

TRANSPORTATION SAFETY APPENDIX



REGIONAL TRANSPORTATION PLAN
2012-2035 RTP
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future



Southern California Association of Governments
ADOPTED APRIL 2012

TRANSPORTATION SAFETY

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Executive Summary

In 2008, over 1500 people died on roadways in the SCAG region and just under 125,000 were injured. While both fatalities and injuries have declined over the past 10 years, the impacts, both emotional and financial, are still far too high. The average costs for each traffic death, traffic injury, or property damage crash were (in 2005):

Death – \$1,150,000

Nonfatal Disabling Injury – \$52,900

Property Damage, including non-disabling injuries – \$7,500

In 2006, the State of California initiated the Strategic Highway Safety Plan (SHSP), as a way of setting targets and strategies to reduce transportation fatalities in the State in absolute numbers by 2010 in 16 challenge areas (impaired driving, street crossing, bicycling, older drivers, etc). While the targets in most challenge areas were met by 2010, a new goal is to reduce fatalities even further. The SHSP Steering Committee is establishing new targets, which will be finalized in 2012, including a 17th Challenge Area, Distracted Driving.

While the California SHSP sets 152 various actions that State agencies can perform to reduce fatalities, there are complementary strategies that can be performed by local governments that can help further reduce transportation fatalities.

The safety of people and goods as they travel is one of the key characteristics of any transportation system. The importance of providing a safe and secure transportation system is emphasized by transportation and law enforcement agencies at all levels, and is recognized as one of the chief responsibilities of transportation planners.

SCAG's safety goal is to ensure transportation safety, security, and reliability for all people and goods in the region.

SCAG is recommending 69 actions for local governments that complement the State actions in the 17 SHSP Challenge Areas. A large portion of traffic collisions amongst many of the challenge areas occur at intersections. The mixing of various travel modes, combined with changes in cross traffic provides a greater potential for collisions. By placing the highest emphasis on intersection safety within each challenge area, SCAG hopes to have the greatest effect in reducing traffic fatalities.

This report reviews each SHSP Challenge Area within the SCAG region, noting trends in fatalities and injuries, and makes the following recommendations for local governments to help further reduce transportation fatalities throughout the region and State.

Recommended Policies and Actions

Challenge Area 1.

Reduce Impaired Driving Related Fatalities

- Local jurisdictions should increase frequency, consistency and publicity of sobriety checkpoints in areas with high DUI caused accidents
- Local jurisdictions should pursue grant funds to new Portable Evidential Breath Testing devices
- Local jurisdictions should extend and promote late night transit during holiday weekends and after major sporting/special events
- Consider reviewing the SHSP “tool kit” which will identify programs, providers, and resources that assist communities in implementing effective community-based, comprehensive, multijurisdictional DUI task forces.
- Local jurisdictions should implement and maintain anti-DUI programs such as, Teenage Party Prevention, Enforcement and Dispersal, Minor Decoy Program, the Shoulder Tap Program, and the Target Responsibility For Alcohol Connected Emergencies (TRACE) program.

Cities/Counties can continue this work by pursuing National Highway Traffic Safety Administration (NHTSA) Incentive/Transfer Program Grants under 23 U.S.C. 402 or 23 U.S.C. 410.

Challenge Area 2.

Reduce the Occurrence and Consequence of Leaving the Roadway and Head-on Collisions

- Local jurisdictions should incorporate into highway construction/ reconstruction methods to warn drivers (such as rumble strips, “Botts’ Dots,” pavement markers, curve warning signs/beacons) they are leaving the highway or wandering into other lanes.

- Continue the deployment of high visibility signage and road striping that enhance driver's ability to notice, recognize and respond to warning signs during nighttime or periods of inclement weather.

Challenge Area 3.

Ensure Drivers are Licensed and Competent

- Local jurisdictions can support the State in developing driver education components for teens and new drivers.

Challenge Area 4.

Increase Use of Safety Belts and Child Safety Seats

- Local jurisdictions should support State authorities in the education and enforcement of safety device violations.

Challenge Area 5.

Improve Driver Decisions about Rights of Way and Turning

- Encourage the installation of improved visibility traffic signals as part of the normal traffic signal replacement cycle
- Local jurisdictions should support the use of traffic control devices, traffic calming, and speed reduction design practices to reduce the likelihood and severity of crashes related to turning movements.
- Local jurisdictions should consider redesigning the geometry at high accident locations as an option to restrict unsafe turns by motor vehicles.
- Local jurisdictions should support the use of advanced technology and ITS to reduce collisions.
- Local jurisdictions should incorporate ITS at high incident intersections to reduce red-light violations causing collisions.

Challenge Area 6.

Reduce Young Driver Fatalities

- Local jurisdictions can support the State in developing driver education components for teens and new drivers.

- Local jurisdictions should support State authorities in the education and enforcement of safety device violations.
- Local jurisdictions should increase frequency, consistency and publicity of sobriety checkpoints in areas with high DUI caused accidents.
- Local jurisdictions should implement and maintain anti-DUI programs such as, Teenage Party Prevention, Enforcement and Dispersal, Minor Decoy Program, the Shoulder Tap Program, and TRACE.

Challenge Area 7.

Improve Intersection and Interchange Safety for Roadway Users

- Local jurisdictions should incorporate intersection safety into the Compass Blueprint strategies.
- Local jurisdictions should incorporate ITS at high-incident intersections to reduce red-light violations causing collisions.
- Local jurisdictions should encourage clearly marked, visible crosswalks.
- Local jurisdictions should support installation of adequate lighting around crosswalks to provide better visibility of pedestrians crossing streets at night.
- Local jurisdictions should consider installation of improved visibility traffic signals as part of the normal traffic signal replacement cycle.
- Local jurisdictions should incorporate median sanctuaries for pedestrians at appropriate intersections.
- Local jurisdictions should incorporate signalization at problem non-signalized intersections.
- Local jurisdictions should consider changing intersection geometries, where applicable. (offset intersection to aligned intersection, intersection to interchange, intersection to roundabout).
- Local jurisdictions should plan for, and develop roadway, intersection and interchange improvements that support improving rights of way decision by older drivers.
- Local jurisdictions should review existing or potential high-crash at-grade railroad/highway crossings for contributing factors and implement Median Island Programs or make other improvements such as visibility, advance warning, and geometrics.

Challenge Area 8.

Make Walking and Street Crossing Safer

- Local jurisdictions should develop pedestrian safety action plans based on FHWA criteria.
- Local jurisdictions should ensure all sidewalks and intersections are ADA compliant.
- Local jurisdictions should consider pedestrian needs in all roadway and transit projects.
- Local jurisdictions should improve pedestrian striping and include standard safety upgrades in routine maintenance and striping projects.
- Local jurisdictions should incorporate median sanctuaries for pedestrians at appropriate intersections.
- Local jurisdictions should increase pedestrian crossing times to account for older or slower pedestrians.
- Local jurisdictions should incorporate pedestrian safety into smart growth, land use planning, and other local plans.
- Local jurisdictions should continue the enforcement of violations of pedestrian law by pedestrians and motorists.
- Local jurisdictions should participate in programs to educate all roadway users regarding the rights and responsibilities of pedestrians.
- Local jurisdictions should incorporate ITS at high-incident intersections to reduce vehicle-pedestrian collisions.
- Local jurisdictions should consider installation of lighting surrounding crosswalks at intersections and mid block locations to provide better visibility of pedestrians crossing streets at night.
- Local cities should develop citywide Safe Routes to School strategies to guide measures around local schools.
- Local jurisdictions should continue to improve pedestrian safety expertise among transportation professionals and others involved in roadway and land-use design.

Challenge Area 9.

Improve Safety for Older Roadway Users

- Support roadway, intersection and interchange improvements that support improving rights of way decision by older drivers.
- Local jurisdictions should consider installation of improved visibility traffic signals as part of the normal traffic signal replacement cycle.
- Support signage and striping that enhance driver's ability to notice, recognize and respond to warning signs during nighttime and/or inclement weather conditions.
- Local jurisdictions should incorporate median sanctuaries for pedestrians at appropriate intersections.
- Support JARC/New Freedom, para-transit to include those over 65 years of age.
- Encourage formation and expanded use of Supplemental Transportation Systems (STPs), particularly in locations where standard public transit is sparse or unavailable.

Challenge Area 10.

Reduce Speeding and Aggressive Driving

- Local jurisdictions should use ITS and traffic signalization as a strategy to reduce speeding on arterials during light traffic conditions.
- Traffic Management Centers should contact police or CHP when traffic cameras observe reckless speeding on arterials and freeways.
- Local jurisdictions can support the State in developing driver education components for teens and new drivers.
- Local jurisdictions should increase frequency, consistency and publicity of sobriety checkpoints in areas with high DUI caused accidents.

Challenge Area 11.

Improve Commercial Vehicle Safety

- Local jurisdictions should support the use of dedicated truck capacity on corridors with significant truck traffic in order to separate commercial vehicles from passenger vehicles.

- Local jurisdictions should identify intersections and interchanges prone to high commercial vehicle collisions, identify appropriate infrastructure improvements and make adjustments as needed.
- Local jurisdictions should support the use of truck climbing lanes as a method to segregate commercial vehicles from passenger vehicles.

Challenge Area 12. Improve Motorcycle Safety

- Local jurisdictions should focus motorcycle-related law enforcement activities on areas with high motorcycle volumes.

Challenge Area 13. Improve Bicycling Safety

- Local jurisdictions should develop and regularly update bicycle master plans.
- Local jurisdictions should fund and install dedicated bicycle facilities where appropriate and safe.
- Local jurisdictions should incorporate applicable Complete Streets policies—providing safe access for all modes—as fundamental principles of transportation plans.
- Local jurisdictions should consider bicycle and pedestrian safety as part of Compass Blueprint Land Use Planning.
- Local jurisdictions should consider pedestrian and bicycle safety in all maintenance projects where new striping will be required or existing striping is to be replaced.
- Local jurisdictions should consider the use of intersection control devices that detect bicyclists, particularly left turn signals.

Challenge Area 14. Enhance Work Zone Safety

- Local jurisdictions should ensure that work zones accommodate all modes of transportation.
- Local jurisdictions should ensure that work zones have signs warning of pavement irregularities and other work zone issues that could be collision factors.

- Local jurisdictions should consider temporary traffic signal changes to mitigate congestion around work zones.

Challenge Area 15. Improve Post Crash Survivability

- Local jurisdictions should utilize Intelligent Transportation System technology to improve response time for EMS to and from collision sites.

Challenge Area 16. Improve Safety Data Collection, Access and Analysis

- Local jurisdictions should improve data collection and analysis regarding trip characteristics, level of service, injuries and fatalities on roadways.
- Local jurisdictions should use Geographical Information Systems or the Web Based Transportation Injury Mapping System to better identify high-accident locations
- Local jurisdictions should work with the State and county transportation commissions to improve the quality, timeliness, accessibility and usefulness of traffic safety data.

Challenge Area 17: Reduce Distracted Driving

- Local jurisdictions should increase frequency, consistency and publicity of Distracted Driving enforcement.
- Local jurisdictions should participate in the annual statewide cell phone/texting observational survey.

Introduction

The safety of people and goods as they travel is one of the key characteristics of any transportation system. The importance of providing a safe transportation system is emphasized by transportation and law enforcement agencies at all levels, and is recognized as one of the chief responsibilities of transportation planners.

Safety is defined as the protection of persons and property from unintentional damage or destruction caused by accidental or natural events.

In 2005, Congress passed the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which required states to develop Strategic Highway Safety Plans (SHSPs).

The California Department of Transportation (Caltrans) responded by developing its SHSP through a participatory process with over 300 stakeholders throughout California. The overarching goal was to reduce the California roadway fatality rate to less than 1.0 fatality per 100 million vehicle miles traveled (VMT) by 2010. Caltrans is currently updating the SHSP to reflect new goals, actions and challenge areas to further reduce transportation fatalities in the State.

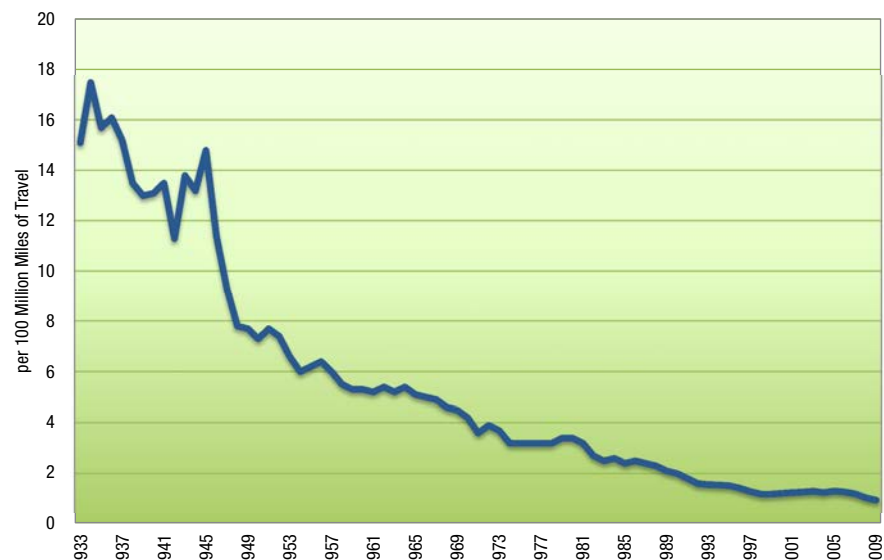
The following report documents how the SCAG region is meeting the SHSP goals, and details what steps should be taken to further reduce traffic fatalities in the SCAG region.

Existing Conditions

The rate of fatal and injury collisions on California's highways has declined dramatically since the California Highway patrol began keeping such data in the 1930s. California has led the nation in roadway safety for much of the past 20 years. Only recently have roadways nationally become as safe as those in California.

California's 2008 Mileage Death Rate (MDR) – Fatalities per 100 million miles traveled (100 Million VMT) is 1.05, much lower than the national MDR of 1.25. Of the five largest states in terms of total traffic fatalities, (CA, FL, TX, GA, & NC), California has the best rate.

FIGURE 1 California Mileage Death Rate (1933–2009)



Source: SWITRS

Consequences of Accidents in the SCAG Region

While the trend indicates a long-term decline in fatalities compared to VMT, it represents an unacceptable personal burden on those involved. There is also a regional burden in lost productivity, increased traffic congestion and pollution.

The National Safety Council reports that the calculable costs of motor-vehicle crashes are wage and productivity losses, medical expenses, administrative expenses, motor vehicle damage, and employers' uninsured costs. The average costs for each traffic death, traffic injury, or property damage crash were (in 2005):

- Death – \$1,150,000
- Nonfatal Disabling Injury – \$52,900
- Property Damage, including non-disabling injuries – \$7,500

While the California SHSP focuses on activities at the State level, local governments can supplement these activities providing additional benefit. This document provides a brief overview of how jurisdictions can help in the implementation of each strategy laid out in the SHSP.

As SCAG is a planning agency, and does not coordinate enforcement, education or emergency response, this document will focus on engineering improvements. Where funding information is available for education, enforcement or emergency response, that information is provided.

Existing Conditions

The SCAG region has an extensive transportation system with over 50,000 freeway and arterial lane-miles. The region had 11.1 million licensed drivers and 13.4 million registered vehicles in 2008. The same year, over two million people rode public transit daily. Unfortunately, 1,533 people died and 124,975 were injured in traffic collisions in the SCAG region.

The primary source for collecting accident data in the California SHSP is the Statewide Integrated Traffic Reporting System (SWITRS). The California Highway Patrol collects collision data from local and State agencies. Data collected for 2008 in the SCAG region are summarized in TABLES 1 and 2.

