



# **CALIFORNIA SAFE ROADS**

*2020 - 2024 Strategic Highway Safety Plan*

Strategic Highway Safety Plan (SHSP)

Development Outreach Meeting

Sacramento

April 10, 2019



# AGENDA



8:30 – 9:15 AM: Welcome / Introductions / Overview

9:15 – 9:45 AM: Statewide Summary

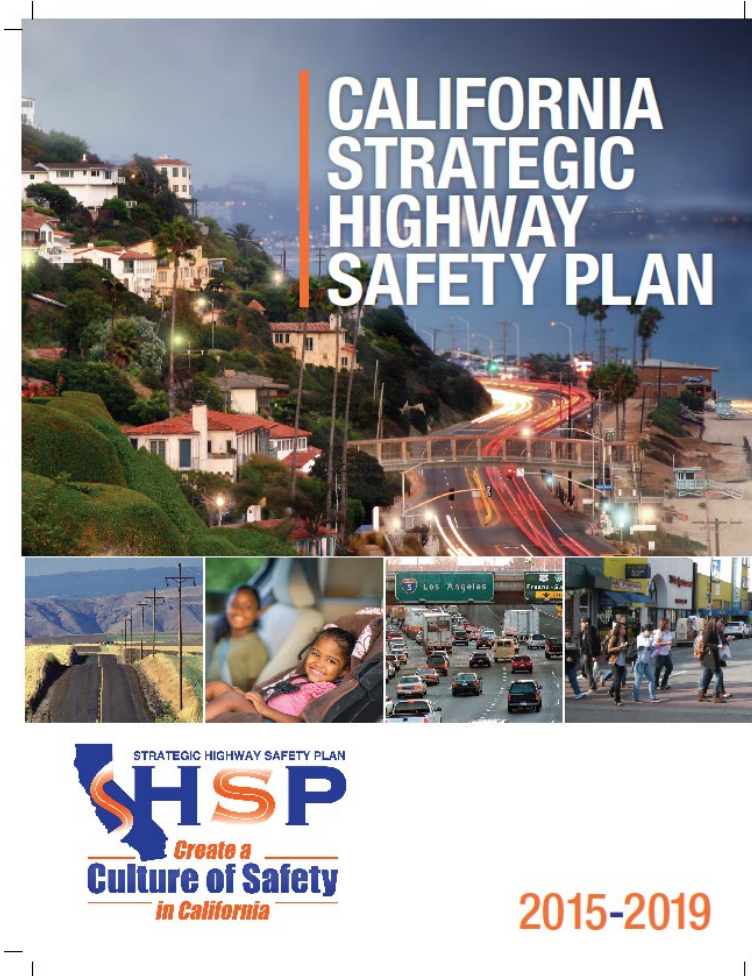
9:45 – 10:15 AM: Regional Summary

10:15 – 11:30 AM: Safety Strategy Session

11:30 – 12:00 PM: Report Out and Closing

# SHSP OVERVIEW

- Guides safety activities for all roadway users
- Addresses safety on all public roads
- All agency coordinated approach
- Strategic, data-driven process
- Federal requirement
- Current SHSP covers 2015 to 2019



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# SHSP LOCAL AND REGIONAL BENEFITS



