0.8	Not Degraded
4	85	NB	SCL	R19.005	SCL	R23.800	4.795	3.9	Not Degraded	3.0	Not Degraded
4	85	SB	SCL	R23.800	SCL	R19.005	4.795	9.4	Not Degraded	39.4	Slightly Degraded
4	85	SB	SCL	R14.210	SCL	9.590	4.796	11.8	Slightly Degraded	24.2	Slightly Degraded
4	85	SB	SCL	9.590	SCL	4.795	4.795	1.6	Not Degraded	10.6	Slightly Degraded

Table A–2

2013 STATEWIDE HOV LANE SEGMENTS DEGRADATION ANALYSIS

District	Route	Direction	Segment Limit					Degradation Level January 1 to June 30, 2013		Degradation Level July 1 to December 31, 2013	
			Begin County	Begin Post Mile	End County	End Post Mile	Length (Mile)	Percentage of Days Degraded	Degradation Frequency	Percentage of Days Degraded	Degradation Frequency
Continue from page A3											
4	85	SB	SCL	4.795	SCL	0.000	4.795	0.0	Not Degraded	1.5	Not Degraded
4	87	NB	SCL	0.200	SCL	3.748	3.548	13.4	Slightly Degraded	38.6	Slightly Degraded
4	87	NB	SCL	3.748	SCL	7.297	3.549	45.7	Slightly Degraded	31.8	Slightly Degraded
4	87	SB	SCL	7.297	SCL	3.748	3.549	2.4	Not Degraded	13.6	Slightly Degraded
4	87	SB	SCL	3.748	SCL	0.200	3.748	0.8	Not Degraded	0.0	Not Degraded
4	101	NB	MRN	3.800	MRN	8.323	4.523	84.3	Extremely Degraded	97.0	Extremely Degraded
4	101	NB	MRN	8.323	MRN	12.846	4.523	8.7	Not Degraded	3.8	Not Degraded
4	101	NB	MRN	12.846	MRN	17.369	4.523	0.8	Not Degraded	0.8	Not Degraded
4	101	NB	MRN	17.369	MRN	R21.892	4.523	0.8	Not Degraded	0.0	Not Degraded
4	101	NB	SON	15.200	SON	18.400	3.200	6.3	Not Degraded	25.0	Slightly Degraded
4	101	NB	SON	18.400	SON	21.600	3.200	5.5	Not Degraded	7.6	Not Degraded
4	101	SB	SON	21.600	SON	15.200	6.400	0.0	Not Degraded	1.5	Not Degraded
4	101	SB	MRN	18.900	MRN	12.846	6.054	67.7	Very Degraded	56.1	Very Degraded
4	101	SB	MRN	12.846	MRN	8.323	4.523	3.1	Not Degraded	3.0	Not Degraded
4	101	SB	MRN	8.323	MRN	3.800	4.523	0.0	Not Degraded	1.5	Not Degraded
4	101	NB	SCL	R21.724	SCL	R26.448	4.724	0.0	Not Degraded	0.0	Not Degraded
4	101	NB	SCL	R26.448	SCL	30.810	4.724	3.1	Not Degraded	6.1	Not Degraded
4	101	NB	SCL	30.810	SCL	R35.534	4.724	11.8	Slightly Degraded	33.3	Slightly Degraded

Table A–2

2013 STATEWIDE HOV LANE SEGMENTS DEGRADATION ANALYSIS

District	Route	Direction	Segment Limit					Degradation Level January 1 to June 30, 2013		Degradation Level July 1 to December 31, 2013	
			Begin County	Begin Post Mile	End County	End Post Mile	Length (Mile)	Percentage of Days Degraded	Degradation Frequency	Percentage of Days Degraded	Degradation Frequency
Continue from page A4											
4	101	NB	SCL	R35.534	SCL	40.254	4.724	19.7	Slightly Degraded	47.7	Slightly Degraded
4	101	NB	SCL	40.254	SCL	44.978	4.724	3.1	Not Degraded	6.1	Not Degraded
4	101	NB	SCL	44.978	SCL	49.702	4.724	18.9	Slightly Degraded	17.4	Slightly Degraded
4	101	NB	SCL	49.702	SM	1.876	4.724	17.3	Slightly Degraded	9.8	Not Degraded
4	101	NB	SM	1.876	SM	6.600	4.724	18.1	Slightly Degraded	19.7	Slightly Degraded
4	101	SB	SM	6.600	SM	1.876	4.724	29.1	Slightly Degraded	41.7	Slightly Degraded
4	101	SB	SM	1.876	SCL	49.702	4.724	78.7	Extremely Degraded	60.6	Very Degraded
4	101	SB	SCL	49.702	SCL	44.978	4.724	9.4	Not Degraded	3.0	Not Degraded
4	101	SB	SCL	44.978	SCL	40.254	4.724	79.5	Extremely Degraded	78.8	Extremely Degraded
4	101	SB	SCL	40.254	SCL	R35.534	4.724	64.6	Very Degraded	61.4	Very Degraded
4	101	SB	SCL	R35.534	SCL	30.810	4.724	0.0	Not Degraded	1.5	Not Degraded
4	101	SB	SCL	30.810	SCL	R26.448	4.724	0.0	Not Degraded	0.8	Not Degraded
4	101	SB	SCL	R26.448	SCL	R21.724	4.724	8.7	Not Degraded	7.6	Not Degraded
4	101	SB	SCL	R21.724	SCL	R17.000	4.724	38.6	Slightly Degraded	44.7	Slightly Degraded
4	237	EB	SCL	3.000	SCL	R6.241	3.241	11.0	Slightly Degraded	50.8	Very Degraded
4	237	EB	SCL	R6.241	SCL	9.500	3.241	4.7	Not Degraded	40.2	Slightly Degraded
4	237	WB	SCL	9.500	SCL	R6.265	3.266	0.0	Not Degraded	0.0	Not Degraded
4	237	WB	SCL	R6.265	SCL	3.000	3.265	5.5	Not Degraded	8.3	Not Degraded