TABLE 1 Traffic Fatalities in the SCAG Region (2008)

County	Driver Killed	Passenger Killed	Pedestrian Killed	Cyclist Killed	Motorcyclist Killed	Total Killed
Imperial	25	10	3	1	1	39
Los Angeles	354	117	212	32	111	715
Orange	89	32	31	10	33	162
Riverside	153	63	28	9	33	253
San Bernardino	165	79	39	7	34	290
Ventura	46	18	8	2	11	74
Regional Totals	832	319	321	61	223	1,533
Statewide Totals	1,910	719	642	130	529	3,401
Regional Percentage	43.60%	44.40%	50.00%	46.90%	42.20%	45.10%

TABLE 2 Traffic Injuries in the SCAG Region (2008)

County	Driver Injured	Passenger Injured	Pedestrian Injured	Cyclist Injured	Motorcyclist Injured	Total Injured
Imperial	422	303	25	25	22	775
Los Angeles	45,217	21,071	5,280	3,325	2,935	74,893
Orange	12,047	4,942	818	1,084	794	18,891
Riverside	7,898	3,939	359	369	621	12,565
San Bernardino	7,509	4,326	456	280	567	12,571
Ventura	3,368	1,364	240	308	248	5,280
Regional Totals	76,461	35,945	7,178	5,391	5,187	124,975
Statewide Totals	147,981	68,727	13,405	11,760	11,764	241,873
Regional Percentage	51.70%	52.30%	53.50%	45.80%	44.10%	51.70%

TABLE 3 Traffic Fatality Summary 1996–2009

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Imperial	35	65	62	35	55	45	49	45	56	46	42	42	39	37
Los Angeles	863	764	624	684	749	768	728	816	750	745	801	759	715	589
Orange	197	175	157	175	164	207	193	215	215	205	210	193	162	154
Riverside	278	253	269	231	266	262	312	303	321	333	349	318	253	219
San Bernardino	333	312	300	297	318	334	334	357	409	425	397	354	290	236
Ventura	71	61	58	59	87	73	66	79	70	71	82	74	74	62
SCAG Region	1,777	1,630	1,470	1,481	1,639	1,689	1,682	1,815	1,821	1,825	1,881	1,740	1,533	1,297
California, Excluding SCAG Region	2,195	2,041	1,989	2,078	2,091	2,237	2,407	2,410	2,273	2,479	2,316	2,227	1,868	1,779

TABLE 4 Traffic Injury Summary 1996–2009

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Imperial	1,191	1,212	1,313	1,264	1,172	1,324	1,219	1,231	1,159	1,040	1,133	963	775	680
Los Angeles	91,540	82,096	82,218	83,978	88,801	91,443	92,744	92,557	90,042	86,582	83,941	82,480	74,893	73,107
Orange	22,326	22,611	23,070	22,780	22,996	23,043	22,782	24,173	23,917	23,028	21,671	20,082	18,891	18,735
Riverside	11,216	10,941	11,358	11,752	12,968	12,700	14,291	15,105	15,805	15,966	15,720	14,601	12,565	11,705
San Bernardino	15,408	14,695	14,743	15,255	15,786	16,107	16,517	17,022	17,299	16,929	16,628	15,090	12,571	11,735
Ventura	6,274	6,096	6,167	5,912	6,418	6,646	6,892	7,085	6,587	6,266	5,965	5,562	5,280	4,747
SCAG Region	147,955	137,651	138,869	140,941	148,141	151,263	154,445	157,173	154,809	149,811	145,058	138,778	124,975	120,709
California, Excluding SCAG Region	152,151	147,220	151,829	147,786	154,882	154,644	156,244	149,993	147,548	142,987	82,516	127,909	116,898	112,068

TABLE 5 Drivers in Fatal Collisions by Type of Collision by Movement Preceding Collision

	Collision Type								Total
	Head-On	Sideswipe	Rear End	Broadside	Hit Object	Overtaken	Auto/ Pedestrian	Other	
Movement Preceding Collision									
Stopped	9	11	115	43	4	5	7	3	197
Proceeding straight	382	218	333	722	279	94	520	75	2,623
Ran off road	11	8	10	5	370	122	11	8	545
Making right turn	1	3	4	12	6	3	22	9	60
Making left turn	34	7	8	186	8	6	37	10	296
Making U turn		1	1	7			2	1	12
Backing	2		2	4			5	3	16
Slowing/stopping	6	5	33	4	2	3	2	1	56
Passing other vehicle	24	6	7	6	9	4	3		59
Changing lanes		42	26	4	9	2	6	1	90
Parking maneuver				1	1		1		3
Entering traffic		1	3	10	1	3	3	2	23
Other unsafe turning	12	5	8	7	74	32	5	5	148
Crossed into opposing lane	139	17	1	24	8	5		2	196
Parked			2						2
Merging		1	1	1		1	1	2	7
Traveling wrong way	28	3		3	4	1			39
Other	5	14	10	15	165	59	8	3	279
Not stated	2	2	1	3	3		9	3	23
Total	655	344	565	1,057	943	340	642	128	4,674

TABLE 6 Drivers in Injury Collisions by Type of Collision by Movement Preceding Collision

Movement Preceding Collision	Collision Type								Total
	Head-On	Sideswipe	Rear End	Broadside	Hit Object	Overtaken	Auto/ Pedestrian	Other	
Stopped	954	1,562	41,281	3,379	192	105	275	538	48,286
Proceeding straight	9,465	15,288	55,064	54,369	8,489	3,592	5,688	3,528	155,483
Ran off road	236	143	167	123	6,094	2,272	74	157	9,266
Making right turn	531	1,243	1,219	3,244	565	222	1,717	797	9,538
Making left turn	4,859	1,871	1,009	19,494	807	359	2,094	982	31,475
Making U turn	105	228	106	1,554	57	25	29	77	2,181
Backing	35	87	376	360	66	17	512	231	1,684
Slowing/stopping	151	449	15,269	433	189	241	134	212	17,078
Passing other vehicle	71	573	157	352	107	63	37	43	1,403
Changing lanes	68	4,180	1,970	507	782	321	31	173	8,032
Parking maneuver	4	58	49	20	27	1	35	15	209
Entering traffic	165	521	240	3,076	66	64	187	195	4,514
Other unsafe turning	248	619	466	301	2,206	816	71	97	4,824
Crossed into opposing lane	893	500	29	221	142	72	13	22	1,892
Parked	14	114	123	41	22	2	23	55	394
Merging	18	192	160	65	48	19	10	17	529
Traveling wrong way	225	62	11	77	62	11	13	11	472
Other	83	987	522	385	4,669	1,172	100	120	8,038
Not stated	106	154	593	328	81	45	170	220	1,697
Total	18,231	28,831	118,811	88,329	24,671	9,419	11,213	7,490	306,995

FIGURE 2 Drivers in Fatal Collisions by Type of Collision by Movement Preceding Collision

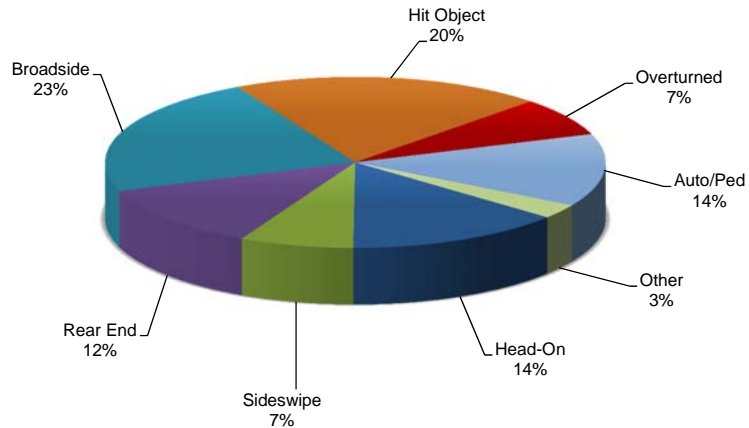
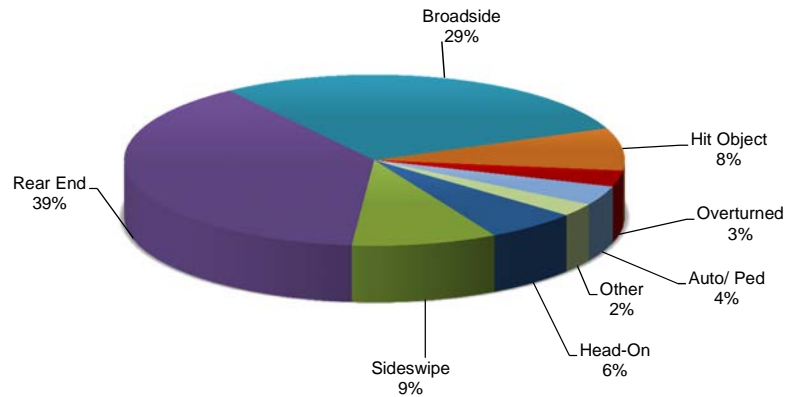


FIGURE 3 Drivers in Injury Collisions by Type of Collision by Movement Preceding Collision



In research for the SHSP, the data indicates that intersections and turns/rights of way are significant factors in many collisions within the various challenge areas (drunk driving, elderly drivers, bicycling, etc.). By placing the highest emphasis on intersection safety

within each challenge area, SCAG hopes to meet the goals of the SHSP to reduce transportation fatalities as well as increase transportation safety in the region.

TABLE 7 Persons Killed by Primary Collision Factor

Persons Killed by Primary Collision Factor	2005	2006	2007	2008	2009
Driving or Bicycling Under Influence of Alcohol or Drug	23.47%	23.42%	22.89%	23.23%	23.05%
Improper Turning	20.07%	19.28%	20.09%	19.17%	19.90%
Unsafe Speed	15.85%	15.20%	17.34%	16.55%	15.02%
Pedestrian Violation	9.08%	9.44%	8.77%	10.47%	10.24%
Wrong Side of Road	7.18%	7.60%	7.03%	6.85%	5.82%
Automobile Right-of-Way	6.06%	6.43%	5.52%	6.20%	5.88%
Traffic Signals and Signs	5.23%	5.38%	5.70%	4.44%	5.43%
Unsafe Lane Change	2.21%	2.29%	2.47%	2.15%	2.99%
Unknown	2.16%	2.31%	1.79%	1.85%	2.70%
Pedestrian Right-of-Way	1.84%	2.29%	2.09%	2.71%	2.60%
Other Than Driver	1.72%	1.57%	1.13%	1.68%	2.24%
Not Stated*	1.70%	1.60%	1.69%	2.12%	1.63%
Other Hazardous Violation	1.25%	1.19%	1.34%	0.79%	0.39%
Improper Passing	1.00%	1.07%	0.73%	0.71%	0.94%
Unsafe Starting or Backing	0.42%	0.19%	0.53%	0.47%	0.33%
Other Improper Driving	0.37%	0.31%	0.33%	0.21%	0.29%
Impeding Traffic	0.05%	0.12%	0.18%	0.00%	0.20%
Following Too Closely	0.21%	0.14%	0.10%	0.12%	0.13%
Other Equipment	0.07%	0.02%	0.20%	0.15%	0.10%
Hazardous Parking	0.05%	0.10%	0.05%	0.12%	0.07%
Lights	0.02%	0.05%	0.00%	0.03%	0.07%

**Challenge Area 1:
Reduce Impaired Driving-Related Fatalities**

California SHSP Goal: By 2010, reduce the number of roadway user fatalities attributed to alcohol and drug use by 15 percent from their 2004 level.

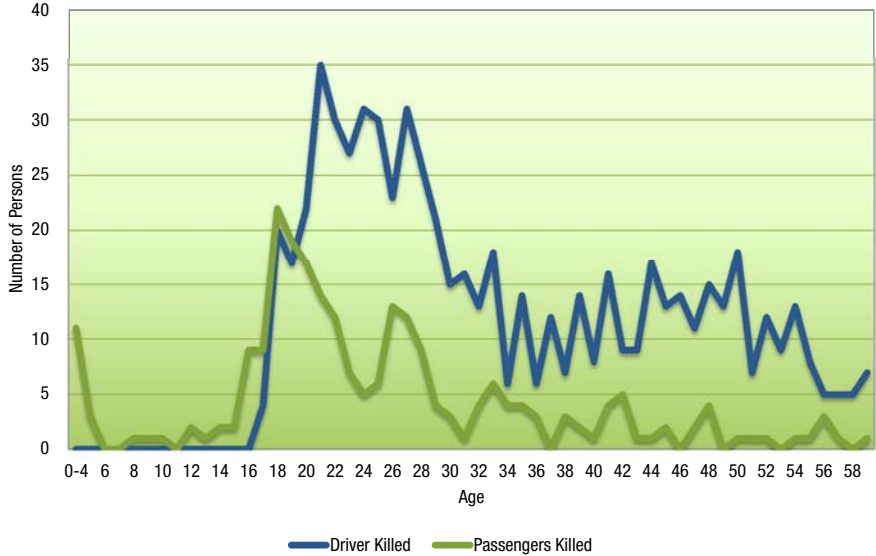
TABLE 8 Traffic Deaths Related to Alcohol or Drugs

	2004	2005	2006	2007	2008	2009	Goal (15% Below 2004 Levels)	% Increase/Decrease from Goal
Imperial	20	11	4	13	6	7	17	-58.82%
Los Angeles	259	240	276	268	258	204	220	-7.34%
Orange	67	78	80	75	62	62	57	8.87%
Riverside	116	112	136	129	101	87	99	-11.76%
San Bernardino	138	120	133	105	94	98	117	-16.45%
Ventura	19	16	31	28	27	23	16	42.41%
SCAG Region	619	577	660	618	548	481	526	-8.58%
Total	1,462	1,387	1,420	1,347	1,239	1,146	1,243	-7.78%

While the SCAG region has seen a decline in DUI/Drug collision fatalities since 2004 exceeding the goal set by the State, Orange County and Ventura County still exceed the goal. In addition, there was a sharp rise in fatalities in most SCAG counties in 2006 indicating that a reversal in the trend of reduced DUI fatalities could easily occur.

In addition, data indicates a significant rise in alcohol related fatalities beginning when drivers turn 18.

FIGURE 4 Persons Killed in Alcohol Involved Collisions by Age of Victim



SCAG Response

SCAG has no implementation authority, so can do little to enforce traffic laws, educate travelers, or provide EMS. What SCAG can do is work with the state and county transportation commissions to develop projects that promote the goals of the strategic highway safety plan, in conjunction with the enforcement, education and EMS goals. Local Governments should consider the following strategies from the SHSP Implementation Plan:

- 1.1 Consider increasing frequency, consistency, and publicity of sobriety checkpoint operations by law enforcement agencies in areas with the highest fatality rates.

Law enforcement increased the number of checkpoints in 2010 compared to a year earlier at the 50 cities with the highest rates of DUI fatalities. DUI arrests at the checkpoints increased by almost 25 percent.

Cities/counties can continue this work by pursuing NHTSA Incentive/Transfer Program Grants under S23 U.S.C. 402 or 23 U.S.C. 410

- 1.2 Encourage and increase statewide crime laboratory support and distribution of portable evidential breath testing devices to allow for increased use by law enforcement personnel.

The California Office of Traffic Safety (OTS) solicited counties to apply for funding for new PEBT devices. Kern and Ventura Counties were awarded 2010 grants. OTS funded \$1.7 million toward support and infrastructure to the Department of Justice's (DOJ) project to replace existing PEBT devices.

Cities/Counties can continue this work by pursuing NHTSA Incentive/Transfer Program Grants under Section 410: Alcohol Impaired Driving Countermeasure Incentive Grants.

Cities and Counties should consider many of the following additional strategies as they relate to local measures to reduce DUI fatalities.

- 1.3 Implement and maintain the Traffic Safety Resource Prosecutor program including specialized (DUI) prosecution training statewide and DUI prosecutor mentoring.
 - 1.4 Promote implementation of vertical prosecution of DUI offenders.
 - 1.5 Institute programs that provide intense monitoring of "worst of the worst" repeat DUI offenders.
 - 1.6 Develop uniform and consistent system for hospital staff to notify law enforcement upon the arrival of a person who has been involved in a traffic collision in which alcohol may have been involved.
 - 1.7 Design and develop a study to identify discrepancies in county DUI rates and develop recommendations for system improvements.
 - 1.8 Increase, by 15 percent, the number of law enforcement officers who are trained and certified as Drug Recognition Evaluator officers.
 - 1.9 Develop protocol and staffing to expand use of Screening and Brief Intervention Programs in hospitals and trauma centers, and encourage courts to obtain pre-sentence alcohol and drug screening investigations as authorized in Vehicle Code Section 23249.50 and include resulting recommended treatments in sentencing of convicted DUI offenders.
- 1.10 Track and report in the Department of Motor Vehicles (DMV) DUI Management Information System annual report the enrollment and completion rates of DUI offenders into alcohol programs.
 - 1.11 Increase the use of Minor Decoy and Decoy Shoulder Tap Programs to detect and deter the furnishing of alcohol to minors.
 - 1.12 DUI countermeasure evaluations including an increase in the use of home arrest (electronic confinement) for nonviolent DUI offenders.
 - 1.13 Develop and distribute a "tool kit" identifying programs, providers, and resources that will assist communities in implementing effective community-based, comprehensive, multijurisdictional DUI task forces.
 - 1.14 Encourage Licensee Education on Alcohol and Drugs training to retail licensees and their employees.
 - 1.15 Encourage full law enforcement, forensic laboratory, and DMV compliance and application of the administrative license suspension law provisions, through ongoing administrative training and outreach to law enforcement agencies, and by continuously tracking and reporting statewide and regional administrative operation trends.
 - 1.16 Facilitate the development and distribution of reference materials for use by judicial officers in court at entry of plea and sentencing proceedings to include mandatory sentencing requirements for license suspension, treatment programs, ignition interlock requirements, enhancements for elevated Blood Alcohol Content (BAC) levels, and open container laws.
 - 1.17 Increase publicity of the DUI Management Information System annual report to law enforcement, alcohol program providers, and the courts.

Challenge Area 2: Reduce the Occurrence and Consequence of Leaving the Roadway and Head-On Collisions

California SHSP Goal: By 2010, reduce the number of fatalities attributed to vehicles leaving the roadway by 15 percent from their 2004 level.

"Within California, data shows that the number of fatalities from vehicles leaving the roadway and head-on collisions accounted for 34 percent of total fatalities from

2002–2004. Although lower than the national average, further safety improvements are possible. In order to reduce the fatalities and injuries resulting from vehicles leaving the road, efforts must be made to: (1) keep vehicles from leaving the road, (2) reduce the likelihood and severity of errant vehicles crashing into fixed objects, and (3) reduce the likelihood of errant vehicles overturning.”

California intends to employ the following strategies to reduce the occurrence and consequence of leaving the roadway:

1. Keep vehicles on the roadway.
2. Minimize the consequences of leaving the roadway.
3. Reduce head-on collisions.
4. Apply advanced technology to reduce collisions.

SCAG Response

Work with subregions and county transportation commissions to continue to incorporate into highway construction/reconstruction methods to warn drivers (such as rumble strips, “Botts’ Dots,” pavement markers, curve warning signs/beacons) they are leaving the highway or wandering into other lanes.

Support the continuing deployment of high visibility signage and road striping that enhance driver’s ability to notice, recognize and respond to warning signs during night-time or periods of inclement weather.

Strategies that the State is pursuing where local governments can provide assistance include:

- 2.1 Implement a program to reduce run-off-road collisions on local roadways.
- 2.2 Develop a collision severity reduction program for local roadways.
- 2.3 Enhance existing collision concentration identification programs (specifically the Tables C and C Wet in the Traffic Accident and Surveillance Analysis System (TASAS) database) on the State Highway System.
- 2.4 Develop a program for local roadways that monitors 2- and 3- lane roadways for cross centerline collision concentrations.
- 2.5 Enhance the existing 2- and 3- Lane Monitoring Program on State Highway System.