**CALIFORNIA SAFE ROADS**  
2020 - 2024 Strategic Highway Safety Plan

## Improve safety

Save lives

Reduce preventable injuries

## Improve livability

Support active transportation goals

Improve public health

Coordinate with congestion management efforts

## Share local knowledge

Exchange best practices

Access information and data

Funding and partnering opportunities

# SHSP VISION, MISSION & OBJECTIVE



## Vision

Safe Public Roads Across California

## Mission

Ensure safety for all modes of travel on  
California's public roads

## Goal

Zero Fatalities

# MULTIPLE SAFETY APPROACHES





# STATEWIDE COLLABORATION

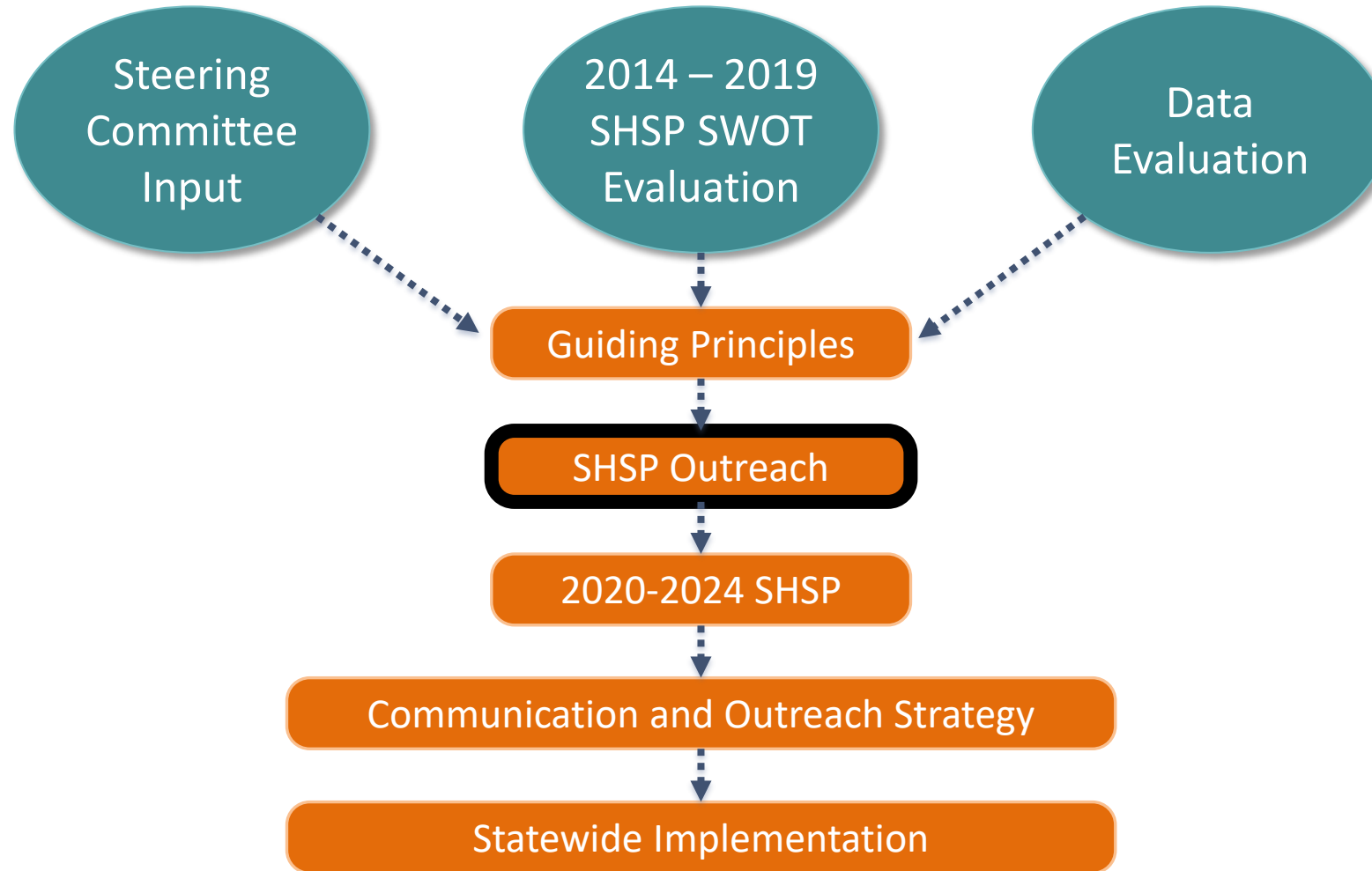


Working together  
to reduce fatalities  
and serious injuries on  
all public roadways.