Table A–2

2013 STATEWIDE HOV LANE SEGMENTS DEGRADATION ANALYSIS

District	Route	Direction	Segment Limit					Degradation Level January 1 to June 30, 2013		Degradation Level July 1 to December 31, 2013	
			Begin County	Begin Post Mile	End County	End Post Mile	Length (Mile)	Percentage of Days Degraded	Degradation Frequency	Percentage of Days Degraded	Degradation Frequency
Continue from page A5											
4	237	WB	SCL	3.000	SCL	R0.000	3.057	no data	No Data	no data	No Data
4	280	NB	SCL	L4.700	SCL	6.879	3.561	5.5	Not Degraded	0.0	Not Degraded
4	280	NB	SCL	6.879	SCL	10.439	3.560	47.2	Slightly Degraded	15.9	Slightly Degraded
4	280	NB	SCL	10.439	SCL	14.000	3.561	66.9	Very Degraded	57.6	Very Degraded
4	280	NB	SCL	14.000	SCL	17.561	3.561	no data	No Data	no data	No Data
4	280	SB	SCL	14.000	SCL	10.439	3.561	0.0	Not Degraded	5.3	Not Degraded
4	280	SB	SCL	10.439	SCL	6.879	3.560	21.3	Slightly Degraded	19.7	Slightly Degraded
4	280	SB	SCL	6.879	SCL	L4.700	3.561	29.1	Slightly Degraded	6.1	Not Degraded
4	280	SB	SCL	L4.700	SCL	R1.139	3.561	no data	No Data	no data	No Data
4	580	EB	ALA	13.200	ALA	10.485	2.715	40.9	Slightly Degraded	24.2	Slightly Degraded
4	580	EB	ALA	10.485	ALA	R7.800	2.714	89.0	Extremely Degraded	93.2	Extremely Degraded
4	680	NB	ALA	R21.600	CC	R3.898	4.177	3.1	Not Degraded	4.5	Not Degraded
4	680	NB	CC	R3.898	CC	R8.100	4.177	44.9	Slightly Degraded	28.0	Slightly Degraded
4	680	NB	CC	16.300	CC	20.300	4.199	2.4	Not Degraded	9.8	Not Degraded
4	680	NB	CC	20.300	CC	24.500	4.200	3.1	Not Degraded	0.0	Not Degraded
4	680	SB	CC	23.100	CC	R18.579	4.720	1.6	Not Degraded	1.5	Not Degraded
4	680	SB	ALA	M2.385	SCL	M7.600	4.720	3.9	Not Degraded	0.0	Not Degraded
4	680	SB	CC	R18.579	CC	16.300	2.279	41.7	Slightly Degraded	53.8	Very Degraded

Table A–2

2013 STATEWIDE HOV LANE SEGMENTS DEGRADATION ANALYSIS

District	Route	Direction	Segment Limit					Degradation Level January 1 to June 30, 2013		Degradation Level July 1 to December 31, 2013	
			Begin County	Begin Post Mile	End County	End Post Mile	Length (Mile)	Percentage of Days Degraded	Degradation Frequency	Percentage of Days Degraded	Degradation Frequency
Continue from page A6											
4	680	SB	CC	R11.900	CC	R9.248	2.652	0.8	Not Degraded	3.8	Not Degraded
4	680	SB	CC	R9.248	CC	R4.503	4.720	4.7	Not Degraded	1.5	Not Degraded
4	680	SB	CC	R4.503	ALA	R21.600	4.782	0.8	Not Degraded	0.8	Not Degraded
4	680	SB	ALA	R11.050	ALA	R6.980	4.070	0.8	Not Degraded	0.8	Not Degraded
4	680	SB	ALA	R6.980	ALA	M2.385	4.720	0.8	Not Degraded	0.0	Not Degraded
4	880	NB	SCL	8.700	ALA	3.089	4.616	92.1	Extremely Degraded	89.4	Extremely Degraded
4	880	NB	ALA	3.089	ALA	7.705	4.616	17.3	Slightly Degraded	19.7	Slightly Degraded
4	880	NB	ALA	7.705	ALA	12.321	4.616	37.0	Slightly Degraded	44.7	Slightly Degraded
4	880	NB	ALA	12.321	ALA	19.300	6.979	78.7	Extremely Degraded	75.0	Extremely Degraded
4	880	NB	ALA	R34.700	ALA	R35.400	0.700	54.3	Very Degraded	68.2	Very Degraded
4	880	NB	SCL	0.000	SCL	1.190	1.190	no data	No Data	no data	No Data
4	880	SB	ALA	22.700	ALA	17.855	4.845	20.5	Slightly Degraded	40.2	Slightly Degraded
4	880	SB	ALA	13.009	ALA	8.164	4.845	25.2	Slightly Degraded	47.7	Slightly Degraded
4	880	SB	ALA	8.164	ALA	3.318	4.846	3.1	Not Degraded	42.4	Slightly Degraded
4	880	SB	ALA	3.318	SCL	8.700	4.845	12.6	Slightly Degraded	4.5	Not Degraded
7	5	NB	LA	39.400	LA	42.389	2.989	3.1	Not Degraded	2.3	Not Degraded
7	5	NB	LA	42.389	LA	R45.600	2.988	27.1	Slightly Degraded	25.8	Slightly Degraded
7	5	SB	LA	R45.600	LA	42.389	2.988	3.1	Not Degraded	9.8	Not Degraded