- 2.6 Enhance the 210.015 Collision Severity Reduction Program on the State Highway System.
- 2.7 Continue to implement and enhance the Run Off Road Program on the State Highway System.
- 2.8 Continue to implement and enhance the Median Barrier Monitoring System on the State Highway System.

Challenge Area 3: Ensure Drivers are Properly Licensed

California SHSP Goal: By 2010, reduce the number of fatalities attributed to drivers with no license, invalid license, or not licensed for class of vehicle by 15 percent from their 2004 level.

California intends to employ the following strategies to address the challenge of unlicensed and incompetent drivers:

1. Improve the initial licensing process.
2. Improve the competency of licensed California drivers.
3. Improve how California manages unlicensed drivers.
4. Improve how California manages drivers who operate vehicles with a suspended or revoked license.

SCAG Response

While SCAG has an interest in ensuring drivers are [properly licensed, SCAG has no implementation authority with regard to the strategies and implementation plan. Implementation is at a State level.

For reference, the implementation strategies from the Strategic Highway Safety Plan are listed below.

- 3.1 Improve driver competency assessment tools to improve the renewal driver licensing process.
- 3.2 Improve educational components to inform the public about the new laws as new initial licensing and renewal licensing laws are implemented and established.

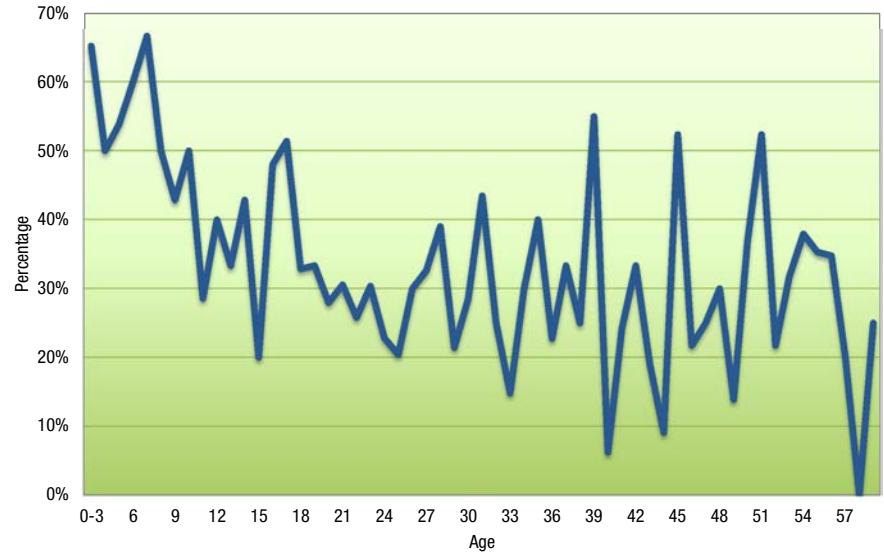
- 3.3 Encourage and increase vehicle impoundment for drivers whose licenses are suspended or revoked, or who are unlicensed.
- 3.4 Create a public awareness campaign addressing the consequences of driving without a valid license.
- 3.5 Improve driver competency assessment tools to improve the initial driver licensing process.
- 3.6 Examine the reasons why some individuals choose to drive without a proper license rather than reinstate licensing privileges when eligible and based on this information propose ways to increase the reinstatement rate.
- 3.7 Increase the integrity of the written testing process for driver license

**Challenge Area 4:
Increase Use of Safety Belts and Child Safety Seats**

California SHSP Goal: By 2010, increase statewide safety belt usage from the 2005 level of 92.5 percent to 95 percent, improve the use of child safety seats from 2005 level of 86.9 percent to 90.0 percent, and increase the percent of all vehicle occupant fatalities that are restrained to 70 percent.

The combination of air bags and lap and shoulder safety belts offers the most effective safety protection available for passenger vehicle occupants. California reports a 92.5 percent usage of safety belts in motor vehicles for 2005, yet in 60 percent of traffic fatalities involving victims under age 9 in California, safety devices were not used.

FIGURE 5 Percentage of California Traffic Fatalities Where Safety Equipment Was Not Used (by Age) 2009



Nearly 150 children under age 5 were killed in vehicle collisions within the SCAG region between 2004 and 2009, an average of 24.6/year.

TABLE 9 Passenger Victims Aged 5 and Under Killed in Collisions by County

	2004	2005	2006	2007	2008	2009
Imperial	2	2	0	1	0	1
Los Angeles	7	8	5	5	5	7
Orange	3	1	0	3	3	1
Riverside	9	6	3	7	6	5
San Bernardino	8	7	10	11	6	5
Ventura	0	3	1	1	2	1
Total	29	27	19	28	22	20

TABLE 10 Fatalities as a Percentage of All Traffic Fatalities

Primary Collision Factor	2004	2005	2006	2007	2008	2009
Improper Turning	18.76%	20.07%	19.28%	20.09%	19.17%	19.90%
Wrong Side of Road	7.60%	7.18%	7.60%	7.03%	6.85%	5.82%
Automobile Right-of-Way	7.67%	6.06%	6.43%	5.52%	6.20%	5.88%
Unsafe Lane Change	2.81%	2.21%	2.29%	2.47%	2.15%	2.99%
Pedestrian Right-of-Way	2.30%	1.84%	2.29%	2.09%	2.71%	2.60%
Ventura	0	3	1	1	2	1
Total	29	27	19	28	22	20

While SCAG has an interest in ensuring vehicle safety equipment is used, SCAG has no implementation authority with regard to the strategies and implementation plan. Implementation is at a State level and local level.

Localities can provide increased enforcement, particularly for child safety device usage and seat belt use among young (15–24) drivers and passengers.

For reference, the implementation strategies from the Strategic Highway Safety Plan are listed below.

- 4.1 Implement occupant protection programs targeted at ages 15–24 years.
- 4.2 Encourage increased enforcement and education campaigns for occupant protection programs.
- 4.3 Implement education campaigns for child passenger safety usage.
- 4.4 Develop and implement a social norms (media) campaign targeted to ages 15–24 years to influence or promote seat belt usage.
- 4.5 Initiate a project to develop a system that links the California Emergency Medical Services Information System (CEMSIS), SWITRS, and medical data (for example, data on injuries treated in hospitals and emergency departments).
- 4.6 Encourage prioritization of child passenger safety enforcement statewide.
- 4.7 Enhance occupant protection curriculum and oversight in all traffic related education programs.
- 4.8 Incorporate child passenger safety training (from certified child passenger safety trainers) into firefighter, health care, law enforcement, community-based organizations, and child care curricula/training for both initial and continuing education.
- 4.9 Promote the establishment of permanent child passenger safety fitting stations with paid staff, targeting counties based on need.
- 4.10 Develop a program that increases the accuracy of California child safety occupant protection misuse data.
- 4.11 Improve the child passenger safety violator process.
- 4.12 Implement substantially more child passenger violator educational programs statewide.

Challenge Area 5: Improve Driver Decisions about Rights-of-way and Turning

California SHSP Goal: By 2010, reduce the number of fatalities attributed to improper rights of way and turning decisions by 10 percent from their 2004 level.

In 2009, California was 17.7 percent below the goal, a remarkable achievement. However, driver errors in rights of way and turning represent nearly 40 percent of all traffic fatalities in California. Improper turning represented the most frequently cited collision factor representing nearly 20 percent of all traffic fatalities in 2009.

TABLE 11 Fatalities by Primary Collision Factor as a Percentage of All Traffic Fatalities

	Crossing in crosswalk - at intersection	Crossing in crosswalk – not at intersection	Crossing – not in crosswalk	In roadway – includes shoulder	Not in roadway	Approach/leave school bus	Not Stated	Total
0–4	2.30%	2.70%	6.30%	3.30%	5.30%		3.30%	3.80%
5–14	13.90%	14.70%	23.90%	9.90%	11.80%	18.20%	13.10%	15.80%
15–24	22.20%	24.90%	20.00%	24.10%	19.20%	18.20%	25.70%	21.80%
25–34	12.60%	10.50%	9.80%	17.50%	13.40%	9.10%	14.80%	12.70%
35–44	10.50%	12.30%	9.30%	15.30%	12.00%	9.10%	10.90%	11.10%
45–54	13.90%	10.50%	12.70%	14.70%	14.30%	36.40%	10.90%	13.70%
55–64	10.60%	9.90%	7.90%	7.80%	10.50%	9.10%	10.40%	9.40%
65 and over	13.30%	13.50%	9.30%	6.50%	13.20%		8.70%	11.00%
Total	44.20%	2.40%	27.30%	16.50%	8.10%	0.10%	1.30%	100.00%

The Challenge Area Team defined Rights of Way and Turning as the following:

RIGHT OF WAY is a driving concept that is fundamental to the most important decision that a driver makes. It is more commonly associated with decisions to cross or enter an

intersection, but it also applies to maneuvers performed along a uni-directional flow of traffic (e.g. weaving, passing, merging and diverging).

IMPROPER TURNING is the primary collision factor (PCF) most often reported when vehicles traveling on highway segments (i.e. between access points) leave their lane, then the highway, and then crash along the roadside.

UNSAFE LANE CHANGING – is also used to report collisions on highway segments, but with one difference: the offending vehicle collides with a vehicle in an adjacent or other lane before it can leave the highway. IMPROPER TURNING and UNSAFE LANE CHANGING are closely related, and can be mitigated with the same improvement strategies.

The Challenge Area Team developed the following hypotheses concerning the conditions causing improper Rights of Way and Turning decisions. The two most prevalent operating conditions that occur on a regular (at least daily) basis at high collision locations include:

- a. Combination of high volumes and speeds
- b. Combination of unstable flow and speed differential between adjacent lanes; this condition is noteworthy because it is the primary source of abrupt or last second lane changing that appears to present a higher risk or potential for collisions than ordinary lane changing.

The most common physical (geometric) conditions or deficiencies at locations or segments with concentrated collisions are:

- a. Access points that meet, or violate the minimum spacing requirements (per Caltrans or AASHTO policy)
- b. Cross-sections of eight or more lanes (4 or more lanes in one direction of travel)
- c. High ramp density due to closely spaced access points and multiple ramps serving single interchanges (due to high volumes seeking to enter or exit a freeway).

The most complex combination of geometrics, operational maneuvers and decision-making occurs along freeway corridors containing HOV lanes, especially when limited access design and operation is employed (the standard practice in Southern California). These facilities usually have the highest volume of traffic, the widest cross sections, a high level of recurrent and non-recurrent congestion, and left-side access openings between the HOV lane and adjacent freeway lanes that are superimposed over the existing right-side access ramps in a way that violates standard interchange spacing requirements.

A large percentage of collisions for this Challenge Area are located in the Los Angeles Basin - the area comprised of LA and Orange Counties, and parts of Ventura, Riverside and San Bernardino Counties.

This area contains:

- The highest volume highways (freeways) in the state
- The most congested highways (freeways) in the state
- The most lane miles of HOV lane found anywhere in the state (or nation)
- The highest density of freeway access points in the state (especially where HOV access openings have been superimposed on the existing freeway system)
- The longest commutes in the state (in terms of both distance and duration).

Finally, it is important to recognize that millions of decisions related to operational maneuvers occur throughout the entire highway network on a daily basis, yet collisions are concentrated over a very small portion of the infrastructure, and only when a certain combination of conditions exist. This clearly suggests that the frequency of maneuvers is not by itself responsible for collision concentrations. In fact, the presence of specific geometric features (including deficiencies) and operating conditions are prerequisites for collision concentrations.

STRATEGIES

California intends to employ the following strategies to reduce the number of fatalities attributed to improper rights of way and turning decisions:

1. Educate drivers on turning rules to support proper turning decisions.
2. Increase enforcement of drivers who make unsafe turns.
3. Employ traffic control devices, traffic calming, and speed-reduction design practices to reduce the likelihood and severity of crashes related to turning movements.
4. Improve roadway geometrics to restrict unsafe turns by motor vehicles.
5. Apply advanced technology to reduce collisions.

SCAG Response

Support the use of traffic control devices, traffic calming, and speed-reduction design practices to reduce the likelihood and severity of crashes related to turning movements.

Support improved roadway geometrics to restrict unsafe turns by motor vehicles.

Support the use of advanced technology and ITS to reduce collisions.

Encourage local governments to use the Transportation Injury Mapping System (TIMS) [See <http://tims.berkeley.edu/index.php>] to identify high crash locations within their jurisdictions.

- 5.1 Develop and encourage implementation of a systematic approach to the identification and improvement of existing and potential “high crash concentration locations” involving improper driver decisions about rights-of-way and turning.
- 5.2 Develop and encourage implementation of a systematic approach for the review of traffic control devices to identify devices in need of replacement, relocation or upgrade prior to the routine maintenance cycle.
- 5.3 Review driver education materials and procedures to include turning rules to support proper turning decisions.
- 5.4 Explore and implement approved technologies being used by other states and countries to reduce severe traffic collisions associated with turning and lane changing on high-speed, multilane facilities.
- 5.5 Expand the use of existing technology-based tools and strategies that have been demonstrated to correct or minimize the traffic operating conditions that are a primary cause of collisions related to abrupt lane changing near freeway merge and diverge points.
- 5.6 Improve and update highway design and operational policy, standards, and practices to reflect safety-related lessons learned and research findings. Apply new policy, standards, and practices during the planning and design of improvement projects on high-speed, multilane highway facilities.
- 5.7 Support new and ongoing research and development projects associated with in-vehicle communication and information technologies to help detect and warn drivers of potential collision with other vehicles in the adjacent lane during lane change maneuvers.

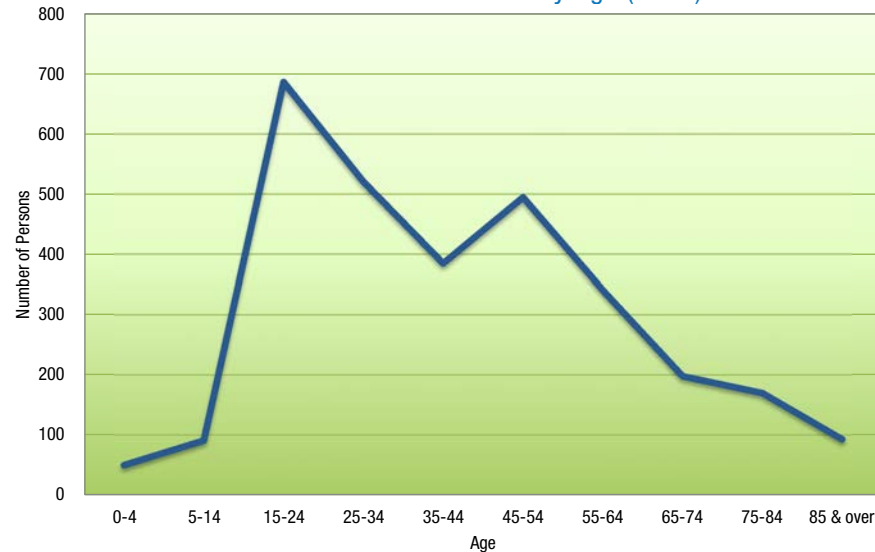
Challenge Area 6: Reduce Young Driver Fatalities

California SHSP Goal: By 2010, reduce the number of fatalities attributed to drivers age 15–20 by 15 percent from their 2004 level.

In 2004, 983 persons aged 15–24 were killed on roadways in California. Nearly 550 of them were drivers of motor vehicles. To reach the goal, driver deaths in this age group would have to decline to below 468 by 2010. In 2009, 372 drivers, aged 15–24 were killed, exceeding the goal set in the Strategic Highway Safety Plan.

Motor Vehicle accidents are the leading cause of death for young drivers. As the Figure 8 indicates, fatalities rapidly increase by age up until age 25, where they decline to levels normally associated with older, more experienced drivers.

FIGURE 6 Persons Killed in Traffic Collisions by Age (2009)



STRATEGIES

As part of its SHSP Implementation Plan, Caltrans developed the following strategies:

- 6.1 Implement the Driver Performance Evaluation drive test, as originally developed, to include freeway driving.
- 6.2 Establish a task force to resolve issues and make recommendations related to improving driver education and training.
- 6.3 Increase the use of law enforcement for graduated driver licensing outreach programs and proactive enforcement.
- 6.4 Initiate a program that promotes usage of parent-teen contracts related to driving privileges.
- 6.5 Expand the implementation of young driver programs such as: Smart Start, Right Turn, Teen Smart, Every 15 minutes, Friday-night Live, Sober Graduation, and Target Responsibility for Alcohol Connected Emergencies (TRACE), and encourage development of new programs.
- 6.6 Modify completion certificates for the required driver education and training courses to allow the DMV to include information on the driver record reflecting the modality of course offered as well as the type of organization that conducted the training.
- 6.7 Implement program to have DMV send a congratulatory letter to every provisional licensee that goes six months without any violations or collisions, until the provisional status is terminated at age 18 years. Encourage the insurance industry to provide discounts for parents and teens who receive a letter.
- 6.8 Increase schools district awareness of the State-legislated Safe Routes to School Program (SR2S) and the federal Safe Routes to School (SRTS) Program and encourage implementation of elements of these programs whenever possible if funding is insufficient for a comprehensive implementation.
- 6.9 Establish a task force to work with existing statewide media campaigns and to develop and pursue use of public service announcements to convey traffic safety messages related to young drivers and use of alcohol and drugs.

- 6.10 Encourage additional local communities to implement and maintain anti-DUI programs such as, Teenage Party Prevention, Enforcement and Dispersal, Minor Decoy Program, the Shoulder Tap Program, and TRACE.