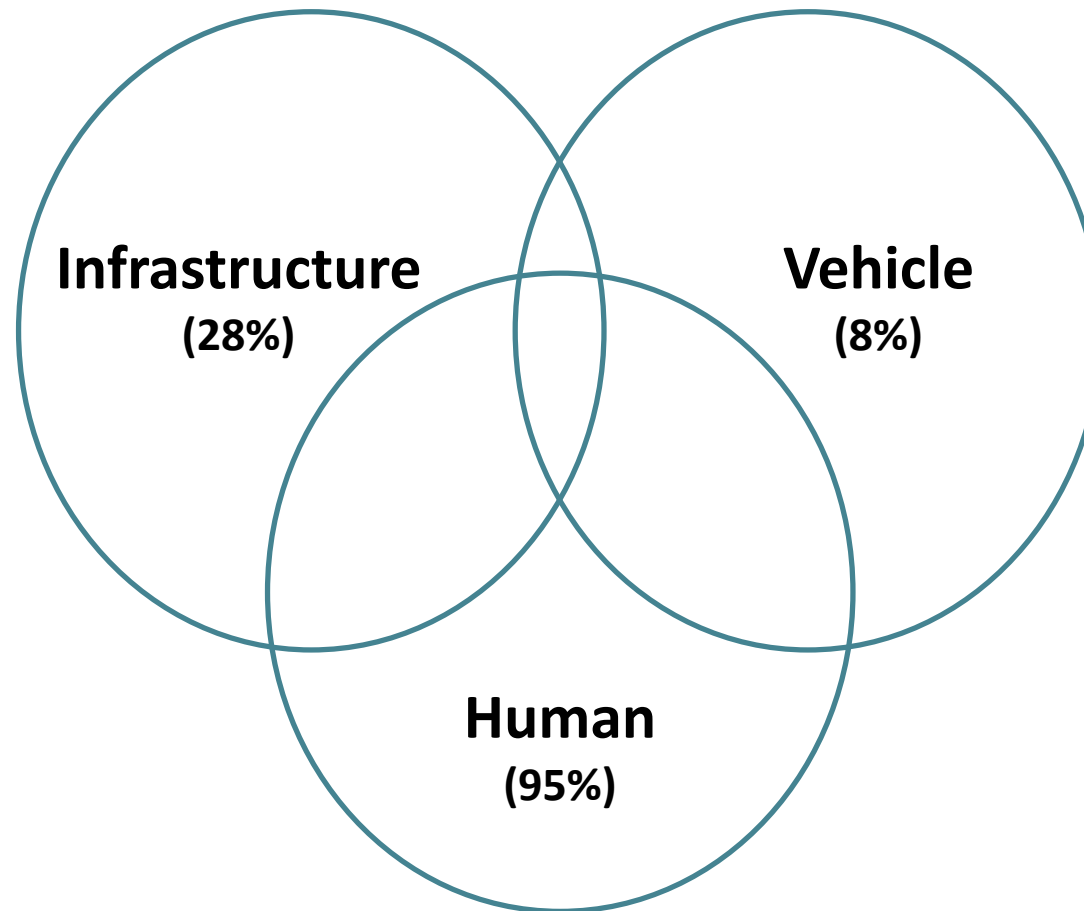




# DEVELOPMENT PROCESS



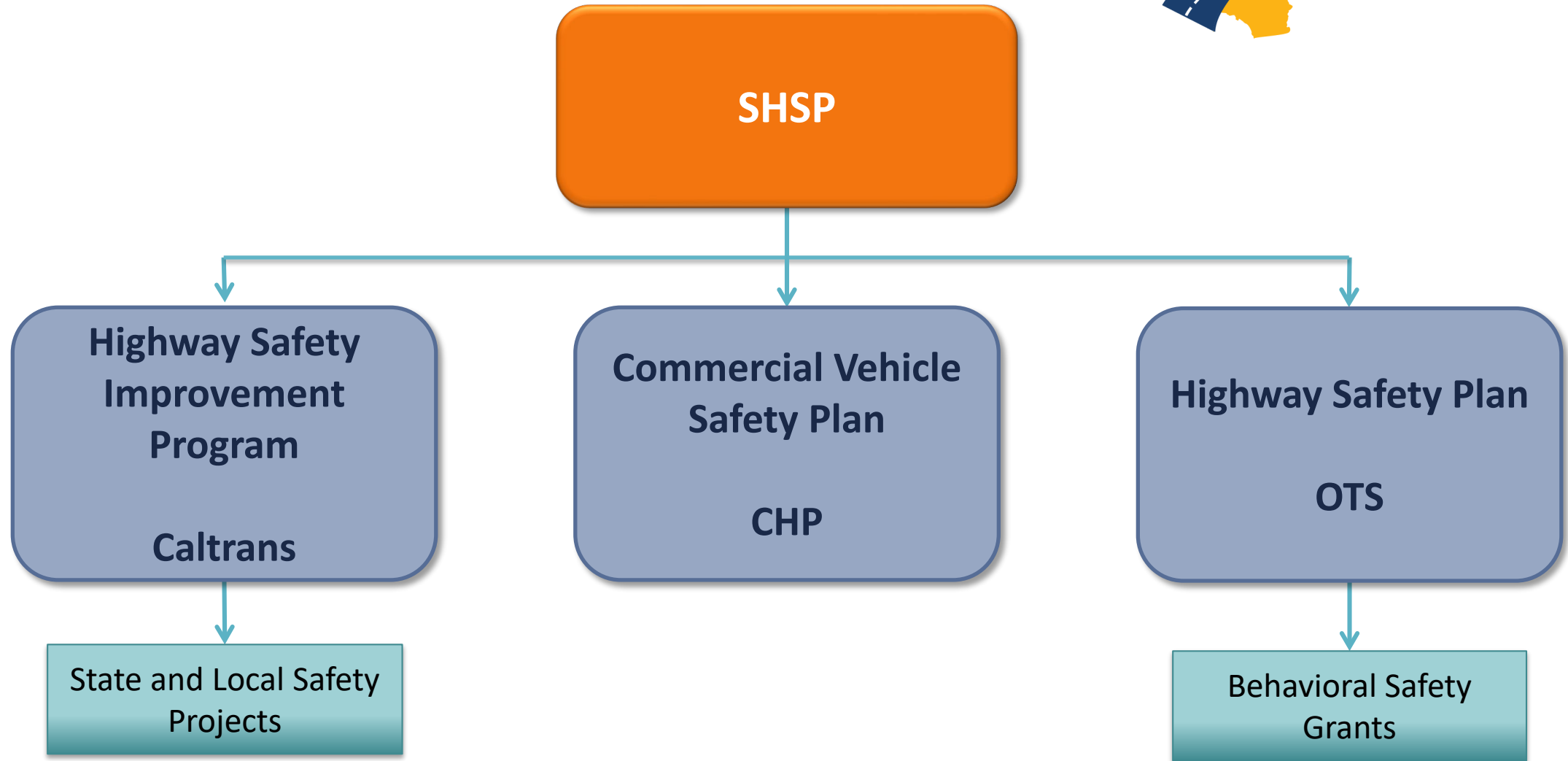
# COLLISION FACTORS



# 4 Es now 5 Es OF TRAFFIC SAFETY



# SHSP CONNECTIONS



# CALTRANS HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)



- FAST Act
  - Continues the Highway Safety Improvement Program as a core Federal Aid program to significantly reduce fatalities and serious injuries on all public roads.
  - Local HSIP Program
    - Safety Improvement Projects (Benefit/Cost selected safety projects)
    - (New) Systemic Safety Analysis Report Program (SSARP)



# OFFICE OF TRAFFIC SAFETY



- Liaison with the National Highway Traffic Safety Administration (NHTSA)
- California Highway Safety Plan
- Annual Performance Report
- Grant Programs



# CALIFORNIA HIGHWAY PATROL



- Mission - Provide the highest level of Safety, Service, and Security
- CHP involvement in the SHSP
  - Executive Committee - Commissioner Warren Stanley
  - Steering Committee - Assistant Chief
  - Lead or Co-lead on 10 of the 15 Challenge Areas
  - Active involvement on 13 of the 15 Challenge Areas
  - Lead or Co-lead on 25 of the Actions
  - Mileage Death Rate on the increase (2013: .94 to 2016: 1.08)
  - Work with the Office of Traffic Safety to incorporate SHSP initiatives into the CHP Grants





# CALIFORNIA HIGHWAY PATROL



- Current SHSP Actions the CHP is working on
  - Action 5.1 – Update CHP DUI Checkpoint Educational Pamphlet with an emphasis on drugs
  - Action 6.1 – Develop an issue paper establishing benefits of Standardized Field Sobriety Tests (SFSTs) training for law enforcement agencies
  - Action 6.2 – Increase the number of Advanced Roadside Impaired Driving Enforcement (ARIDE) personnel trained by 8 percent
  - Action 4.1 – Develop a media campaign....to raise awareness about speeding and aggressive driving
  - Action 2.2 - Identify locations with reported pedestrian safety issues and conduct high visibility pedestrian safety enforcement operations