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2013 STATEWIDE HOV LANE SEGMENTS DEGRADATION ANALYSIS

District	Route	Direction	Segment Limit					Degradation Level January 1 to June 30, 2013		Degradation Level July 1 to December 31, 2013	
			Begin County	Begin Post Mile	End County	End Post Mile	Length (Mile)	Percentage of Days Degraded	Degradation Frequency	Percentage of Days Degraded	Degradation Frequency
Continue from page A7											
7	5	SB	LA	42.389	LA	39.400	2.989	2.3	Not Degraded	10.6	Slightly Degraded
7	5	SB	LA	39.400	LA	36.412	2.988	no data	No Data	no data	No Data
7	10	EB	LA	17.000	LA	20.904	4.559	55.8	Very Degraded	36.4	Slightly Degraded
7	10	EB	LA	20.904	LA	25.464	4.560	92.2	Extremely Degraded	90.2	Extremely Degraded
7	10	EB	LA	25.464	LA	31.200	5.736	89.1	Extremely Degraded	91.7	Extremely Degraded
7	10	EB	LA	42.400	LA	45.330	2.930	47.3	Slightly Degraded	54.5	Very Degraded
7	10	EB	LA	45.330	LA	48.260	2.930	38.8	Slightly Degraded	42.4	Slightly Degraded
7	10	WB	LA	48.260	LA	45.330	2.930	2.3	Not Degraded	6.8	Not Degraded
7	10	WB	LA	45.330	LA	42.400	2.930	3.1	Not Degraded	7.6	Not Degraded
7	10	WB	LA	31.200	LA	25.464	5.736	66.7	Very Degraded	53.0	Very Degraded
7	10	WB	LA	25.464	LA	20.904	4.560	75.2	Extremely Degraded	71.2	Very Degraded
7	14	NB	LA	R24.800	LA	R29.281	4.481	55.0	Very Degraded	59.1	Very Degraded
7	14	NB	LA	R29.281	LA	33.812	4.482	4.7	Not Degraded	1.5	Not Degraded
7	14	NB	LA	33.812	LA	38.293	4.481	1.6	Not Degraded	0.0	Not Degraded
7	14	NB	LA	38.293	LA	42.775	4.482	2.3	Not Degraded	0.0	Not Degraded
7	14	NB	LA	42.775	LA	R47.256	4.481	17.1	Slightly Degraded	29.5	Slightly Degraded
7	14	NB	LA	R47.256	LA	R51.737	4.481	no data	No Data	no data	No Data
7	14	NB	LA	R51.737	LA	R56.219	4.482	no data	No Data	no data	No Data

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2013 STATEWIDE HOV LANE SEGMENTS DEGRADATION ANALYSIS

District	Route	Direction	Segment Limit					Degradation Level January 1 to June 30, 2013		Degradation Level July 1 to December 31, 2013	
			Begin County	Begin Post Mile	End County	End Post Mile	Length (Mile)	Percentage of Days Degraded	Degradation Frequency	Percentage of Days Degraded	Degradation Frequency
Continue from page A8											
7	14	NB	LA	R56.219	LA	R60.700	4.481	0.8	Not Degraded	0.8	Not Degraded
7	14	SB	LA	R60.700	LA	R56.219	4.481	0.8	Not Degraded	0.0	Not Degraded
7	14	SB	LA	R56.219	LA	R51.737	4.482	no data	No Data	no data	No Data
7	14	SB	LA	R51.737	LA	R47.256	4.481	no data	No Data	no data	No Data
7	14	SB	LA	R47.256	LA	42.775	4.481	0.8	Not Degraded	0.0	Not Degraded
7	14	SB	LA	42.775	LA	38.293	4.482	3.9	Not Degraded	2.3	Not Degraded
7	14	SB	LA	38.293	LA	33.812	4.481	3.1	Not Degraded	3.0	Not Degraded
7	14	SB	LA	33.812	LA	R29.281	4.482	3.1	Not Degraded	7.6	Not Degraded
7	14	SB	LA	R29.281	LA	R24.788	4.493	4.7	Not Degraded	16.7	Slightly Degraded
7	57	NB	LA	R0.000	LA	R4.500	4.500	72.9	Very Degraded	92.4	Extremely Degraded
7	60	EB	LA	R23.000	LA	R26.725	3.725	7.0	Not Degraded	27.3	Slightly Degraded
7	60	EB	LA	R26.725	LA	R30.450	3.725	24.0	Slightly Degraded	26.5	Slightly Degraded
7	60	WB	LA	R30.450	LA	R26.725	3.725	15.5	Slightly Degraded	24.2	Slightly Degraded
7	60	WB	LA	R26.725	LA	R23.000	3.725	7.0	Not Degraded	25.0	Slightly Degraded
7	91	EB	LA	R6.400	LA	R11.167	4.767	86.8	Extremely Degraded	89.4	Extremely Degraded
7	91	EB	LA	R11.167	LA	R15.933	4.766	87.6	Extremely Degraded	91.7	Extremely Degraded
7	91	EB	LA	R15.933	LA	R20.700	4.767	48.8	Slightly Degraded	74.2	Very Degraded
7	91	WB	LA	R20.700	LA	R15.933	4.767	10.9	Slightly Degraded	18.9	Slightly Degraded