SCAG Response

SCAG has no jurisdiction regarding the licensing of drivers

Challenge Area 7: Improve Intersection and Interchange Safety for Roadway Users

California SHSP Goal: By 2010, reduce the number of intersection crash fatalities by 15 percent from their 2004 level.

Over 166,000 people were injured or killed at intersections in the SCAG region between 2003 and 2005 (an annual average of 55,333), representing nearly 22 percent of traffic fatalities and 35 percent of all traffic injury and fatality victims.

The Challenge Area Team noted that in California, on average, during 2003-2005, more than 97,000 people were injured or killed each year attempting to navigate the unique characteristics of roadways crossing another road or railroad tracks. There are several major aspects of the fatal intersection safety problem. Fatal collisions tended to:

- Occur on local roads (80 percent),
- Involve broadside collisions (64 percent), and/or
- Involve violations of traffic signals, stop signs, or another user's right of way (58 percent).

Collisions at intersections represent the greatest factor in a majority of the challenge areas. Pedestrians, young drivers, older drivers and impaired drivers each represent over 20 percent of fatalities and injuries at intersections.

STRATEGIES

Seven strategies were developed that, along with relevant strategies from other challenge areas, have the potential to reduce fatalities at intersections and interchanges. These include:

- 7.1 Review existing or potential high-crash intersections and implement appropriate safety countermeasures, including but not limited to: visibility, advance warning, signal timing, access control, geometrics, operation and safety of all transportation modes, the use of roundabouts, intelligent transportation system tools, and targeted law enforcement.
- 7.2 Review existing or potential high-crash interchanges and implement appropriate safety countermeasures, including but not limited to: visibility, advance warning, access control, geometrics, operation and safety of all transportation modes, intelligent transportation system tools, and targeted law enforcement.
- 7.3 Establish a program, or utilize an existing program, for proactive review and safety improvements at rural high-crash concentration locations.
- 7.4 Review existing or potential high-crash at-grade railroad-highway crossings for contributing factors and implement Median Island Program or make other improvements such as visibility, advance warning, and geometrics.
- 7.5 Review existing or potential high-crash offset "T" intersections and convert to four-legged, signalized intersections as appropriate to improve traffic operations and safety.
- 7.6 Assess both the DMV's current California Driver Handbook and standard traffic school curriculum for information on intersection/interchange safety and make necessary additions and revisions.
- 7.7 Establish a State program to encourage local agencies to participate in blueprint visioning planning with participating MPOs/RTPA to provide streetscapes that incorporate land use and traffic measures that increase the safety of the intersections for pedestrian, bicyclists, and motorists.

SCAG Response

SCAG is working with communities as part of the blueprint process in order to coordinate local land use with transportation. This process incorporates transit oriented development and walkable communities. This can include:

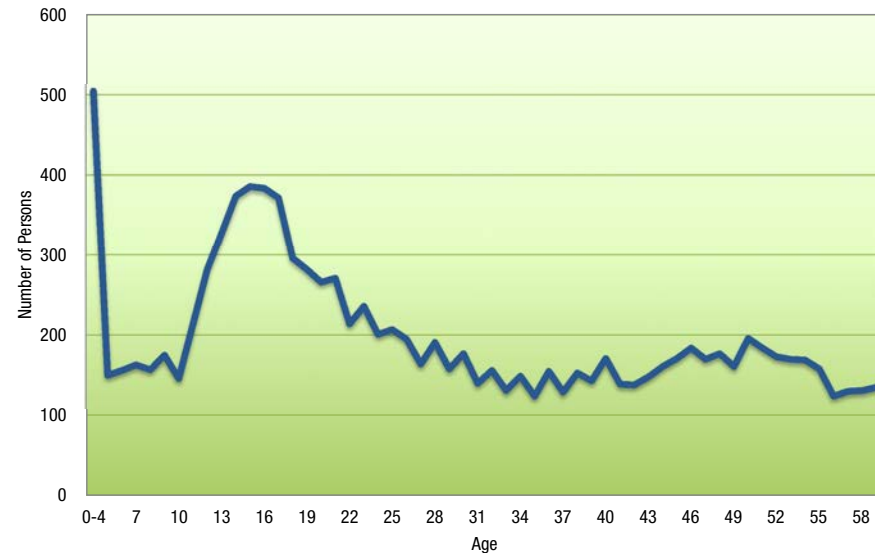
- Incorporate intersection safety into the compass blueprint strategy.
- Incorporate ITS at high incident intersections to reduce red-light violations causing collisions.

- Encourage clearly marked, visible crosswalks
- Encourage the installation of improved visibility traffic signals as part of the normal traffic signal replacement cycle.
- Encourage development of median sanctuaries for pedestrians
- Support signalization at problem non-signalized intersections
- Encourage changing intersection geometries, where applicable. (offset intersection to aligned intersection, intersection to interchange, intersection to roundabout)

Challenge Area 8: Make Walking and Street Crossing Safer

California SHSP Goal: By 2010, reduce the number of pedestrian fatalities attributed to vehicle collisions by 25 percent from their 2000 level.

FIGURE 7 Pedestrians Injured by Age



Over 7,500 pedestrians were injured or killed in the SCAG region in 2009. Los Angeles County, the most urbanized, has the highest number of killed and injured. In looking at

percentages, Los Angeles County leads also (the lower absolute number of fatalities and injuries in Imperial County skews the data).

One goal of the California Strategic Highway Safety Plan is “By 2010, reduce the number of pedestrian fatalities attributed to vehicle collisions by 25 percent from their 2000 level.” The SCAG region had 349 pedestrian fatalities in 2000. That would entail reducing pedestrian fatalities to less than 280 by 2010. In 2009, SCAG had 312 pedestrian fatalities. While progress is being made, the region is still significantly higher than the goal.

SCAG reviewed the SWITRS fatality and injury data. The results of this data indicate:

- The months of October through January have disproportionately high numbers of pedestrian injuries.
- Fridays and Saturdays have disproportionately high numbers of pedestrian fatalities and severe injuries.
- The highest percentage of pedestrian injuries and fatalities (44 percent) occurred while crossing in a crosswalk at an intersection
- Although the bulk of walking trips take place during daylight hours, 60 percent of pedestrian fatalities occur during the hours of 7 PM to 7 AM.
- Two-thirds of pedestrians killed in the State and 60 percent of those injured were male.
- Older pedestrians (65 and over) account for 19 percent of pedestrian injuries, but 25 percent of pedestrian fatalities.
- Children 14 and under account for 20 percent of pedestrian injuries, yet only 5 percent of pedestrian fatalities.
- Somewhat lower vehicle speeds in urban areas increase survivability of vehicle occupants in a collision, increasing the proportion of pedestrian fatalities to all traffic fatalities.

STRATEGIES

The California SHSP intends to employ the following overall strategies to reduce pedestrian fatalities:

1. Incorporate pedestrian safety into smart growth, land use planning, and other local plans.

2. Enhance the enforcement of violations of pedestrian law by pedestrians and motorists.
3. Educate all roadway users regarding the rights and responsibilities of pedestrians.
4. Promote and improve roadway safety infrastructure for pedestrians including the use of advanced technology.
5. Improve the visibility of pedestrians on the roadway.
6. Improve the safety of pedestrians traveling to and from schools.
7. Improve data collection and analysis regarding pedestrian trip characteristics, level of service, injuries and fatalities on California roadways.
8. Improve pedestrian safety expertise among transportation professionals and others involved in the design process.
9. Consider pedestrian needs in all roadway and transit projects.
10. Reduce vehicle speeds on urban thoroughfares and rural highways.

SCAG Response

- Encourage cities and counties to develop funding mechanisms to maintain and improve sidewalks and intersections to make them ADA compliant
 - Encourage every city to develop Safe Routes to School policies and plans
 - Encourage cities and counties to consider the needs of elderly and persons with disabilities crossing streets and develop appropriate countermeasures for their safety.
 - Encourage cities and counties to integrate pedestrian safety into general & specific plans, non-motorized transportation plans and other land use policy documents
 - Encourage the development of Pedestrian Safety Action Plans in all urban and rural communities
 - Incorporate applicable Complete Streets policies—providing safe access for all modes—as fundamental principles of transportation plans
 - Encourage safe, convenient, high visibility pedestrian crossings at mid-block and intersection locations on urban thoroughfares and rural highways.
 - Encourage clearly marked, visible crosswalks at intersections and mid block locations
- Encourage the use of advanced signalization at intersections
 - Encourage pedestrian and bicycle safety in all maintenance projects where new striping will be required or existing striping is to be replaced
- 8.1 Expand the SRTS to implement a comprehensive, age-appropriate approach to school traffic safety, including school facilities planning, collaboration, and coordination among those responsible for education, transportation, and land use planning to maximize safety for children walking to and from schools.
 - 8.2 Develop pedestrian safety improvement programs to identify and improve safety at high-crash concentration locations involving pedestrians.
 - 8.3 Form a task force to assist in development of pedestrian safety action plans, to facilitate training delivery, and to establish pedestrian safety improvement programs in California's urban and rural communities.
 - 8.4 Promote pedestrian safety audits and implementation of recommendations.
 - 8.5 Establish a Pedestrian Safety Data Think Tank to develop and implement a comprehensive Pedestrian Safety Data Plan which improves and institutionalizes pedestrian safety data collection and analysis, ensures that existing data collection efforts include information on pedestrian fatalities, injuries, and exposure, and implements a readily available format for local research and investigation.
 - 8.6 Improve pedestrian striping and include standard safety upgrades in routine maintenance and striping projects.
 - 8.7 Assess both the DMV's California Driver Handbook and standard traffic school curriculum for information on pedestrian-related laws, collision factors, and defensive walking and make additions/revisions as necessary. Develop and provide complementary ongoing pedestrian safety education materials reinforced with public information programs.
 - 8.8 Implement Complete Streets—providing safe access for all modes—and model pedestrian safety principles as fundamental in transportation and land use plans with incentives to cities, counties, and regions to integrate pedestrian safety in general and specific land use plans, transportation plans, and other policy documents.

Challenge Area 9: Improve Safety for Older Roadway Users

California SHSP Goal: By 2010, reduce the number of fatalities attributed to drivers age 65 and older by 10 percent from their 2004 level.

Older drivers tend to self-regulate, driving less, avoiding rush hour and nighttime driving unless necessary. However, that means that older drivers are over represented when taking into account vehicle miles traveled. In addition, the frailty associated with advancing years means that older drivers are more likely to succumb to injuries in a minor collision than a younger person.

Intersections pose a particular safety problem for older drivers. Navigating through intersections requires the ability to make rapid decisions, react quickly, and accurately judge speed and distance. As these abilities can diminish through aging, older drivers have more difficulties at intersections and are more likely to be involved in a fatal crash at these locations. Research shows that 37 percent of traffic-related fatalities involving drivers aged 65 and older occur at intersections compared with 18 percent for drivers aged 26 to 646.

“Failure-to-yield crashes occurred most often when drivers were turning left and occurred more frequently at stop signs than at signalized intersections. One reason was because failure-to-yield crashes at traffic signals were coded only for drivers turning left or right (going straight through a red light was coded as ran traffic control), whereas failure-to-yield crashes at stop signs were coded for drivers traveling straight as well as turning left or right. However, even among failure-to-yield crashes when drivers were turning left or right, a greater percentage occurred at stop signs (45 percent) than at signalized intersections (29 percent) . . .”

“ . . . Compared with drivers of other ages, drivers ages 70–79 made more evaluation errors in failure-to-yield crashes, and these errors generally occurred when drivers saw the other vehicles but misjudged whether there was enough time to proceed.”⁷

This may occur because of the level of cooperation needed at unsignalized intersections. At signalized intersections, the light dictates who moves. At a stop sign, there is greater interaction within the intersection proper. Some drivers enter the intersection “out of order” or come close to other cars already in the intersection “Among the oldest

drivers, failure to see other vehicles may be due to age-related declines in visual ability or decreased ability to process multiple sources of information simultaneously.” At “two way stop” intersections, the problems include, determining two-way or four-way stop, and assessing speed of non-stopping cars.

Recognizing that intersections are particularly problematic for older drivers, the FHWA’s top priority in its Highway Design Handbook for Older Drivers and Pedestrians is intersection improvements. Practices to improve older drivers’ ability to navigate intersections include using bigger signs with larger lettering to identify street names, consistent placement of lane use signs and arrow pavement markings, aligning lanes to improve drivers’ ability to see oncoming traffic, and using reflective markers on medians and island curbs at intersections to make them easier to see at night.

STRATEGIES

California intends to employ the following strategies to reduce older driver crashes:

1. Improve driver licensing testing and assessment procedures to more accurately reflect behind-the-wheel capabilities.
2. Create and promote wellness and behavioral strategies for older persons, making it possible for them to drive safely for added years.
3. Enhance law enforcement training to recognize older driver behaviors that may necessitate priority driver license re-examinations, and provide law enforcement with a broader understanding of older driver sensitivities.
4. Develop public education materials, programs and tactics that clearly explain how the aging process affects driving and what families, friends and the public can do to help seniors (1) drive for more years safely and (2) transition comfortably to alternate forms of transportation when driving ceases.
5. Explain and encourage older persons’ self-assessment of driving abilities and how to take advantage of that information to make appropriate decisions about driving.
6. Seek the cooperation and coordination of the transit (bus, light rail, etc.) community to make these transportation options more accommodating and practical for older persons who can no longer drive.
7. Implement advancements in highway lighting, striping, signing and engineering practices to make the highway environment safer for older drivers.

8. Leverage the programs and resources of the Older Californian Traffic Safety Task Force to help with accomplishment of stated objectives.
9. Promote the establishment and enhanced capacity of occupational therapy driving evaluation and rehabilitation programs that serve seniors.
10. Improve the ability of health care professionals to provide effective assessment, counseling, and remediation to improve safe mobility of seniors.

SCAG Response

- Support JARC/New Freedom, paratransit to include those over 65 years of age.
 - Support roadway, intersection and interchange improvements that support improving rights of way decision by older drivers.
 - Encourage formation and expanded use of Supplemental Transportation Systems (STPs), particularly in locations where standard public transit is sparse or unavailable.
 - Support signage and striping that enhance driver's ability to notice, recognize and respond to warning signs during nighttime and/or inclement weather conditions.
- 9.1 Implement and widely disseminate older driver safety and mobility programs of partner organizations.
 - 9.2 Improve left-turn options and intersections to meet the needs of older drivers.
 - 9.3 Provide statewide training, tools, and outreach to physicians and other health care providers on driving and dementia.
 - 9.4 Continue to hold the yearly Senior Safe Mobility Summit to:
 - (1) Stimulate communities to assess the need for, and if needed, offer transportation choices more responsive to the needs of older adults, and
 - (2) Assist seniors to remain safe drivers for as long as possible.
 - 9.5 Encourage implementation and installation of traffic control devices included in California Manual on Uniform Traffic Control Devices (CAMUTCD) to accommodate older drivers and pedestrians, particularly in areas with senior populations.
 - 9.6 Provide training to local and county design engineers and others on CAMUTCD-approved recommendations for accommodating older drivers and pedestrians.
 - 9.7 Expand senior orientation and travel training by all major transit systems initially and smaller systems eventually.
 - 9.8 Implement a multimedia education campaign to:
 - (1) broaden senior awareness of transportation options
 - (2) increase senior willingness to use these options; and
 - (3) enlist the support of families, friends, and the community in helping seniors transition to alternative forms of transportation.
 - 9.9 Encourage all California law enforcement agencies to adopt a policy to use the revised Form DS427, Notice of Priority Re-Examination, to standardize the process throughout the state.
 - 9.10 Encourage formation and expanded use of supplemental transportation systems, particularly where standard public transit is sparse or unavailable.
 - 9.11 Seek approval from the Commission on Peace Officers Standards and Training to incorporate the National Highway Traffic Safety Administration National Older Driver Law Enforcement Curriculum into the core curriculum taught at California's law enforcement academies.
 - 9.12 Develop models for funding occupational therapist evaluation of older persons' functional driving skills.
 - 9.13 Encourage efforts to establish a mobility action plan as described in Senate Bill 910 for California and to form a Mobility Council, which would oversee activities to ensure the action plan is carried out. Recommend that the Mobility Council include consumer representation.

Challenge Area 10. Reduce Speeding and Aggressive Driving

California SHSP Goal: By 2010, reduce the number of fatalities attributed to speeding and other forms of aggressive driving by 15 percent from their 2004 level.

The SHSP Challenge Area Team performed a review of the statistics from SWTRS reports between 2003 and 2005. The results indicate a number of trends in California:

The five counties having the highest number of aggressive driving fatalities in the state are Los Angeles (25.1 percent), San Diego (9.5 percent), San Bernardino (7.6 percent), Riverside (7.1 percent) and Orange (4.8 percent).

STRATEGIES

California intends to employ the following strategies to reduce speeding and aggressive driving collisions.

The SHSP Implementation Plan will present specific action items to implement these strategies:

1. Change our social norms to reduce the acceptability of speeding and other forms of aggressive driving.
2. Provide targeted enforcement to locations prone to speeding and other forms of and aggressive driving.
3. Employ engineering methods to deter speeding and other forms of aggressive driving (e.g. traffic calming).
4. Ensure consistent adjudication of drivers cited for speeding and other forms of aggressive driving.
5. Apply advanced technology to reduce collisions.
6. Reduce the presence of speeding, unsafe and aggressive driving on the television and in movies.

SCAG Response

Work with the State and county transportation commissions to determine if various project submissions have potential benefit to safety in this challenge area.

- 10.1 Develop a statewide definition for aggressive driving.
- 10.2 Conduct public information and education media outreach campaign.
- 10.3 Develop and encourage implementation of a systematic approach to identify and improve safety in high-crash concentration locations involving speeding and aggressive driving.
- 10.4 Form multijurisdictional traffic enforcement teams to address speeding and aggressive driving.
- 10.5 Employ vehicle impounding as a potential deterrent to speeding and aggressive driving.