# CALIFORNIA HIGHWAY PATROL



- Commercial Vehicle Safety Plan
  - Funded by the Motor Carrier Safety Assistance Program (MCSAP) Grant 2018-20
  - Reduce commercial motor vehicle (CMV) involved collisions within CHP jurisdiction, including the Mileage Death Rate for CMVs
  - 53 Commercial Vehicle Enforcement Facilities (38 locations)
  - 144 Mobile Road Enforcement Officers
  - CMV Fatal Crashes – 302.6 per year (5 year average)
  - MCSAP Activities: Driver and Vehicle Inspections, Enforcement, Compliance Reviews and Audits, Public Education, and Data Collection



- SHSP is a requirement under SAFETEA-LU
- Statewide-coordinated safety plan led by State DOT that provides comprehensive framework for reducing fatalities and serious injuries on all public roads
- Identifies a State's key safety needs and guides investment decisions towards strategies and countermeasure with the most potential to save lives and prevent injuries
- SHSP shall be data driven, evaluate performance and updated
- SHSP Challenge Areas, Revisions and Stakeholders



# **CALIFORNIA SAFE ROADS**

*2020 - 2024 Strategic Highway Safety Plan*

## Statewide Summary



# DATA-DRIVEN IMPLEMENTATION



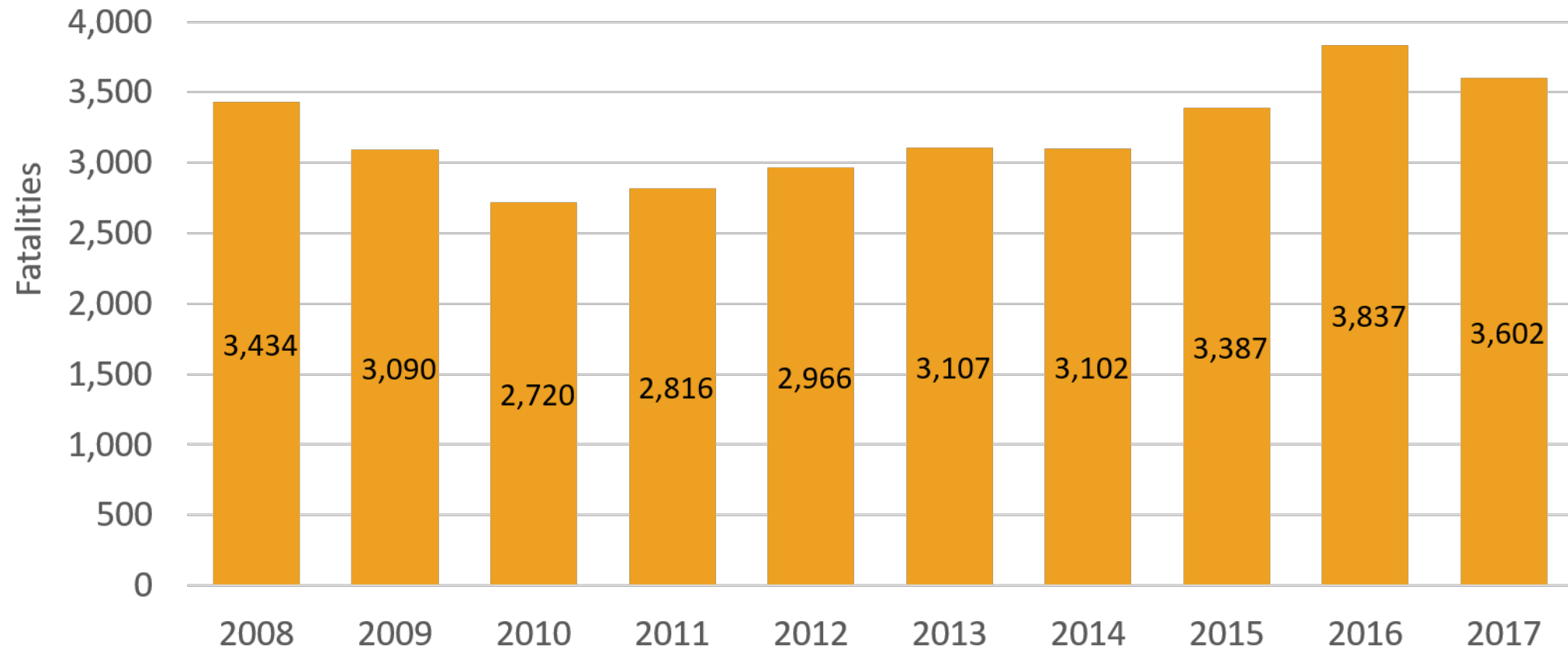
- Data analysis drives implementation
- 2020 to 2024 Data
  - 10 years (2008 to 2017)
  - 128,974 fatal and serious injury collisions
  - 147,458 fatal and serious injuries
  - 1.14 fatal and serious injuries / collision