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2013 STATEWIDE HOV LANE SEGMENTS DEGRADATION ANALYSIS

District	Route	Direction	Segment Limit					Degradation Level January 1 to June 30, 2013		Degradation Level July 1 to December 31, 2013	
			Begin County	Begin Post Mile	End County	End Post Mile	Length (Mile)	Percentage of Days Degraded	Degradation Frequency	Percentage of Days Degraded	Degradation Frequency
Continue from page A9											
7	91	WB	LA	R15.933	LA	R11.167	4.766	27.1	Slightly Degraded	46.2	Slightly Degraded
7	91	WB	LA	R11.167	LA	6.012	5.165	2.3	Not Degraded	1.5	Not Degraded
7	105	EB	LA	R2.200	LA	R6.173	3.973	69.8	Very Degraded	88.6	Extremely Degraded
7	105	EB	LA	R6.173	LA	R10.145	3.972	81.4	Extremely Degraded	96.2	Extremely Degraded
7	105	EB	LA	R10.145	LA	R14.117	3.972	26.4	Slightly Degraded	38.6	Slightly Degraded
7	105	EB	LA	R14.117	LA	R18.090	3.973	14.0	Slightly Degraded	77.3	Extremely Degraded
7	105	WB	LA	R18.090	LA	R14.117	3.973	7.0	Not Degraded	3.0	Not Degraded
7	105	WB	LA	R14.117	LA	R10.145	3.972	20.2	Slightly Degraded	24.2	Slightly Degraded
7	105	WB	LA	R10.145	LA	R6.172	3.973	68.2	Very Degraded	81.8	Extremely Degraded
7	110	NB	LA	9.800	LA	13.367	3.567	3.9	Not Degraded	15.9	Slightly Degraded
7	110	NB	LA	13.367	LA	16.933	3.566	3.9	Not Degraded	34.8	Slightly Degraded
7	110	NB	LA	16.933	LA	20.500	3.567	18.6	Slightly Degraded	57.6	Very Degraded
7	110	SB	LA	20.500	LA	16.933	3.567	0.0	Not Degraded	0.8	Not Degraded
7	110	SB	LA	16.933	LA	13.367	3.566	2.3	Not Degraded	18.9	Slightly Degraded
7	110	SB	LA	13.367	LA	9.800	3.567	2.3	Not Degraded	2.3	Not Degraded
7	118	EB	LA	R0.000	LA	R3.800	3.800	0.8	Not Degraded	3.0	Not Degraded
7	118	EB	LA	R3.800	LA	R7.600	3.800	28.7	Slightly Degraded	36.4	Slightly Degraded
7	118	EB	LA	R7.600	LA	R11.400	3.800	19.4	Slightly Degraded	51.5	Very Degraded

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2013 STATEWIDE HOV LANE SEGMENTS DEGRADATION ANALYSIS

District	Route	Direction	Segment Limit					Degradation Level January 1 to June 30, 2013		Degradation Level July 1 to December 31, 2013	
			Begin County	Begin Post Mile	End County	End Post Mile	Length (Mile)	Percentage of Days Degraded	Degradation Frequency	Percentage of Days Degraded	Degradation Frequency
Continue from page A10											
7	118	EB	LA	R11.400	LA	R14.269	3.800	no data	No Data	no data	No Data
7	118	WB	LA	R11.400	LA	R7.600	3.800	7.0	Not Degraded	3.0	Not Degraded
7	118	WB	LA	R7.600	LA	R3.800	3.800	0.0	Not Degraded	1.5	Not Degraded
7	118	WB	LA	R3.800	LA	R0.000	3.800	0.8	Not Degraded	0.8	Not Degraded
7	118	WB	LA	R0.000	VEN	R28.800	3.800	no data	No Data	no data	No Data
7	134	EB	LA	0.000	LA	4.428	4.428	9.3	Not Degraded	9.1	Not Degraded
7	134	EB	LA	4.428	LA	R8.855	4.427	26.4	Slightly Degraded	37.1	Slightly Degraded
7	134	EB	LA	R8.855	LA	R13.283	4.428	2.3	Not Degraded	0.8	Not Degraded
7	134	WB	LA	R8.872	LA	4.428	4.427	3.1	Not Degraded	6.8	Not Degraded
7	134	WB	LA	4.428	LA	0.000	4.428	20.2	Slightly Degraded	3.0	Not Degraded
7	170	NB	LA	R14.500	LA	R17.505	3.005	18.6	Slightly Degraded	5.3	Not Degraded
7	170	NB	LA	R17.505	LA	R20.510	3.005	93.0	Extremely Degraded	72.7	Very Degraded
7	170	SB	LA	R20.510	LA	R17.505	3.005	1.6	Not Degraded	9.1	Not Degraded
7	170	SB	LA	R17.505	LA	R14.500	3.005	72.1	Very Degraded	65.2	Very Degraded
7	210	EB	LA	R25.000	LA	L29.568	4.568	76.0	Extremely Degraded	71.2	Very Degraded
7	210	EB	LA	L29.568	LA	R33.827	4.568	91.5	Extremely Degraded	92.4	Extremely Degraded
7	210	EB	LA	R33.827	LA	R38.396	4.569	92.2	Extremely Degraded	97.0	Extremely Degraded
7	210	EB	LA	R38.396	LA	R42.964	4.568	76.7	Extremely Degraded	78.8	Extremely Degraded