10.6 Educate traffic commissioners and judges with consistent training programs on speeding and aggressive driving.

10.7 Develop a pilot re-education program to assess the effectiveness of behavior modification training on recidivism rates of repeat aggressive driving offenders

Challenge Area 11. Improve Commercial Vehicle Safety

California SHSP Goal: By 2010, reduce the number of commercial vehicle crash fatalities by 10 percent from their 2004 level.

Commercial Vehicle Safety is critical to the SCAG region. The region hosts three seaports and six active commercial airports that represent a significant amount of imported and exported cargo passing into and through the region. In addition, agriculture, particularly in Imperial and Ventura counties represent time-critical commercial transportation.

The State has exceeded its goal, reducing fatal collisions involving commercial vehicles in 2009 by 31 percent from 2004.

TABLE 11 Pedestrians Killed and Injured by Action – 2009

Collisions	2004	2009	Percent Decline
Total fatal collisions	3,701	2,805	24.20%
Fatal truck collisions	342	236	31.00%
Percent of total	9.20%	8.40%	
Total injury collisions	203,386	163,524	19.60%
Injury truck collisions	7,949	4,874	38.70%
Percent of Total	3.90%	3%	

The SCAG region represented 52.1 percent of the State's 5110 truck collisions that involved a fatality or injury in 2009. Of the 5110 truck involved collisions in the State, 2,124, or 42 percent had truck drivers at fault.

The majority of the 5,110 truck involved collisions in the State occurred when the truck was going straight (3,058), stopped (390) followed by changing lanes (331).

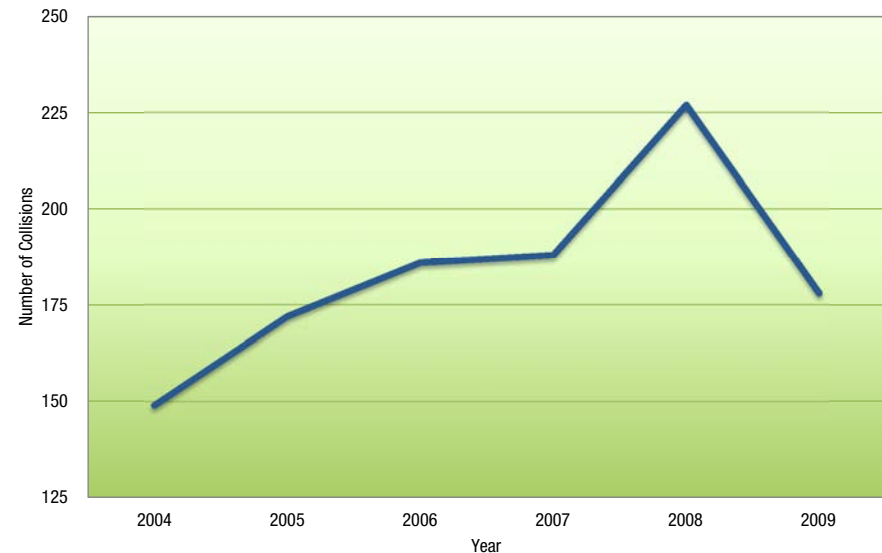
SCAG Response

- Support the use of dedicated truck capacity on corridors with significant truck traffic in order to separate commercial vehicles from passenger vehicles.
 - Support the continued modernization of intersections and interchanges prone to high commercial vehicle collisions to promote safety
 - Support the use of truck climbing lanes as a method to segregate commercial vehicles from passenger vehicles.
- 11.1 Establish minimum training standards for new commercial vehicle drivers.
 - 11.2 Increase the number of strike force operations.
 - 11.3 Conduct joint studies at high-crash collision locations involving commercial vehicles, identify appropriate infrastructure improvements, and make adjustments as needed.
 - 11.4 Enhance the Commercial Industry Education Program.
 - 11.5 Increase Biennial Inspection of Terminal inspections from 2006 levels.
 - 11.6 Study the feasibility of improving commercial vehicle safety by adding additional rest stops in identified locations, and increase the number of rest stops as needed.
 - 11.7 Advertise next rest stop location, use rest stop smart technology, and add rest stop information on the Caltrans website.

Challenge Area 12: Improve Motorcycle Safety

California SHSP Goal: By 2010, reduce the number of motorcycle rider fatalities by 10 percent from their 2004 level. In 2004 in the SCAG region, there were over 3,853 motorcycle collisions, of which 149 were fatal. In 2009, there were 4,789 motorcycle collisions, of which 178 were fatal. This represents a 19.5 percent increase in motorcycle fatalities in the SCAG region. In contrast, while State motorcycle fatalities increased in the same period, it did so by only 10.5 percent.

FIGURE 8 Fatal Motorcycle Collisions 2004–2009



In the State of California, motorcycles are involved in 13.9 percent of all fatal collisions, and 6.2 percent of all injury collisions. Within the SCAG region, motorcycles are involved in 14.7 percent of all fatal traffic collisions.

In researching the data for this challenge area, motorcyclists in their 20s were more than twice as likely as most other age groups to be at fault in a collision.

The primary collision factors for motorcycle collisions in 2009 were: unsafe speed, improper turning and driving under the influence (DUI) of alcohol and/or drugs.

- Alcohol impairment is a substantial problem for motorcyclists, more so than for drivers of other motor vehicles.
- Unsafe speed and improper turning indicate a need for an emphasis on rider education and training.
- Licensing (written/practical testing) and training standards for motorcyclists are lower than for drivers of passenger vehicles. This is despite the fact riding a motorcycle requires higher levels of both vehicle control and cognitive skills.

The greatest primary collision factor with motorcycle collisions is unsafe speed. Also noted in the table is that the 20–24 age group is significantly higher in collisions with a primary collision factor of unsafe speed. Younger motorcycle drivers have the highest number of collisions in 12 primary collision factors.

STRATEGIES

California intends to employ the following strategies to reduce motorcyclist fatalities:

1. Educate the public on motorcycle safety.
2. Improve the training, testing, and licensing of motorcyclists.
3. Enhance the enforcement of motorcyclist violations and violations by the operators of other vehicles.
4. Increase the use of safety equipment by motorcyclists.
5. Improve motorcyclist visibility to other roadway users.
6. Improve roadway design to enhance motorcycle safety.
7. Promote the use of helmets that meet USDOT standards.

SCAG Response

- Work with the State and county transportation commissions to determine if various project submissions have potential benefit to safety in this challenge area.
 - Work with local governments to help identify motorcycle high-collision concentration locations and help develop plans to mitigate possible causes.
- 12.1 Develop a monitoring program to identify motorcycle high-collision concentration locations and implement engineering, enforcement, and education improvements.
 - 12.2 Hold a motorcycle safety summit to review the SHSP actions and create an action plan for statewide motorcycle safety initiatives. Include stakeholders representing riders, government, safety organizations, law enforcement, insurance companies, and dealers.
 - 12.3 Assess both the DMV's California Driver Handbook and standard traffic school curriculum for information on sharing the road with motorcycles and make additions and revisions as necessary.

- 12.4 Create and implement an on-line traffic violator school curriculum specifically for motorcyclists.
- 12.5 Install signs and markings at high-crash concentration locations involving motorcycles, that are consistent with the CAMUTCD; remove, relocate, make breakaway or shield fixed objects; consider crashworthy barriers that are more "forgiving" to motorcyclists, or make curve corrections.
- 12.6 Identify owners of motorcycles who are not licensed to operate a motorcycle and alert them to California's requirement to be licensed in order to operate their motorcycle.
- 12.7 Educate judges, judge pro-tems, and court commissioners through DMV court liaisons to make them aware that the Basic Rider Course can be used to educate violators and to help them recognize proper and legal safety equipment.
- 12.8 Focus motorcycle-related law enforcement activities on areas with high motorcycle volumes.
- 12.9 Develop and implement motorcycle media campaigns such as "Ride like you're invisible, not invincible!" using a social marketing approach and using new media (YouTube, My Space, etc.).
- 12.10 Encourage the development and distribution of the CHP brochure, a DVD, and new media that describe the difference between the United States Department of Transportation (USDOT) approved helmet and other helmets.
- 12.11 Encourage use of approved USDOT helmets. Establish opportunities for helmet exchange and discount certificates towards the purchase of a safer helmet.
- 12.12 Create a Motorcycle Initiatives Review Committee to increase quality, continuity, and relevance of materials as well as to promote sharing of information related to motorcyclist-safety or motorcycle-awareness.

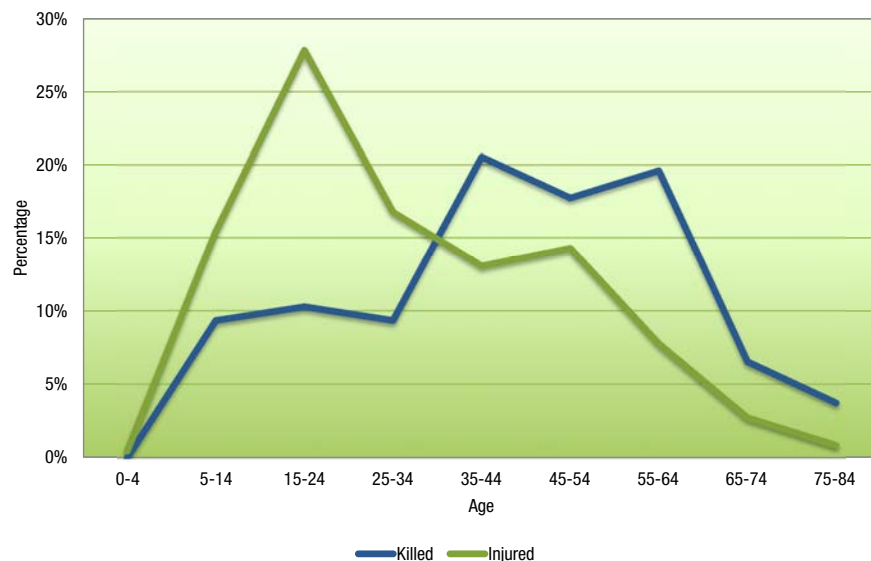
Challenge Area 13. Improve Bicycling Safety

California SHSP Goal: By 2010, reduce the number of bicycle roadway fatalities by 25 percent from their 2000 level.

In 2000, 118 bicyclists were killed on roads in the SCAG region, and 12,074 were injured. In contrast, in 2009, 107 bicyclists were killed and 12,043 were injured, a 9.3 percent and .26 percent decline, respectively.

The highest bicycle collision injuries are within the 15–24 age range (27.9 percent as a percentage of all bicycle collision injuries). It slowly declines, but then has a slight uptick in the 45–54 age range. The highest percentages of bicycling fatalities are within the 35–44 age range (20.6 percent) and 55–64 (19.6 percent)

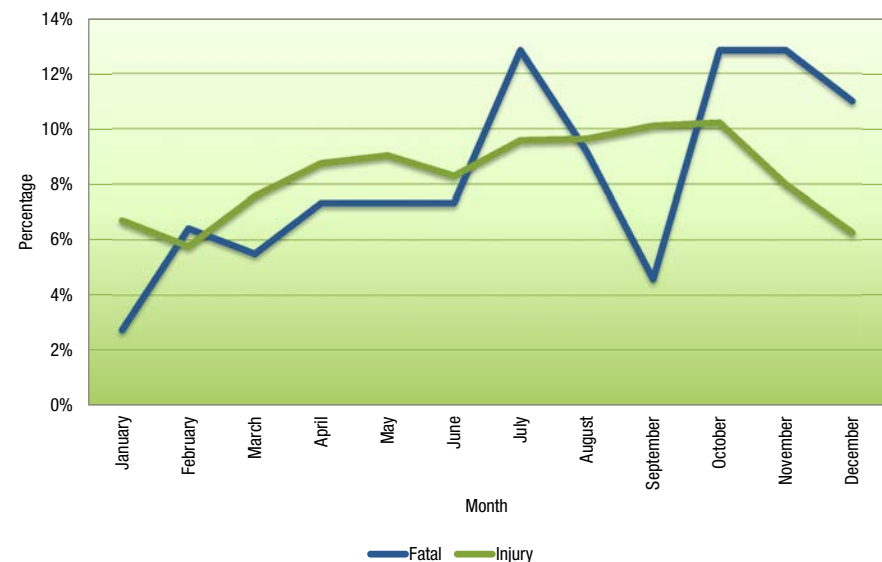
FIGURE 9 Bicyclists Killed and Injured by Age



Bicycling fatalities as a percentage of all traffic fatalities are low when compared to the number of motor vehicle deaths. The 107 bicyclists killed in 2009 represented 3.5 percent of all traffic fatalities in the State. Bicyclist injuries represented 5.2 percent of all traffic injury collisions in the State during the same period.

Collisions involving bicyclists tend to peak in late summer and fall, declining after October, before rising again in March.

FIGURE 10 Percentage of Bicyclist Collisions by Month



Historically, the primary goal of roadway design for urban thoroughfares and rural highways has been to increase vehicular traffic flow particularly at peak congestion times. This has created situations where slow speed bicycles are traveling at speeds less than 25 miles per hour are sharing lanes with cars often going at much greater speeds. This speed differential, coupled with the physics of a 30 pound bicycle colliding with, or being struck by, a 3000+ pound vehicle, is a factor in the severity of injuries.

The increasing popularity of bicycling for commuting, utilitarian and recreational use has created increasing conflicts between motor vehicles and bicyclists. One obvious potential solution is to build more dedicated bicycle facilities in order to separate bicyclists from

motorists whether through bike paths or bike lanes. Anecdotal evidence from New York City, Portland and other cities indicate that increasing facilities for bicycles both increase the number of bicyclists while also increasing their safety.

STRATEGIES

California intends to employ the following strategies to reduce bicyclist fatalities on California's roadways:

1. Improve data collection regarding bicyclist trips, injuries, and fatalities on California roadways.
 2. Incorporate bicyclists into smart growth, land use planning, and other local plans.
 3. Enhance the enforcement of bicyclist and motorist roadway laws.
 4. Educate all roadway users regarding the rights and responsibilities of bicyclists.
 5. Promote and improve roadway safety infrastructure for bicyclist use.
 6. Improve the visibility of bicyclists on the roadway.
 7. Improve the safety of bicyclists traveling to and from schools, utilizing education, encouragement, enforcement and engineering techniques.
 8. Increase the use of helmets and enforcement of related laws.
 9. Improve bicycle safety expertise among transportation professionals.
- Encourage pedestrian and bicycle safety in all maintenance projects where new striping will be required or existing striping is to be replaced
 - Encourage the use of intersection control devices that detect bicyclists, particularly left turn signals.
 - Encourage bicycle education in lieu of fines for bicyclists and motorists who commit bicycle related traffic violations
 - Support expanding Safe Routes to School programs for non-infrastructure projects focusing on education, bicyclist visibility, motorist awareness, and accommodation of bicyclists
 - Develop a standardized database of bicycle data, including safety, counts, surveys, etc. for use throughout the SCAG region.

SCAG Response

- Encourage every city in the SCAG region to be connected via bicycle facilities, including wayfinding signage
 - Develop regionally significant bicycle corridors for bicycle travel throughout the region
 - Encourage every city to fully implement their bicycle master plans
 - Encourage all local jurisdictions to develop Active Transportation Master Plans.
 - Incorporate applicable Complete Streets policies—providing safe access for all modes—as fundamental principles of transportation plans.
 - Encourage the consideration of bicycle and pedestrian safety as part of Blueprint Land Use Planning.
- 13.1 Establish a bicycle safety improvement program-with project selection criteria-for State highways and local roads. Establish more bicycle and pedestrian corridors and create partnerships in high-collision incident areas.
 - 13.2 Increase bicycle helmet usage through education and promotion.
 - 13.3 Enhance bicycling information in DMV materials and procedures.
 - 13.4 Enhance bicycling information in current Peace Officer Standards and Training, California Vehicle Code, and traffic law enforcement modules.
 - 13.5 Support and expand the California Bicycle Coalition Complete Streets Sub-Committee to develop a curriculum and design standards for complete streets, traffic calming, safe intersection design, and appropriate vehicle speeds for environments where pedestrians and bicyclists are legal users.
 - 13.6 Provide improved guidance and standards in the CAMUTCD for safely accommodating bicyclists in work zones.
 - 13.7 Provide information about policies concerning bicycling to transportation professionals-including State and local agencies and transportation consultants.
 - 13.8 Implement and encourage bicycle safety inspections, training, and education at schools as part of physical education or other programs.
 - 13.9 Support expanding Safe Routes to School programs for non-infrastructure projects focusing on education, bicyclist visibility, motorist awareness, and accommodation of bicyclists.

13.10 Improve data collection—from various sources—regarding bicycle trips and bicycle collisions.

13.11 Develop and implement a bicycle safety public education, information, and enforcement program for all age groups of road users.

Challenge Area 14. Enhance Work Zone Safety

California SHSP Goal: By 2010, reduce work zone fatalities by 10 percent from their 2004 level.

A work zone is an area of the road where maintenance or construction occurs and may involve lane closures, detours, shoulder work and moving equipment. In the SCAG region, the work zone can be any time of year. On many of SCAG roadways, the work often occurs at night. Many fatalities occur because of excessive speed, impaired, and distracted driving.

In 2009, there were 46 work zone fatalities in California, a 58 percent reduction from the 109 work zone fatalities in 2004. Those killed included drivers, vehicle occupants, workers, bicyclists and pedestrians.

Highway work zones create a major safety concern for roadway users and workers alike. In 2003, national fatalities in work zones totaled 1,068. This number included 117 pedestrians, most of whom were construction workers, and 943 vehicle drivers and occupants.

STRATEGIES

California intends to employ the following strategies to reduce work zone fatalities:

1. Enhance safe driving through work zones with education and enforcement.
2. Improve traffic control in work zones.
3. Reduce worker exposure and improve worker visibility.
4. Apply advanced technology to enhance work zone area.
5. Improve data collection and analysis.

For California Temporary Traffic Control Zones” <http://dot.ca.gov/hq/traffops/signtech/signdel/pdf/PedBrochure.pdf>

- 14.1 Expand present efforts to create and implement a joint training program for field personnel and law enforcement officers to better understand each others’ responsibilities and coordinate activities in the work zone.
- 14.2 Improve collection, storage, and evaluation of work zone crash data.
- 14.3 Encourage present efforts to increase use of dynamic merge systems to reduce rear-end collisions and aggressive driving.
- 14.4 Encourage and permanently fund present efforts to influence driver behavior with Slow for the Cone Zone and Work Zone Awareness campaigns and to reduce traffic through work zones using project specific public awareness campaigns.
- 14.5 Encourage present efforts to deploy more and better mobile and temporary barriers and attenuators (rather than just cones) to provide positive protection for workers and safe deflection of errant vehicles.
- 14.6 Increase work zone safety training and proficiency of workers and traffic control staff.
- 14.7 Encourage present efforts to consider full closures early in the project design process with the goal of increasing the use of this option.
- 14.8 Develop a web-based system that records or gathers in one location information about the number, duration, and location of actual major, minor, blanket, and rolling work zones. Local road work by counties and cities, including utility companies, will be gathered at a minimum, but other data needs should be identified as well.
- 14.9 Encourage incorporation of the Safety Edge in construction paving projects.
- 14.10 Assess the DMVs’ California Drivers Handbook for information on work zone safety and update or expand it as necessary.
- 14.11 Form a team to develop industry standards to evaluate innovative technology on a routine basis as practitioners propose new methods and technologies to improve work zone safety.
- 14.12 Encourage present efforts to improve access and detours for bicyclists and pedestrians near work zones.
- 14.13 Expand improvements to traffic control and encourage use of project specific websites to provide motorists with work zone delay information.

- 14.14 Form a team to evaluate best work zone safety practices in other states and to develop a request for proposal purchasing process for innovative technology to allow routine use with minimum legal challenges.

SCAG Response

Encourage work zone safety training and proficiency for all transportation modes) at city and county governments.

Encourage efforts to improve access and detours for bicyclists and pedestrians near work zones, such the brochure on “Pedestrian Considerations

Challenge Area 15. Improve Post Crash Survivability

California SHSP Goal: By 2010, reduce crash-related fatalities in California at least 5 percent from their 2004 level through focused improvements in Emergency Medical Services (EMS) system communications, response and safety education.

In 2004, 302,176 persons in California required Emergency Medical Service (EMS) response as a result of a serious motor vehicle collision.

Challenge Area 15 focuses on the person that survives a serious motor vehicle collision. Improving EMS response time to the collision, transport time, and inter-facility transfer time (when appropriate) will result in achieving the targeted “Golden Hour” (the time period from the incident until the victim receives definitive specialized trauma care; ideally no longer than 60 minutes) Adherence to the “Golden Hour” concept is critical to survival and optimum outcome.

The first peak in post-crash deaths is within seconds or minutes of injury. If the number of these deaths is to be reduced, it must be through effective prevention programs. The second peak in deaths occurs within the first four hours after incident and is due to undiagnosed and untreated injuries. These patients, whose numbers are significant, would benefit most from appropriate level of trauma care. Regionalized trauma care facilitates rapid transport to the nearest trauma center appropriate for the severity of injury. These complications can be positively affected by prompt initial resuscitation efforts in an appropriate level trauma center.

STRATEGIES

California intends to employ the following strategies to improve post-crash survivability:

1. Improve technology for locating crash sites and for improving EMS access routes and response times.
2. Ensure interoperability of communications systems between all responders to crash sites.
3. Improve patient transportation and destination from crash location.
4. Increase availability of appropriate-level trauma centers, with emphasis on rural areas.
5. Improve access to trauma-related training courses for Emergency Medical Technicians and paramedics.
6. Encourage Emergency Medical Dispatch programs to train dispatchers to assist victims awaiting arrival of EMS.
7. Improve data access to meet the needs of EMS.
8. Increase public access to first aid, cardio pulmonary resuscitation CPR, and automated external defibrillation training.
 - 15.1 Implement the CEMSIS with appropriate linkage to other data systems, which include but are not limited to the SWITRS, Office of Statewide Health Planning and Development, and Vital Statistics.
 - 15.2 Increase hospital participation in an inclusive State Trauma System, supporting the California Statewide Trauma Planning: Assessment and Future Direction Document.
 - 15.3 Encourage the increased communication linkage between all emergency response agencies.
 - 15.4 Develop a multifaceted educational program with common language for identifying location of crash, destination, and appropriate transportation of injured persons. The education will be aimed at the public (e911 cellular phone calls), law enforcement, Caltrans, and all pre-hospital personnel.
 - 15.5 Implement a full-spectrum education program developing collaborative practice for rural trauma care. To cover the continuum of care, this education will encompass the bystander public, pre-hospital responders, and hospital personnel.

SCAG Response

- Utilize Intelligent Transportation System technology to improve response time for EMS to and from collision sites.

Challenge Area 16. Improve Safety Data Collection, Access and Analysis

California SHSP Goal: Improve the quality, timeliness, accessibility, and usefulness of traffic safety data.

STRATEGIES

California intends to employ the following strategies to improve safety data collection, access, and analysis:

1. Improve the quality, completeness, and uniformity of data collection practices.
2. Improve data sharing among State, federal, and local agencies and stakeholders.
3. Improve accessibility to real-time information by California roadway users.
4. Enhance accessibility of traffic safety data.
5. Improve data collection and analysis regarding trip characteristics of all roadway users, level of service, injuries, and fatalities on California roadways.
6. Coordinate traffic safety information system improvements through the State Traffic Records Coordinating Committee.

SCAG Response

- Work with the State and county transportation commissions to improve the quality, timeliness, accessibility and usefulness of traffic safety data.
- Publish SHSP safety data and statistics in the annual State of the Region or State of the Commute report.

Challenge Area 17. Reduce Distracted Driving

Interim California SHSP Goal: By 2014, based on the California Traffic Safety Survey, reduce the percentage of drivers who “regularly” talk on a hand-held cell phone, hands-free cell phone, or text while driving by 10% from the 2010 level.

STRATEGIES

California added this Challenge Area in response to collisions where cell phone usage was listed as a factor and developed the following three strategies to reduce fatalities caused by distracted driving.

- 17.1 Develop and implement a statewide campaign to change social norms related to distracted driving
- 17.2 Conduct increased enforcement and public awareness annually during National Distracted Driving Awareness Month
- 17.3 Document driver behavior through an annual statewide cell phone/texting observational survey.

SCAG Response

The focus of this challenge area is primarily enforcement and education. SCAG encourages local jurisdictions to develop enforcement and education programs designed to discourage distracted driving.

California Five Percent Report for the SCAG Region

The following tables represent the SCAG portion of the California Five Percent Report. The Five Percent Report is in response to the Federal requirement that each state describe at least 5 percent of its locations currently exhibiting the most severe highway safety needs, in accordance with 23 U.S.C. Sections 148(c)(1)(D) and 148(g)(3)(A). The Tables include:

- Five Percent of State Highway Locations
- Five Percent of State Highway Intersections/Interchanges
- Five Percent of State Highway Ramp Locations
- Five Percent of Local Streets and Roads

The Five Percent Report is intended to educate the State of California and local governments where problem locations are, and allow them to take steps to provide solutions. The report is for educational purposes and cannot be used in legal proceedings.

In identifying State highway locations, Caltrans used the SHS location information from its Traffic Accident Surveillance and Analysis System (TASAS) Table C Report, which generates a list of high-collision-concentration locations requiring traffic safety investigation. The TASAS Table C Report provides information for the 36-month period from January 1, 2006, through December 31, 2008. It considers collisions for 3-, 6-, 12-, 24-, and 36-month periods; traffic volumes; collision rates; average collision rates; and roadway types. The locations on the TASAS Table C Report were sorted into three lists: roadway segments (0.2-mile segments), intersections (each intersection location includes 250 feet on all approaches), and ramps (each ramp location includes entry, exit, and body of ramp). For each of these lists, the top 2.5 percent locations by fatal and injury collision rates and the top 2.5 percent locations by the number of fatal and injury collisions were identified. Combined, these figures comprise the 5 percent SHS locations for this Report.

The California Highway Patrol's Statewide Integrated Traffic Records System was used to obtain collision information for identifying locations on local streets and roads for this Report. The local streets and roads were divided into 0.5-mile segments within each county, resulting in a total of 280,166 segments. Collision concentrations were determined for segments on which at least one fatal or severe injury collision occurred from 2006 through 2008, with the assumption that these areas could have potential safety

needs. There were 17,535 segments identified and sorted to generate lists by county. Each county list was sorted from high to low by the number of fatal or severe injury collisions for each segment. Following that, the top 5 percent segments for each of these county lists were identified. Segments with at least three or more fatal or severe injury collisions were included in this Report as locations.

Discovery and admission into evidence of certain reports, surveys, and information.—Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for any purpose directly relating to paragraph(1) or subsection(c)(1) (D), or published by the Secretary in accordance with paragraph(3), shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location identified or addressed in such reports, surveys, schedules, lists, or other data.

The information in this Report is also protected by title 23 United States Code section 409, "Discovery and admission as evidence of certain reports and surveys."

TABLE 12 California State Highway System Roadway Segment Locations

County	Route	Location (0.2-Mile Segment with Beginning Post Mile)	County	Route	Location (0.2-Mile Segment with Beginning Post Mile)
Los Angeles	2	029.658 to 029.858	Los Angeles	110	023.250 to 023.450 North
Los Angeles	2	030.298 to 030.498	Los Angeles	110	028.984 to 029.184 South
Los Angeles	2	033.216 to 033.416	Los Angeles	405	025.910 to 026.110 North
Los Angeles	5	004.360 to 004.560 North	Los Angeles	405	030.169 to 030.369 South
Los Angeles	5	017.072 to 017.272 South	Los Angeles	405	030.726 to 030.926 South
Los Angeles	5	017.512 to 017.712 South	Los Angeles	405	031.525 to 031.725 South

County	Route	Location (0.2-Mile Segment with Beginning Post Mile)	County	Route	Location (0.2-Mile Segment with Beginning Post Mile)
Los Angeles	10	R011.329 to R011.529 West	Los Angeles	605	R008.389 to R008.589 North
Los Angeles	60	R024.257 to R024.457 West	Los Angeles	605	R010.369 to R010.569 South
Los Angeles	91	R006.850 to R007.050 West	Orange	5	030.823 to 031.023 South
Los Angeles	91	R017.420 to R017.620 West	Orange	5	031.023 to 031.223 South
Los Angeles	91	R018.068 to R018.268 West	Orange	22	R008.726 to R008.926 East
Los Angeles	101	009.206 to 009.406 South	Orange	22	R009.271 to R009.471 East
Los Angeles	101	014.920 to 015.120 North	Riverside	15	004.135 to 004.335 South
Los Angeles	110	020.540 to 020.740 North	San Bernardino	10	012.910 to 013.110 East
Los Angeles	110	022.006 to 022.206 South	San Bernardino	38	029.509 to 029.709
Los Angeles	110	022.486 to 022.686 South	Ventura	33	016.568 to 016.768
			Ventura	33	032.098 to 032.298

TABLE 13 California State Highway System Intersection/Interchange Locations

County	Route	Location (Post Mile)
Los Angeles	2	49.701 Entrance Lower Chilao
Los Angeles	19	7.403 Somerset Blvd
Los Angeles	138	47.761 40th St East
Los Angeles	210U	3.431 Fruit St
Orange	39	1.63 Adams Ave
Orange	39	4.131 Slater Ave
Orange	39	5.471 Stark Ave
Orange	39	5.641 Edinger Ave
Riverside	74	38.48 Sanderson Ave
Ventura	1	20.14 Vineyard Ave

TABLE 14 California State Highway System Ramp Locations

County	Route	Location (Post Mile)
Los Angeles	14	R 54.38 NB Off-ramp
Los Angeles	91	R 17.004 WB On-ramp
Los Angeles	110	25.488 NB Off-ramp
Los Angeles	710	12.871 SB On-ramp
Orange	5	35.023 NB Off-ramp
Riverside	215	R 35.6 NB Off-ramp
San Bernardino	15	7.977 NB Off-ramp
Ventura	101	14.663 SB On-ramp

TABLE 15 5 percent Locations, Local Streets and Roads

County	Primary	Secondary	From	To
Los Angeles	S Figueroa St	W Manchester Ave	-1225	1415
Los Angeles	W Rosecrans Ave	Larch Ave	-125	2515
Los Angeles	S Normandie Ave	W 103rd St	-240	2400
Los Angeles	Hollywood Blvd	N Western Ave	-1340	1300
Los Angeles	S Western Ave	W 29th St	-579	2061
Los Angeles	N Highland Ave	W Sunset Blvd	-11	2629
Los Angeles	N Vermont Ave	Rosewood Ave	-2058	582
Los Angeles	Crenshaw Blvd	W 120th St	-885	1755
Los Angeles	W Jefferson Blvd	McClintock Ave	-1405	1235
Los Angeles	W Imperial Hwy	Hawthorne Blvd	-46	2594
Los Angeles	S La Cienega Blvd	Hill St	-2112	528
Los Angeles	W Florence Ave	8th Ave	-1268	1372
Los Angeles	S Normandie Ave	W 95th St	95	2735
Los Angeles	S Central Ave	E Florence Ave	-2224	416
Los Angeles	S Central Ave	E 46th St	-1536	1104
Los Angeles	Avalon Blvd	E 88th Pl	-855	1785
Los Angeles	Broadway Pl	W 38th St	-2178	462
Los Angeles	Wilshire Blvd	Bonsall Ave	-1325	1315
Los Angeles	Victory Blvd	Dempsey Ave	-1060	1580
Los Angeles	Ventura Blvd	Radford Ave	-714	1926
Los Angeles	Sierra Hwy	W Ave G	-1108	1533
Los Angeles	S La Brea Ave	Dockweiler St	-2006	634
Los Angeles	S Western Ave	W 57th St	-2379	261
Los Angeles	S Western Ave	W 37th Dr	-2311	329
Los Angeles	S Vermont Ave	W 115th St	-421	2219
Los Angeles	S Vermont Ave	W 83rd St	-2139	501
Los Angeles	S Vermont Ave	W 74th St	-214	2426

County	Primary	Secondary	From	To
Los Angeles	W El Segundo Blvd	S Budlong Ave	-830	1810
Los Angeles	S Prairie Ave	W Century Blvd	-1174	1466
Los Angeles	Crenshaw Blvd	W Florence Ave	-1527	1113
Los Angeles	E Anaheim St	Loma Ave	-1398	1242
Los Angeles	Venice Blvd	Menlo Ave	-1063	1577
Los Angeles	Culver Blvd	Berryman Ave	-1274	1366
Los Angeles	Jefferson Blvd	S La Brea Ave	-1908	732
Los Angeles	W Imperial Hwy	S Vermont Ave	-2708	-68
Los Angeles	E Imperial Hwy	Wadsworth Ave	-2277	363
Los Angeles	S La Cienega Blvd	W 18th St	-1038	1602
Los Angeles	W 3rd St	S Kenmore Ave	-2016	624
Los Angeles	E Vernon Ave	Avalon Blvd	-2200	440
Los Angeles	S Hoover St	W 41st St	-2108	532
Los Angeles	S Central Ave	E 87th Pl	-1517	1123
Los Angeles	E Olympic Blvd	Amalia Ave	-2636	4
Los Angeles	Beverly Blvd	Ben Alder Ave	-136	2504
Los Angeles	Paramount Blvd	Cade St	-230	2410
Los Angeles	W Willow St	Easy Ave	-861	1779
Los Angeles	W Sunset Blvd	N Gower St	-493	2147
Los Angeles	W Olympic Blvd	S Kingsley Dr	-2325	315
Los Angeles	Victory Blvd	Winnetka Ave	-1095	1545
Los Angeles	Pearblossom Hwy	25th St E	-2102	538
Los Angeles	50th St E	E Ave P8	-4040	-1400
Los Angeles	Balboa Blvd	Westbury Dr	-890	1750
Los Angeles	De Soto Ave	Strathern St	-2389	251
Los Angeles	Sherman Way	Balboa Blvd	-2571	69
Los Angeles	Roscoe Blvd	Noble Ave	-689	1951
Los Angeles	Van Nuys Blvd	Arleta Ave	-1126	1514