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2013 STATEWIDE HOV LANE SEGMENTS DEGRADATION ANALYSIS

District	Route	Direction	Segment Limit					Degradation Level January 1 to June 30, 2013		Degradation Level July 1 to December 31, 2013	
			Begin County	Begin Post Mile	End County	End Post Mile	Length (Mile)	Percentage of Days Degraded	Degradation Frequency	Percentage of Days Degraded	Degradation Frequency
Continue from page A11											
7	210	EB	LA	R42.964	LA	R47.532	4.568	51.2	Very Degraded	51.5	Very Degraded
7	210	EB	LA	R47.532	LA	R52.100	4.568	28.7	Slightly Degraded	37.9	Slightly Degraded
7	210	WB	LA	R52.100	LA	R47.532	4.568	1.6	Not Degraded	0.0	Not Degraded
7	210	WB	LA	R47.532	LA	R42.964	4.568	10.9	Slightly Degraded	12.9	Slightly Degraded
7	210	WB	LA	R42.964	LA	R38.395	4.569	27.9	Slightly Degraded	43.9	Slightly Degraded
7	210	WB	LA	R38.395	LA	R33.827	4.568	69.8	Very Degraded	72.0	Very Degraded
7	210	WB	LA	R33.827	LA	L29.568	4.568	93.0	Extremely Degraded	89.4	Extremely Degraded
7	405	NB	LA	0.000	LA	4.842	4.842	7.8	Not Degraded	16.7	Slightly Degraded
7	405	NB	LA	4.842	LA	9.861	4.843	17.1	Slightly Degraded	27.3	Slightly Degraded
7	405	NB	LA	9.861	LA	14.703	4.842	92.2	Extremely Degraded	89.4	Extremely Degraded
7	405	NB	LA	14.703	LA	19.546	4.843	78.3	Extremely Degraded	80.3	Extremely Degraded
7	405	NB	LA	19.546	LA	24.388	4.842	16.3	Slightly Degraded	25.0	Slightly Degraded
7	405	NB	LA	24.388	LA	26.400	2.012	67.4	Very Degraded	25.8	Slightly Degraded
7	405	NB	LA	38.915	LA	43.758	5.158	81.4	Extremely Degraded	84.1	Extremely Degraded
7	405	NB	LA	43.758	LA	48.600	4.842	62.8	Very Degraded	32.6	Slightly Degraded
7	405	SB	LA	48.600	LA	43.758	4.842	4.7	Not Degraded	0.8	Not Degraded
7	405	SB	LA	4.842	LA	0.000	4.842	82.2	Extremely Degraded	90.2	Extremely Degraded
7	405	SB	LA	43.758	LA	38.915	4.843	85.3	Extremely Degraded	87.1	Extremely Degraded

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2013 STATEWIDE HOV LANE SEGMENTS DEGRADATION ANALYSIS

District	Route	Direction	Segment Limit					Degradation Level January 1 to June 30, 2013		Degradation Level July 1 to December 31, 2013	
			Begin County	Begin Post Mile	End County	End Post Mile	Length (Mile)	Percentage of Days Degraded	Degradation Frequency	Percentage of Days Degraded	Degradation Frequency
Continue from page A12											
7	405	SB	LA	38.915	LA	34.073	4.842	32.6	Slightly Degraded	22.7	Slightly Degraded
7	405	SB	LA	34.073	LA	30.700	3.373	7.0	Not Degraded	19.7	Slightly Degraded
7	405	SB	LA	26.400	LA	24.388	2.012	55.8	Very Degraded	87.1	Extremely Degraded
7	405	SB	LA	24.388	LA	19.546	4.842	58.1	Very Degraded	60.6	Very Degraded
7	405	SB	LA	19.546	LA	14.703	4.843	79.8	Extremely Degraded	80.3	Extremely Degraded
7	405	SB	LA	14.703	LA	9.861	4.842	91.5	Extremely Degraded	93.2	Extremely Degraded
7	605	NB	LA	R0.000	LA	R4.140	4.140	1.6	Not Degraded	0.8	Not Degraded
7	605	NB	LA	R4.140	LA	R8.280	4.140	41.9	Slightly Degraded	50.8	Very Degraded
7	605	NB	LA	R8.280	LA	R12.420	4.140	54.3	Very Degraded	62.1	Very Degraded
7	605	NB	LA	R12.420	LA	R16.560	4.140	31.0	Slightly Degraded	54.5	Very Degraded
7	605	NB	LA	R16.560	LA	20.700	4.140	2.3	Not Degraded	11.4	Slightly Degraded
7	605	SB	LA	20.700	LA	R16.560	4.140	3.9	Not Degraded	3.8	Not Degraded
7	605	SB	LA	R16.560	LA	R12.420	4.140	22.5	Slightly Degraded	37.1	Slightly Degraded
7	605	SB	LA	R12.420	LA	R8.280	4.140	19.4	Slightly Degraded	59.8	Very Degraded
7	605	SB	LA	R8.280	LA	R4.140	4.140	2.3	Not Degraded	0.0	Not Degraded
7	605	SB	LA	R4.140	LA	R0.000	4.140	0.0	Not Degraded	0.8	Not Degraded
8	10	EB	SBD	0.000	SBD	4.950	4.950	6.2	Not Degraded	9.8	Not Degraded
8	10	EB	SBD	4.950	SBD	9.900	4.950	24.8	Slightly Degraded	50.8	Very Degraded