County	Primary	Secondary	From	To
Los Angeles	S Western Ave	W 110th St	-683	1957
Los Angeles	S Western Ave	W 104th St	-435	2205
Los Angeles	N Western Ave	Elmwood Ave	-2680	-40
Los Angeles	N San Fernando Rd	Fletcher Dr	-399	2241
Los Angeles	Vermont Ave	Sepulveda Blvd	-1529	1111
Los Angeles	S Vermont Ave	W 11th St	-2313	327
Los Angeles	Vista Del Mar Ave	W Imperial Hwy	370	3010
Los Angeles	Marine Ave	Hawthorne Blvd	-2209	431
Los Angeles	Prairie Ave	W 141st St	-1943	697
Los Angeles	Prairie Ave	W 135th St	-1148	1492
Los Angeles	Crenshaw Blvd	W 135th St	-851	1789
Los Angeles	Crenshaw Blvd	W 28th St	-1423	1217
Los Angeles	E Anaheim St	Dawson Ave	-2043	597
Los Angeles	S Centinela Ave	W Washington Blvd	-319	2321
Los Angeles	Culver Blvd	W Jefferson Blvd	313	2953
Los Angeles	Admiralty Way	Mindanao Way	-2099	541
Los Angeles	W Slauson Ave	S Budlong Ave	-2275	365
Los Angeles	Imperial Hwy	Carmenita Rd	-160	2480
Los Angeles	Century Blvd	S Vermont Ave	-500	2140
Los Angeles	Century Blvd	S La Cienega Blvd	-494	2146
Los Angeles	W Washington Blvd	Arlington Ave	-1273	1367
Los Angeles	W Martin Luther King Jr	S Hobart Blvd	-1603	1037
Los Angeles	N La Cienega Blvd	Clifton Way	-2534	106
Los Angeles	W 6th St	S Grand View St	-756	1884
Los Angeles	Fountain Ave	N Flores St	-1528	1112
Los Angeles	Fountain Ave	N Spaulding Ave	-647	1993
Los Angeles	W 3rd St	S Larchmont Blvd	-1755	885
Los Angeles	W 3rd St	S Alvarado St	-1994	646

County	Primary	Secondary	From	To
Los Angeles	Fountain Ave	N Ardmore Ave	-1773	867
Los Angeles	Santa Monica Blvd	N New Hampshire Ave	-1356	1284
Los Angeles	W Florence Ave	Denver Ave	-1034	1606
Los Angeles	E Florence Ave	Compton Ave	-1439	1201
Los Angeles	Florence Ave	Emil Ave	-782	1858
Los Angeles	W Florence Ave	Haas Ave	-1551	1089
Los Angeles	W Vernon Ave	S Broadway	-861	1779
Los Angeles	E Vernon Ave	McKinley Ave	-890	1750
Los Angeles	W 54th St	S Saint Andrews Pl	-2114	526
Los Angeles	S Figueroa St	W 52nd St	-1035	1605
Los Angeles	S Hoover St	W 59th Pl	-1719	921
Los Angeles	Normandie Ave	253rd St	-1294	1346
Los Angeles	S Normandie Ave	W 50th St	-1657	983
Los Angeles	Normandie Ave	W Jefferson Blvd	-1213	1427
Los Angeles	S Central Ave	E 105th St	-234	2406
Los Angeles	S Central Ave	E 95th St	-1024	1616
Los Angeles	Avalon Blvd	E 111th Pl	-548	2092
Los Angeles	S Broadway	W 97th St	-2097	543
Los Angeles	S Broadway	W 48th St	-2194	446
Los Angeles	S Broadway	W 133rd St	-1888	752
Los Angeles	S Main St	Winston St	-1850	790
Los Angeles	S San Pedro St	E 7th St	5	2645
Los Angeles	Long Beach Blvd	E 47th St	-1661	979
Los Angeles	Long Beach Blvd	E 69th St	-2059	581
Los Angeles	S Grand Ave	W Adams Blvd	-2549	91
Los Angeles	E 1st St	N Eastman Ave	-1261	1379
Los Angeles	Whittier Blvd	S Ditman Ave	-2277	363
Los Angeles	S Lorena St	Whittier Blvd	-2183	457

County	Primary	Secondary	From	To
Los Angeles	Pacific Ave	19th Ave	-819	1821
Los Angeles	W Pico Blvd	S Tremaine Ave	-1204	1436
Los Angeles	S Atlantic Ave	Alondra Blvd	-587	2053
Los Angeles	Martin Luther King Jr Blvd	Hulme Ave	-2734	-94
Los Angeles	Downey Ave	2nd St	-185	2455
Los Angeles	E 7th St	Mira Mar Ave	-855	1785
Los Angeles	Sepulveda Blvd	Haynes St	-2054	586
Los Angeles	Sepulveda Blvd	Lanark St	-2293	347
Los Angeles	W Sunset Blvd	Napoli Dr	-22	2618
Los Angeles	W Sunset Blvd	N Sherbourne Dr	-168	2472
Los Angeles	W Sunset Blvd	Havenhurst Dr	-2639	1
Los Angeles	W Sunset Blvd	N Vista St	-2125	515
Los Angeles	W Sunset Blvd	N Alta Vista Blvd	-905	1735
Los Angeles	W Sunset Blvd	Morningside Ct	-1492	1148
Los Angeles	W Sunset Blvd	N Hobart Blvd	-273	2367
Los Angeles	Wilshire Blvd	S Park View St	-1295	1345
Los Angeles	Wilshire Blvd	S Bonnie Brae St	-764	1876
Los Angeles	Wilshire Blvd	S Barrington Ave	-1243	1397
Los Angeles	Vanowen St	Woodley Ave	-453	2187
Los Angeles	Victory Blvd	White Oak Ave	-1250	1390
Los Angeles	Victory Blvd	Calhoun Ave	-613	2027
Los Angeles	Victory Blvd	Beck Ave	-2575	65
Los Angeles	S Reservoir St	Philadelphia St	-2157	483
Los Angeles	Pearblossom Hwy	40th St E	-1907	733
Los Angeles	Reseda Blvd	Devonshire St	-1567	1073
Los Angeles	Foothill Blvd	Sayre St	-747	1893
Los Angeles	Balboa Blvd	Jolette Ave	-1400	1240
Los Angeles	Ventura Blvd	Kester Ave	-1748	892

County	Primary	Secondary	From	To
Los Angeles	Ventura Blvd	Mary Ellen Ave	-172	2468
Los Angeles	Sherman Way	Wilbur Ave	-2549	91
Los Angeles	Sherman Way	Milwood Ave	-759	1881
Los Angeles	Devonshire St	Amestoy Ave	-1208	1432
Los Angeles	Roscoe Blvd	Mason Ave	-1766	874
Los Angeles	Nordhoff St	Langdon Ave	-1713	927
Los Angeles	Plummer St	Noble Ave	-377	2263
Los Angeles	Woodman Ave	Wyandotte St	-148	2492
Los Angeles	Saticoy St	Tujunga Ave	-287	2353
Los Angeles	Vineland Ave	Burbank Blvd	-505	2135
Los Angeles	Vineland Ave	Sherman Way	-541	2099
Los Angeles	N La Brea Ave	Fountain Ave	-1952	688
Los Angeles	N La Brea Ave	W Sunset Blvd	-636	2004
Los Angeles	S La Brea Ave	W Slauson Ave	-1591	1049
Los Angeles	S La Brea Ave	Don Lorenzo Dr	1741	4381
Los Angeles	Franklin Ave	Argyle Ave	-1093	1547
Los Angeles	Franklin Ave	N Mariposa Ave	-994	1646
Los Angeles	S Western Ave	W 89th St	-446	2194
Los Angeles	S Western Ave	W 78th St	-2448	192
Los Angeles	S Western Ave	W 46th St	-1220	1420
Los Angeles	S Western Ave	144th St	-1382	1258
Los Angeles	S Western Ave	W 127th St	-2100	540
Los Angeles	N Gower St	Fountain Ave	-1328	1312
Los Angeles	S Central Ave	W Acacia Ave	-1099	1541
Los Angeles	N San Fernando Rd	W Ave 26	-1539	1101
Los Angeles	San Fernando Rd	Irving Ave	-2516	124
Los Angeles	Hyperion Ave	Ettrick St	-767	1873
Los Angeles	S Vermont Ave	W 120th St	-737	1903

County	Primary	Secondary	From	To
Los Angeles	S Vermont Ave	W 104th Pl	-1968	672
Los Angeles	S Vermont Ave	W 99th St	-1082	1558
Los Angeles	S Vermont Ave	W 6th St	-1715	925
Los Angeles	N Vermont Ave	W Sunset Blvd	-1110	1530
Los Angeles	S Glendale Ave	E Chevy Chase Dr	-1334	1306
Los Angeles	Colorado Blvd	El Verano Ave	-959	1681
Los Angeles	Colorado Blvd	Loleta Ave	-1866	774
Los Angeles	Tujunga Canyon Blvd	Elmhurst Dr	87	2727
Los Angeles	E Ave M	3rd St E	-760	1880
Los Angeles	N Figueroa St	N Ave 60	-597	2043
Los Angeles	Atlantic Blvd	W Garvey Ave	-1723	917
Los Angeles	10th St W	W Ave N	-26	2614
Los Angeles	10th St W	W Ave H12	-1497	1143
Los Angeles	Main St	E El Segundo Blvd	0	2640
Los Angeles	Vista Del Mar Ave	Sandpiper St	-1091	1549
Los Angeles	W Rosecrans Ave	Vermont Ave	-2114	526
Los Angeles	Rosecrans Ave	N Willowbrook Ave	-1246	1394
Los Angeles	Manhattan Beach Blvd	Freeman Ave	-1214	1426
Los Angeles	190th St	S Normandie Ave	-488	2152
Los Angeles	S Prairie Ave	W 107th St	-1367	1273
Los Angeles	Prairie Ave	W 147th St	-2454	186
Los Angeles	Inglewood Ave	W 119th Pl	-339	2301
Los Angeles	S Inglewood Ave	W 93rd St	-2297	343
Los Angeles	Crenshaw Blvd	Skypark Dr	-3636	-996
Los Angeles	Crenshaw Blvd	W 78th St	-2179	461
Los Angeles	Crenshaw Blvd	W 54th St	-389	2251
Los Angeles	Crenshaw Blvd	W 48th St	-258	2382
Los Angeles	Crenshaw Blvd	W Jefferson Blvd	-2036	604

County	Primary	Secondary	From	To
Los Angeles	Carson St	Figueroa St	-490	2150
Los Angeles	E Anaheim St	Stanley Ave	-390	2250
Los Angeles	W Anaheim St	N Neptune Ave	-2157	483
Los Angeles	E Anaheim St	N Avalon Blvd	-1503	1137
Los Angeles	E Anaheim St	Watson Ave	-801	1839
Los Angeles	Washington Blvd	Via Dolce	-1322	1318
Los Angeles	Washington Blvd	Palawan Way	-518	2122
Los Angeles	Venice Blvd	Hauser Blvd	-766	1874
Los Angeles	Venice Blvd	Marcasel Ave	-1975	665
Los Angeles	Lincoln Ct	Palms Blvd	-670	1970
Los Angeles	W Jefferson Blvd	2nd Ave	-2283	357
Los Angeles	W Jefferson Blvd	S Harvard Blvd	-720	1920
Los Angeles	W Jefferson Blvd	Walton Ave	-1656	984
Los Angeles	W Jefferson Blvd	Hauser Blvd	-375	2265
Los Angeles	W Slauson Ave	Denver Ave	-646	1994
Los Angeles	E Slauson Ave	McKinley Ave	-2353	287
Los Angeles	E Slauson Ave	Santa Fe Ave	-1059	1581
Los Angeles	Slauson Ave	Norwalk Blvd	-1126	1514
Los Angeles	W Slauson Ave	S Victoria Ave	-1790	850
Los Angeles	W Slauson Ave	6th Ave	-1753	887
Los Angeles	E Imperial Hwy	S Grandee Ave	-1807	833
Los Angeles	Imperial Hwy	Downey Ave	-965	1675
Los Angeles	W Imperial Hwy	Prairie Ave	-79	2561
Los Angeles	W Century Blvd	Doty Ave	-1797	843
Los Angeles	Century Blvd	Crenshaw Blvd	-544	2096
Los Angeles	S Robertson Blvd	Monte Mar Dr	-145	2495
Los Angeles	S Robertson Blvd	W Pico Blvd	-532	2108
Los Angeles	S Robertson Blvd	W 3rd St	-2119	521

County	Primary	Secondary	From	To
Los Angeles	S Bundy Dr	Ocean Park Blvd	-1726	914
Los Angeles	Beverly Blvd	N Carondelet St	-819	1821
Los Angeles	Melrose Ave	N Hobart Blvd	-1973	667
Los Angeles	W Washington Blvd	Park Grove Ave	-1024	1616
Los Angeles	E Washington Blvd	Telegraph Rd	-2410	230
Los Angeles	Washington Blvd	Paramount Blvd	-2774	-134
Los Angeles	Washington Blvd	Lambert Rd	-789	1851
Los Angeles	W Adams Blvd	S Bronson Ave	-2019	621
Los Angeles	Exposition Blvd	7th Ave	-1433	1207
Los Angeles	N San Vicente Blvd	Rosewood Ave	-2097	543
Los Angeles	San Vicente Blvd	S Cochran Ave	-2622	18
Los Angeles	S La Cienega Blvd	Cadillac Ave	-723	1917
Los Angeles	S La Cienega Blvd	Clemson St	-1411	1229
Los Angeles	S La Cienega Blvd	Rodeo Rd	320	2960
Los Angeles	S La Cienega Blvd	Industrial Ave	-1119	1521
Los Angeles	W 6th St	S Hill St	-1723	917
Los Angeles	E 6th St	S San Pedro St	-2103	537
Los Angeles	E 6th St	Stanford Ave	-383	2257
Los Angeles	W 8th St	S Westmoreland Ave	-937	1703
Los Angeles	Fountain Ave	N New Hampshire Ave	-1572	1068
Los Angeles	Santa Monica Blvd	N Mariposa Ave	-1990	650
Los Angeles	W Florence Ave	S Vermont Ave	-1247	1393
Los Angeles	W Florence Ave	S Broadway	-56	2584
Los Angeles	E Florence Ave	Malabar St	-2216	424
Los Angeles	E Florence Ave	Arbutus Ave	-1027	1613
Los Angeles	E Florence Ave	N Locust St	-1133	1507
Los Angeles	Florence Ave	Downey Ave	-743	1897
Los Angeles	Lennox Blvd	Dalrose Ave	-351	2289

County	Primary	Secondary	From	To
Los Angeles	W Rancho Vista Blvd	Dunbar St	-2553	87
Los Angeles	S Prairie Ave	E Nutwood St	-1491	1149
Los Angeles	W Vernon Ave	S Figueroa St	-2174	466
Los Angeles	E Gage Ave	Marconi St	-2407	233
Los Angeles	E Gage Ave	Compton Ave	-525	2115
Los Angeles	S Figueroa St	W 79th St	-1425	1215
Los Angeles	S Normandie Ave	W 76th St	-2419	221
Los Angeles	S Normandie Ave	W 71st St	-1409	1231
Los Angeles	S Normandie Ave	W 56th St	-1992	648
Los Angeles	S Normandie Ave	W 42nd St	-2496	144
Los Angeles	S Normandie Ave	W Adams Blvd	-1198	1442
Los Angeles	S Central Ave	E 120th St	-1859	781
Los Angeles	S Central Ave	E 27th St	-2122	518
Los Angeles	Nadeau St	Bell Ave	-34	2606
Los Angeles	Avalon Blvd	E 104th St	-818	1822
Los Angeles	Avalon Blvd	E 78th St	-2569	71
Los Angeles	Avalon Blvd	E 59th Pl	-1105	1535
Los Angeles	Avalon Blvd	E Carson St	-2585	55
Los Angeles	S Broadway	W El Segundo Blvd	-1028	1612
Los Angeles	S San Pedro St	E 23rd St	-637	2003
Los Angeles	S San Pedro St	E 7th St	-2635	5
Los Angeles	Compton Ave	E 83rd St	-1025	1615
Los Angeles	S Alameda St	E 14th St	-508	2132
Los Angeles	S Alameda St	E 4th St	-1724	916
Los Angeles	Compton Ave	E 118th St	-578	2062
Los Angeles	Compton Ave	E Century Blvd	-2477	163
Los Angeles	Wilmington Ave	E 105th St	-574	2066
Los Angeles	E 112th St	Croesus Ave	-2034	606

County	Primary	Secondary	From	To
Los Angeles	Long Beach Blvd	Euclid Ave	-1175	1465
Los Angeles	Missouri Ave	San Antonio Ave	-1645	995
Los Angeles	State St	Hope St	-111	2529
Los Angeles	Wilmington Ave	W El Segundo Blvd	-2240	400
Los Angeles	Tweedy Blvd	Orange Ave	-2584	56
Los Angeles	E 4th St	S Fickett St	-1397	1243
Los Angeles	W Sunset Blvd	Mohawk St	-1123	1517
Los Angeles	W Sunset Blvd	Marion Ave	-2596	44
Los Angeles	W Cesar E Chavez Ave	N Broadway	-2391	249
Los Angeles	E Cesar E Chavez Ave	N Hazard Ave	-1186	1454
Los Angeles	E 8th St	S Concord St	-2410	230
Los Angeles	Whittier Blvd	S Downey Rd	-2433	207
Los Angeles	Whittier Blvd	S Eastern Ave	-1640	1000
Los Angeles	E Whittier Blvd	S Woods Ave	-1174	1466
Los Angeles	Garvey Ave	Central Ave	-2294	346
Los Angeles	Garvey Ave	Nevada Ave	-14	2626
Los Angeles	E Mission Rd	S Chapel Ave	-112	2528
Los Angeles	Pacific Ave	Brooks Ave	-598	2042
Los Angeles	Beverly Blvd	Citrus Ave	-1787	853
Los Angeles	W Pico Blvd	S Robertson Blvd	-1055	1585
Los Angeles	W Pico Blvd	S Plymouth Blvd	-1659	981
Los Angeles	W Pico Blvd	S Ardmore Ave	-2347	293
Los Angeles	W Pico Blvd	S Bonnie Brae St	-1261	1379
Los Angeles	W Pico Blvd	S Bundy Dr	-1973	667
Los Angeles	11th St	California Ave	-257	2383
Los Angeles	Telegraph Rd	Victoria Ave	-1302	1338
Los Angeles	Paramount Blvd	Holbrook St	-1888	752
Los Angeles	John S Gibson Blvd	Figueroa St	-1014	1626

County	Primary	Secondary	From	To
Los Angeles	S Pacific Ave	W 19th St	-2104	536
Los Angeles	N Pacific Ave	W Channel St	-1872	768
Los Angeles	E Artesia Blvd	Orange Ave	-577	2063
Los Angeles	Alondra Blvd	S Atlantic Ave	-1217	1423
Los Angeles	Alondra Blvd	Mcnab Ave	-1856	784
Los Angeles	Alondra Blvd	Leibacher Ave	-2415	225
Los Angeles	E Alondra Blvd	S Bullis Rd	-2491	149
Los Angeles	W Compton Blvd	S Matthisen Ave	-1668	972
Los Angeles	E Compton Blvd	N Willowbrook Ave	-2057	583
Los Angeles	Santa Fe Ave	Rosecrans Ave	-136	2504
Los Angeles	E 7th St	Cerritos Ave	-1979	661
Los Angeles	E 7th St	Obispo Ave	-1180	1460
Los Angeles	E 10th St	Walnut Ave	-796	1844
Los Angeles	Alamitos Ave	E 10th St	-2130	510
Los Angeles	E Ocean Blvd	Alamitos Ave	-1615	1025
Los Angeles	Carson St	Orange Ave	-1719	921
Los Angeles	Sepulveda Blvd	Covello St	-1087	1553
Los Angeles	W Sunset Blvd	N Gunston Dr	-1043	1597
Los Angeles	W Sunset Blvd	N Doheny Dr	-376	2264
Los Angeles	W Sunset Blvd	Brooktree Rd	-836	1804
Los Angeles	Norwalk Blvd	Cheshire St	-906	1734
Los Angeles	Leffingwell Rd	Colima Rd	-173	2467
Los Angeles	Santa Monica Blvd	6th St	-2031	609
Los Angeles	Wilshire Blvd	S Citrus Ave	-1320	1320
Los Angeles	Wilshire Blvd	S Wilton Pl	-1124	1516
Los Angeles	Wilshire Blvd	Manning Ave	-2414	226
Los Angeles	Valley View Ave	Adoree St	-1774	866
Los Angeles	Workman Mill Rd	Mission Mill Rd	-170	2470

County	Primary	Secondary	From	To
Los Angeles	Workman Mill Rd	Alanwood Rd	-2152	488
Los Angeles	W Olympic Blvd	S Le Doux Rd	-605	2035
Los Angeles	W Olympic Blvd	S Tremaine Ave	-2233	407
Los Angeles	W Olympic Blvd	West Blvd	-1622	1018
Los Angeles	W Olympic Blvd	Gramercy Dr	-2218	422
Los Angeles	W Olympic Blvd	S Catalina St	-2222	418
Los Angeles	W Olympic Blvd	Menlo Ave	-834	1806
Los Angeles	W Olympic Blvd	Beacon Ave	-416	2224
Los Angeles	Painter Ave	Walnut St	-1625	1015
Los Angeles	Lambert Rd	Mills Ave	-1036	1604
Los Angeles	Lower Azusa Rd	El Monte Ave	-1177	1463
Los Angeles	Temple City Blvd	E Naomi Ave	-88	2552
Los Angeles	Ramona Blvd	Lexington Ave	-1521	1119
Los Angeles	Santa Anita Ave	Bryant Rd	-2867	-227
Los Angeles	Peck Rd	Garvey Ave	-1584	1056
Los Angeles	Peck Rd	Ramona Blvd	-1198	1442
Los Angeles	Peck Rd	Lower Azusa Rd	-2582	58
Los Angeles	Gale Ave	Coiner Ct	-1530	1110
Los Angeles	Maplegrove St	Aileron Ave	-558	2082
Los Angeles	Fullerton Rd	Colima Rd	-2033	607
Los Angeles	E Arrow Hwy	Sunflower Ave	-891	1749
Los Angeles	Vanowen St	Geysler Ave	-1078	1562
Los Angeles	Vanowen St	Etiwanda Ave	-1743	897
Los Angeles	Vanowen St	Tyrone Ave	-1799	841
Los Angeles	Vanowen St	Coldwater Canyon Ave	-490	2150
Los Angeles	Vanowen St	Independence Ave	-2371	269
Los Angeles	Vanowen St	De Soto Ave	-385	2255
Los Angeles	Victory Blvd	Forbes Ave	-1833	807

County	Primary	Secondary	From	To
Los Angeles	Victory Blvd	Sylmar Ave	-1932	708
Los Angeles	Victory Blvd	Vineland Ave	-1255	1385
Los Angeles	S Towne Ave	E Grand Ave	-27	2613
Los Angeles	Rye Canyon Loop	Ave Scott	-2008	632
Los Angeles	Palos Verdes Dr S	Narcissa Dr	-3508	-868
Los Angeles	Reseda Blvd	Plummer St	-1557	1083
Los Angeles	Reseda Blvd	Victory Blvd	-2211	429
Los Angeles	Reseda Blvd	Dearborn St	-2214	426
Los Angeles	Rinaldi St	Indian Hills Rd	-1184	1456
Los Angeles	Tampa Ave	Superior St	-1149	1491
Los Angeles	Foothill Blvd	Whitegate Ave	-1091	1549
Los Angeles	San Fernando Rd	Fox St	540	3180
Los Angeles	San Fernando Rd	Kagel Canyon St	-2237	403
Los Angeles	Woodley Ave	Nordhoff St	-585	2055
Los Angeles	Ventura Blvd	Lindley Ave	-1092	1548
Los Angeles	Ventura Blvd	Beverly Glen Blvd	-27	2613
Los Angeles	De Soto Ave	Valerio St	-1059	1581
Los Angeles	De Soto Ave	Gresham St	-2596	44
Los Angeles	Canoga Ave	Chase St	-886	1754
Los Angeles	Saticoy St	Louise Ave	-2258	382
Los Angeles	Sherman Way	Ranchito Ave	-1325	1315
Los Angeles	Devonshire St	Balboa Blvd	109	2749
Los Angeles	Roscoe Blvd	Hayvenhurst Ave	-2069	571
Los Angeles	Roscoe Blvd	Sepulveda Blvd	-1545	1095
Los Angeles	Roscoe Blvd	Tobias Ave	-1135	1505
Los Angeles	Roscoe Blvd	Hazeltine Ave	-1891	749
Los Angeles	Roscoe Blvd	Oakdale Ave	-459	2181
Los Angeles	The Old Rd	Constitution Ave	-2563	77

County	Primary	Secondary	From	To
Los Angeles	Nordhoff St	De Soto Ave	-698	1942
Los Angeles	Chatsworth St	Encino Ave	-1684	956
Los Angeles	Saticoy St	Kester Ave	-701	1939
Los Angeles	Oxnard St	Donna Ave	-1616	1024
Los Angeles	Big Tujunga Canyon Rd	Vogel Flat Rd	4717	7357
Los Angeles	Van Nuys Blvd	Plummer St	-726	1914
Los Angeles	Woodman Ave	Willard St	-231	2409
Los Angeles	Woodman Ave	Filmore St	-653	1987
Los Angeles	Woodman Ave	Albers St	-1426	1214
Los Angeles	Woodman Ave	Vanowen St	-2110	530
Los Angeles	Kester Ave	Friar St	-1581	1059
Los Angeles	Sierra Hwy	Soledad Canyon Rd	-1397	1243
Los Angeles	Sierra Hwy	Vasquez Way	961	3601
Los Angeles	Sierra Hwy	Angeles Forest Hwy	-205	2435
Los Angeles	Laurel Canyon Blvd	Dona Pegita Dr	-2278	362
Los Angeles	Laurel Canyon Blvd	Brand Blvd	-87	2553
Los Angeles	Paxton St	Haddon Ave	-1329	1311
Los Angeles	Haskell Ave	Napa St	-1882	758
Los Angeles	Glenoaks Blvd	Randall St	-985	1655
Los Angeles	N Glenoaks Blvd	E Orange Grove Ave	-2264	376
Los Angeles	Glenoaks Blvd	Vaughn St	-2293	347
Los Angeles	Sheldon St	Cayuga Ave	-2299	341
Los Angeles	Sunland Blvd	Wheatland Ave	-2462	178
Los Angeles	N Hollywood Way	Tulare Ave	-745	1895
Los Angeles	Lankershim Blvd	Sherman Way	-634	2006
Los Angeles	Lankershim Blvd	Victory Blvd	-619	2021
Los Angeles	Tujunga Ave	Woodbridge St	-518	2122
Los Angeles	Hollywood Blvd	Whitley Ave	-1956	684

County	Primary	Secondary	From	To
Los Angeles	N Fairfax Ave	Santa Monica Blvd	-1903	737
Los Angeles	S La Brea Ave	W Adams Blvd	-2466	174
Los Angeles	N La Brea Ave	Rosewood Ave	-2105	535
Los Angeles	S La Brea Ave	Don Lorenzo Dr	-899	1741
Los Angeles	Cahuenga Blvd W	Mulholland Dr	506	3146
Los Angeles	Colfax Ave	Weddington St	-1357	1283
Orange	El Toro Rd	Rockfield Blvd	-1999	641
Orange	E Chapman Ave	S Seranado St	-1970	670
Orange	Santiago Canyon Rd	Jamboree Rd	-148	2492
Orange	W 1st St	S Gunther St	-2299	341
Orange	1st St	N Ross St	-164	2476
Orange	E 1st St	Maple St	-301	2339
Orange	Westminster Ave	Bowen St	-2230	410
Orange	Superior Ave	Ticonderoga St	-1642	998
Orange	N Euclid St	Westminster Ave	-2559	81
Orange	N Bristol St	W Washington Ave	-713	1927
Orange	W McFadden Ave	S Sail St	-981	1659
Orange	W McFadden Ave	S Douglas St	-916	1724
Orange	W Warner Ave	S Van Ness Ave	-2206	434
Orange	W Ball Rd	Euclid St	-1484	1156
Orange	Harbor Blvd	Princeton Dr	-1456	1184
Orange	Jamboree Rd	State Rte 1	-877	1763
Orange	Jamboree Rd	Bayview Way	-1924	716
Orange	University Dr	Ridgeline Dr	-1080	1560
Orange	W 1st St	Euclid St	-1460	1180
Orange	1st St	Fairview St	-692	1948
Orange	E Lincoln Ave	N Olive St	-2042	598
Orange	Culver Dr	Barranca Pkwy	56	2696

County	Primary	Secondary	From	To
Orange	Michelson Dr	Parkside Dr	-588	2052
Orange	Newport Ave	Walnut Ave	-2533	107
Orange	Brookhurst St	Heil Ave	-1552	1088
Orange	Gilbert St	Harle Ave	-2506	134
Orange	Irvine Blvd	Tustin Ranch Rd	-7	2633
Orange	Chapman Ave	Santa Rosalia St	-47	2593
Orange	Crown Valley Pkwy	Via Valle	-851	1789
Orange	Alicia Pkwy	Po Ave	-2293	347
Orange	Antonio Pkwy	Ave Empresa	-1109	1531
Orange	El Toro Rd	Jeronimo Rd	-100	2540
Orange	Muirlands Blvd	Entrados Dr	-2583	57
Orange	Los Alisos Blvd	Via Noveno	-507	2133
Orange	Live Oak Canyon Rd	Hunky Dory Ln	-161	2479
Orange	Katella Ave	Dale Ave	-1485	1155
Orange	Katella Ave	Jean St	-2578	62
Orange	Katella Ave	S Nutwood St	-1446	1194
Orange	Westminster Ave	Newhope St	-2612	28
Orange	Euclid St	Acacia Pkwy	-638	2002
Orange	Brea Blvd	Marion Blvd	-1911	729
Orange	S Harbor Blvd	W Orangewood Ave	-1803	837
Orange	S Main St	E Edinger Ave	-2388	252
Orange	Fairview St	W Mcfadden Ave	-1115	1525
Orange	N Fairview St	Edna Dr	-1628	1012
Orange	Garden Grove Blvd	Harbor Blvd	-1945	695
Orange	Garden Grove Blvd	Court St	-1670	970
Orange	Garden Grove Blvd	Yockey St	-563	2077
Orange	W Orangethorpe Ave	S Brookhurst Rd	-2684	-44
Orange	Red Hill Ave	Warner Ave	-903	1737

County	Primary	Secondary	From	To
Orange	Santiago Canyon Rd	Silverado Canyon Rd	2988	5628
Orange	Oso Pkwy	Nellie Gail Rd	-3802	-1162
Orange	E Edinger Ave	Orange Ave	-347	2293
Orange	Yorktown Ave	Brookhurst St	-263	2377
Orange	Talbert Ave	Ward St	-1424	1216
Orange	Slater Ave	Magnolia St	-23	2617
Orange	Bolsa Ave	Magnolia St	-2588	52
Orange	Westminster Ave	Seal Beach Blvd	-1672	968
Orange	W Wilson St	Colgate Dr	-1826	814
Orange	W Oceanfront	22nd St	-621	2019
Orange	W Balboa Blvd	26th St	-988	1652
Orange	Magnolia Ave	Lincoln Ave	-41	2599
Orange	N Magnolia Ave	W La Palma Ave	-115	2525
Riverside	Ramona Expy	Webster Ave	-1950	690
Riverside	Ramona Expy	Bridge St	-2271	369
Riverside	Van Buren Blvd	Chicago Ave	-971	1669
Riverside	Van Buren Blvd	56th St	-2355	285
Riverside	Palm Dr	Dillon Rd	-1188	1452
Riverside	Clay St	General Rd	-1291	1349
Riverside	Jefferson Ave	Larchmont Ln	-1917	723
Riverside	Ramona Expy	Rider St	5286	7926
Riverside	Cary Rd	Ushy 371	3711	6351
Riverside	Warren Rd	Borel Rd	-1375	1265
Riverside	Fred Waring Dr	Portola Ave	-586	2054
Riverside	River Rd	Bluff St	-1394	1246
Riverside	W 6th St	S Sheridan St	-304	2336
Riverside	La Sierra Ave	Norwood Ave	-2795	-155
Riverside	Cajalco Expy	Seaton Ave	-1360	1280

County	Primary	Secondary	From	To
Riverside	3rd St	Lime St	-1902	738
Riverside	Rubidoux Blvd	26th St	-623	2017
Riverside	Rubidoux Blvd	Market St	-883	1757
Riverside	Van Buren Blvd	Suttles Dr	-3191	-551
Riverside	Van Buren Blvd	Washington St	-579	2061
Riverside	E La Cadena Dr	Palmyrita Ave	-1832	808
Riverside	Chicago Ave	3rd St	-397	2243
Riverside	Limonite Ave	Wineville Ave	-2743	-103
Riverside	Reche Canyon Rd	Woodson Rd	-2898	-258
Riverside	Goetz Rd	Mapes Rd	-205	2435
Riverside	Arlington Ave	Barcelona Way	-1035	1605
Riverside	Warren Rd	Devonshire Ave	2049	4689
Riverside	Mission Blvd	Opal St	-718	1922
Riverside	S State St	W 7th St	-214	2426
Riverside	Temescal Canyon Rd	Hostettler Rd	381	3021
Riverside	E Palm Canyon Dr	Smoke Tree Ln	-900	1740
Riverside	E Palm Canyon Dr	S Linden Way	-1449	1191
Riverside	Mountain View Rd	Varner Rd	0	2640
Riverside	Bob Hope Dr	State Rte 111	0	2640
Riverside	Magnolia Ave	Merrill Ave	98	2738
Riverside	Jefferson St	Evans St	-813	1827
Riverside	Jurupa Ave	Chester St	-740	1900
San Bernardino	N Riverside Ave	E Holly St	-1369	1271
San Bernardino	Valley Blvd	Hemlock Ave	-1857	783
San Bernardino	N Grove Ave	E 5th St	-1818	822
San Bernardino	W Base Line Rd	N Maple Ave	-1323	1317
San Bernardino	W 5th St	N E St	-2025	615
San Bernardino	5th St	Cooley St	-2458	182

County	Primary	Secondary	From	To
San Bernardino	Main St	Maple Ave	-3161	-521
San Bernardino	Hermosa Ave	Placer St	-956	1684
San Bernardino	Phelan Rd	Sheep Creek Rd	-898	1742
San Bernardino	Ramona Ave	Riverside Dr	-3011	-371
San Bernardino	Riverside Dr	13th St	-151	2489
San Bernardino	W Valley Blvd	S Willow Ave	-842	1798
San Bernardino	W Merrill Ave	S Linden Ave	-340	2300
San Bernardino	Bear Valley Rd	Cypress Ave	-6	2634
San Bernardino	Bear Valley Rd	Shooting Star Dr	-165	2475
San Bernardino	Amargosa Rd	Maricopa Rd	-1567	1073
San Bernardino	Amargosa Rd	Placida Rd	-2210	430
San Bernardino	Hesperia Rd	Terra Linda St	-1383	1257
San Bernardino	Main St	La Verne Ave	-2712	-
San Bernardino	Cedar Ave	13th St	-2214	426
San Bernardino	Cedar Ave	Santa Ana Ave	-2976	-336
San Bernardino	Bloomington Ave	Vine St	-740	1900
Ventura	W Channel Islands Blvd	S N St	-1806	834
Ventura	N Rose Ave	Cesar Chavez Dr	-2722	-82
Ventura	Saviers Rd	E Elm St	-2308	332
Ventura	W Potrero Rd	White Stallion Rd	-2566	74
Ventura	Moorpark Rd	E Wilbur Rd	-1135	1505
Ventura	Telegraph Rd	College Dr	-1600	1040
Ventura	E Gonzales Rd	Entrada Dr	-969	1671
Ventura	S Ventura Rd	E Bay Blvd	-2071	569
Ventura	S Ventura Rd	W Hemlock St	-491	2149

REGIONAL TRANSPORTATION PLAN
2012–2035 RTP
SUSTAINABLE COMMUNITIES STRATEGY
Towards a Sustainable Future



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