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2013 STATEWIDE HOV LANE SEGMENTS DEGRADATION ANALYSIS

District	Route	Direction	Segment Limit					Degradation Level January 1 to June 30, 2013		Degradation Level July 1 to December 31, 2013	
			Begin County	Begin Post Mile	End County	End Post Mile	Length (Mile)	Percentage of Days Degraded	Degradation Frequency	Percentage of Days Degraded	Degradation Frequency
Continue from page A13											
8	10	WB	SBD	9.900	SBD	4.950	4.950	0.8	Not Degraded	2.3	Not Degraded
8	10	WB	SBD	4.950	SBD	0.000	4.950	1.6	Not Degraded	7.6	Not Degraded
8	60	EB	SBD	R0.000	SBD	R4.987	4.987	27.9	Slightly Degraded	52.3	Very Degraded
8	60	EB	SBD	R4.987	RIV	R0.017	4.988	10.1	Slightly Degraded	41.7	Slightly Degraded
8	60	EB	RIV	R0.017	RIV	R5.004	4.987	11.6	Slightly Degraded	0.8	Not Degraded
8	60	EB	RIV	10.266	RIV	15.413	4.988	46.5	Slightly Degraded	34.8	Slightly Degraded
8	60	EB	RIV	15.413	RIV	20.400	4.987	0.0	Not Degraded	0.0	Not Degraded
8	60	WB	RIV	20.400	RIV	15.413	4.987	0.0	Not Degraded	0.0	Not Degraded
8	60	WB	RIV	15.413	RIV	10.266	4.988	38.0	Slightly Degraded	47.7	Slightly Degraded
8	60	WB	RIV	10.266	RIV	R5.004	4.987	0.0	Not Degraded	0.0	Not Degraded
8	60	WB	RIV	R5.004	RIV	R0.017	4.987	0.8	Not Degraded	0.8	Not Degraded
8	60	WB	RIV	R0.017	SBD	R4.987	4.988	11.6	Slightly Degraded	27.3	Slightly Degraded
8	60	WB	SBD	R4.987	SBD	R0.000	4.987	10.1	Slightly Degraded	15.2	Slightly Degraded
8	71	NB	SBD	R0.000	SBD	R4.150	4.150	0.0	Not Degraded	0.0	Not Degraded
8	71	NB	SBD	R4.150	SBD	R8.300	4.150	0.0	Not Degraded	0.0	Not Degraded
8	71	SB	SBD	R8.300	SBD	R4.150	4.150	0.0	Not Degraded	0.0	Not Degraded
8	71	SB	SBD	R4.150	SBD	R0.000	4.150	0.0	Not Degraded	0.0	Not Degraded
8	91	EB	RIV	R0.000	RIV	4.266	4.378	95.3	Extremely Degraded	92.4	Extremely Degraded

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2013 STATEWIDE HOV LANE SEGMENTS DEGRADATION ANALYSIS

District	Route	Direction	Segment Limit					Degradation Level January 1 to June 30, 2013		Degradation Level July 1 to December 31, 2013	
			Begin County	Begin Post Mile	End County	End Post Mile	Length (Mile)	Percentage of Days Degraded	Degradation Frequency	Percentage of Days Degraded	Degradation Frequency
Continue from page A14											
8	91	EB	RIV	4.266	RIV	8.644	4.378	77.5	Extremely Degraded	72.7	Very Degraded
8	91	EB	RIV	8.644	RIV	13.022	4.378	8.5	Not Degraded	6.1	Not Degraded
8	91	EB	RIV	13.022	RIV	17.400	4.378	0.0	Not Degraded	0.0	Not Degraded
8	91	WB	RIV	17.400	RIV	13.022	4.378	0.0	Not Degraded	0.0	Not Degraded
8	91	WB	RIV	8.644	RIV	4.266	4.378	40.3	Slightly Degraded	50.8	Very Degraded
8	91	WB	RIV	4.266	RIV	R0.000	4.378	6.2	Not Degraded	33.3	Slightly Degraded
8	210	EB	SBD	0.000	SBD	4.933	4.933	59.7	Very Degraded	63.6	Very Degraded
8	210	EB	SBD	4.933	SBD	9.867	4.934	7.0	Not Degraded	17.4	Slightly Degraded
8	210	EB	SBD	9.867	SBD	14.800	4.933	0.8	Not Degraded	6.1	Not Degraded
8	210	WB	SBD	14.800	SBD	9.867	4.933	1.6	Not Degraded	0.8	Not Degraded
8	210	WB	SBD	9.867	SBD	4.933	4.934	2.3	Not Degraded	1.5	Not Degraded
8	210	WB	SBD	4.933	SBD	0.000	4.933	1.6	Not Degraded	1.5	Not Degraded
8	215	NB	RIV	R38.300	RIV	40.646	2.653	7.8	Not Degraded	34.1	Slightly Degraded
8	215	NB	RIV	40.646	RIV	43.300	2.654	24.8	Slightly Degraded	25.0	Slightly Degraded
8	215	SB	RIV	43.300	RIV	40.646	2.654	95.3	Extremely Degraded	93.2	Extremely Degraded
8	215	SB	RIV	40.646	RIV	R38.300	2.653	33.3	Slightly Degraded	39.4	Slightly Degraded
11	5	NB	SD	R30.700	SD	R34.600	3.900	51.2	Very Degraded	51.5	Very Degraded
11	5	NB	SD	R34.600	SD	R38.500	3.900	72.9	Very Degraded	75.8	Extremely Degraded

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2013 STATEWIDE HOV LANE SEGMENTS DEGRADATION ANALYSIS

District	Route	Direction	Segment Limit					Degradation Level January 1 to June 30, 2013		Degradation Level July 1 to December 31, 2013	
			Begin County	Begin Post Mile	End County	End Post Mile	Length (Mile)	Percentage of Days Degraded	Degradation Frequency	Percentage of Days Degraded	Degradation Frequency
Continue from page A15											
11	5	SB	SD	R38.500	SD	R34.616	3.884	3.1	Not Degraded	4.5	Not Degraded
11	5	SB	SD	R34.616	SD	R30.700	3.883	9.3	Not Degraded	10.6	Slightly Degraded
11	15	NB	SD	M12.000	SD	M15.900	3.900	48.8	Slightly Degraded	61.4	Very Degraded
11	15	NB	SD	M19.800	SD	M23.700	3.900	no data	No Data	no data	No Data
11	15	NB	SD	M23.700	SD	M27.600	3.900	no data	No Data	no data	No Data
11	15	SB	SD	M27.600	SD	M23.700	3.900	no data	No Data	no data	No Data
11	15	SB	SD	M23.700	SD	M19.800	3.900	no data	No Data	no data	No Data
11	15	SB	SD	M19.800	SD	M15.900	3.900	45.0	Slightly Degraded	44.7	Slightly Degraded
11	15	SB	SD	M15.900	SD	M12.000	3.900	0.0	Not Degraded	0.0	Not Degraded
11	94	WB	SD	R11.400	SD	R10.380	1.020	no data	No Data	no data	No Data
11	163	NB	SD	0.540	SD	0.900	0.340	no data	No Data	no data	No Data
11	805	NB	SD	28.000	SD	28.500	0.500	no data	No Data	no data	No Data
11	905	EB	SD	R11.720	SD	R11.730	0.010	no data	No Data	no data	No Data
12	5	NB	ORA	6.700	ORA	11.299	4.599	2.3	Not Degraded	2.3	Not Degraded
12	5	NB	ORA	11.299	ORA	15.898	4.599	14.0	Slightly Degraded	21.2	Slightly Degraded
12	5	NB	ORA	15.898	ORA	20.497	4.599	1.6	Not Degraded	3.8	Not Degraded
12	5	NB	ORA	20.497	ORA	R25.097	4.600	82.9	Extremely Degraded	47.7	Slightly Degraded
12	5	NB	ORA	R25.097	ORA	29.703	4.599	93.0	Extremely Degraded	90.9	Extremely Degraded

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2013 STATEWIDE HOV LANE SEGMENTS DEGRADATION ANALYSIS

District	Route	Direction	Segment Limit					Degradation Level January 1 to June 30, 2013		Degradation Level July 1 to December 31, 2013	
			Begin County	Begin Post Mile	End County	End Post Mile	Length (Mile)	Percentage of Days Degraded	Degradation Frequency	Percentage of Days Degraded	Degradation Frequency
Continue from page A16											
12	5	NB	ORA	29.703	ORA	34.302	4.599	98.4	Extremely Degraded	97.7	Extremely Degraded
12	5	NB	ORA	34.302	ORA	38.901	4.599	8.5	Not Degraded	4.5	Not Degraded
12	5	SB	ORA	43.500	ORA	38.901	4.599	0.0	Not Degraded	2.3	Not Degraded
12	5	SB	ORA	38.901	ORA	34.302	4.599	9.3	Not Degraded	58.3	Very Degraded
12	5	SB	ORA	34.302	ORA	29.703	4.599	79.8	Extremely Degraded	91.7	Extremely Degraded
12	5	SB	ORA	29.703	ORA	R25.096	4.600	8.5	Not Degraded	53.0	Very Degraded
12	5	SB	ORA	R25.096	ORA	20.497	4.599	22.5	Slightly Degraded	6.8	Not Degraded
12	5	SB	ORA	20.497	ORA	15.898	4.599	17.8	Slightly Degraded	19.7	Slightly Degraded
12	5	SB	ORA	15.898	ORA	11.299	4.599	4.7	Not Degraded	6.1	Not Degraded
12	5	SB	ORA	11.299	ORA	6.700	4.599	6.2	Not Degraded	7.6	Not Degraded
12	22	EB	ORA	R0.700	ORA	R4.368	3.668	0.0	Not Degraded	0.8	Not Degraded
12	22	EB	ORA	R4.368	ORA	R8.036	3.668	17.1	Slightly Degraded	21.2	Slightly Degraded
12	22	EB	ORA	R8.036	ORA	R11.600	3.668	3.9	Not Degraded	6.1	Not Degraded
12	22	WB	ORA	R11.600	ORA	R8.036	3.668	0.0	Not Degraded	0.0	Not Degraded
12	22	WB	ORA	R8.036	ORA	R4.368	3.668	0.0	Not Degraded	0.0	Not Degraded
12	22	WB	ORA	R4.368	ORA	R0.700	3.668	50.4	Very Degraded	56.1	Very Degraded
12	55	NB	ORA	R6.000	ORA	R9.761	3.761	96.9	Extremely Degraded	93.9	Extremely Degraded
12	55	NB	ORA	R9.761	ORA	13.539	3.760	79.8	Extremely Degraded	80.3	Extremely Degraded

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2013 STATEWIDE HOV LANE SEGMENTS DEGRADATION ANALYSIS

District	Route	Direction	Segment Limit					Degradation Level January 1 to June 30, 2013		Degradation Level July 1 to December 31, 2013	
			Begin County	Begin Post Mile	End County	End Post Mile	Length (Mile)	Percentage of Days Degraded	Degradation Frequency	Percentage of Days Degraded	Degradation Frequency
Continue from page A17											
12	55	NB	ORA	13.539	ORA	17.300	3.761	30.2	Slightly Degraded	42.4	Slightly Degraded
12	55	SB	ORA	13.539	ORA	R9.761	3.760	70.5	Very Degraded	67.4	Very Degraded
12	55	SB	ORA	R9.761	ORA	R6.000	3.761	3.1	Not Degraded	2.3	Not Degraded
12	57	NB	ORA	10.800	ORA	14.700	3.900	38.0	Slightly Degraded	0.0	Not Degraded
12	57	NB	ORA	14.700	ORA	18.600	3.900	26.4	Slightly Degraded	16.7	Slightly Degraded
12	57	NB	ORA	18.600	ORA	R22.500	3.900	36.4	Slightly Degraded	0.0	Not Degraded
12	57	SB	ORA	R22.500	ORA	18.600	3.900	20.9	Slightly Degraded	0.0	Not Degraded
12	57	SB	ORA	18.600	ORA	14.700	3.900	7.8	Not Degraded	26.5	Slightly Degraded
12	57	SB	ORA	14.700	ORA	10.800	3.900	51.9	Very Degraded	27.3	Slightly Degraded
12	91	EB	ORA	R0.000	ORA	0.864	4.498	41.9	Slightly Degraded	7.6	Not Degraded
12	91	EB	ORA	0.864	ORA	5.361	4.497	8.5	Not Degraded	12.1	Slightly Degraded
12	91	EB	ORA	5.361	ORA	R9.859	4.498	38.8	Slightly Degraded	61.4	Very Degraded
12	91	EB	ORA	R9.859	ORA	R14.356	4.497	Not Monitored	Not Monitored	Not Monitored	Not Monitored
12	91	EB	ORA	R14.356	ORA	R18.900	4.498	Not Monitored	Not Monitored	Not Monitored	Not Monitored
12	91	WB	ORA	R18.900	ORA	R14.385	4.515	Not Monitored	Not Monitored	Not Monitored	Not Monitored
12	91	WB	ORA	R14.385	ORA	R9.870	4.515	Not Monitored	Not Monitored	Not Monitored	Not Monitored
12	91	WB	ORA	R9.870	ORA	5.356	4.514	17.8	Slightly Degraded	25.8	Slightly Degraded
12	91	WB	ORA	5.356	ORA	0.841	4.515	23.3	Slightly Degraded	22.0	Slightly Degraded

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2013 STATEWIDE HOV LANE SEGMENTS DEGRADATION ANALYSIS

District	Route	Direction	Segment Limit					Degradation Level January 1 to June 30, 2013		Degradation Level July 1 to December 31, 2013	
			Begin County	Begin Post Mile	End County	End Post Mile	Length (Mile)	Percentage of Days Degraded	Degradation Frequency	Percentage of Days Degraded	Degradation Frequency
Continue from page A18											
12	405	NB	ORA	0.230	ORA	5.080	4.850	23.3	Slightly Degraded	23.5	Slightly Degraded
12	405	NB	ORA	5.080	ORA	9.929	4.849	41.9	Slightly Degraded	55.3	Very Degraded
12	405	NB	ORA	9.929	ORA	14.779	4.850	72.1	Very Degraded	95.5	Extremely Degraded
12	405	NB	ORA	14.779	ORA	19.628	4.849	47.3	Slightly Degraded	70.5	Very Degraded
12	405	NB	ORA	19.628	LA	0.000	4.850	7.0	Not Degraded	15.9	Slightly Degraded
12	405	SB	LA	0.000	ORA	19.628	4.850	21.7	Slightly Degraded	56.8	Very Degraded
12	405	SB	ORA	19.628	ORA	14.779	4.849	79.8	Extremely Degraded	87.1	Extremely Degraded
12	405	SB	ORA	14.779	ORA	9.929	4.850	2.3	Not Degraded	25.8	Slightly Degraded
12	405	SB	ORA	9.929	ORA	5.080	4.849	91.5	Extremely Degraded	89.4	Extremely Degraded
12	405	SB	ORA	5.080	ORA	0.230	4.850	12.4	Slightly Degraded	11.4	Slightly Degraded
12	605	NB	ORA	R0.000	ORA	R1.600	1.600	0.0	Not Degraded	0.0	Not Degraded
12	605	SB	ORA	R1.600	ORA	R0.000	1.600	no data	No Data	no data	No Data