# STATEWIDE



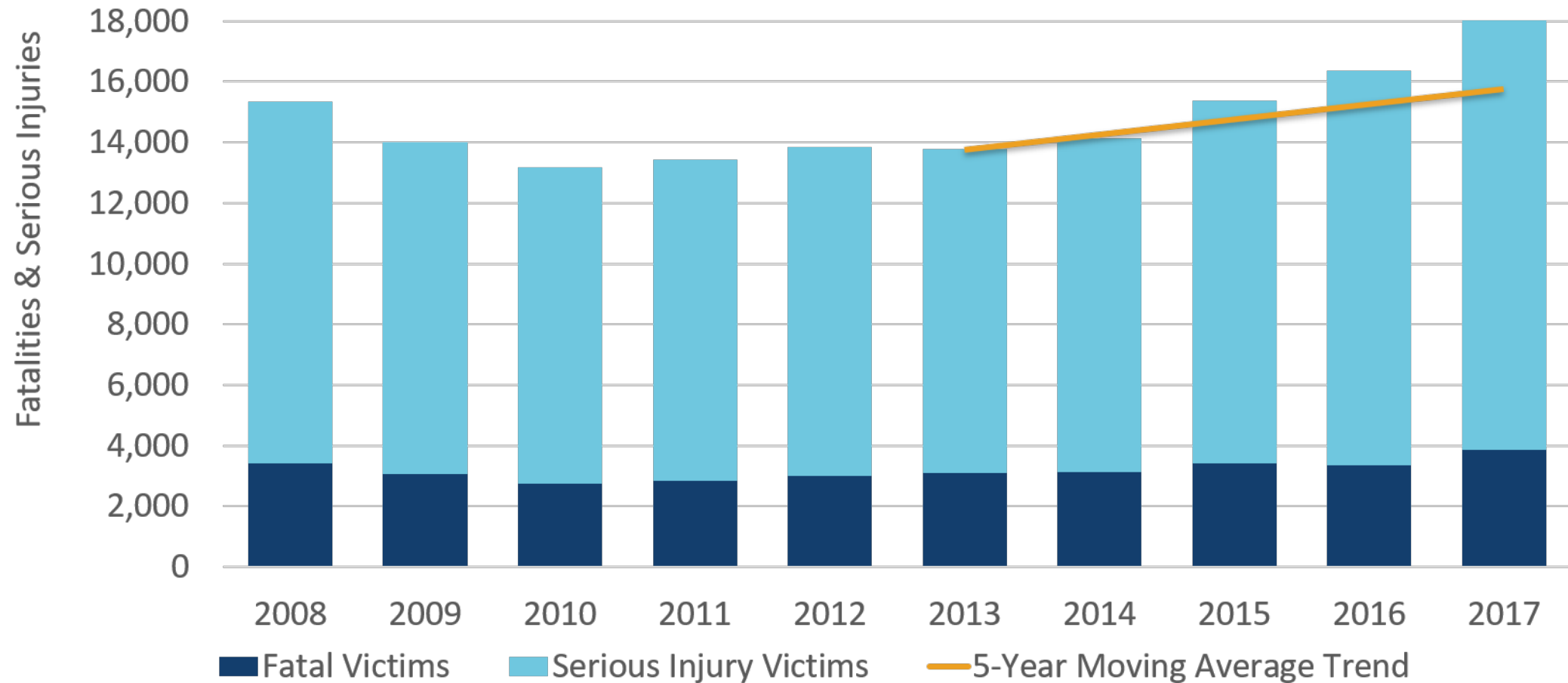
Total Fatalities by Year



# STATEWIDE



Total Fatalities and Serious Injuries by Year

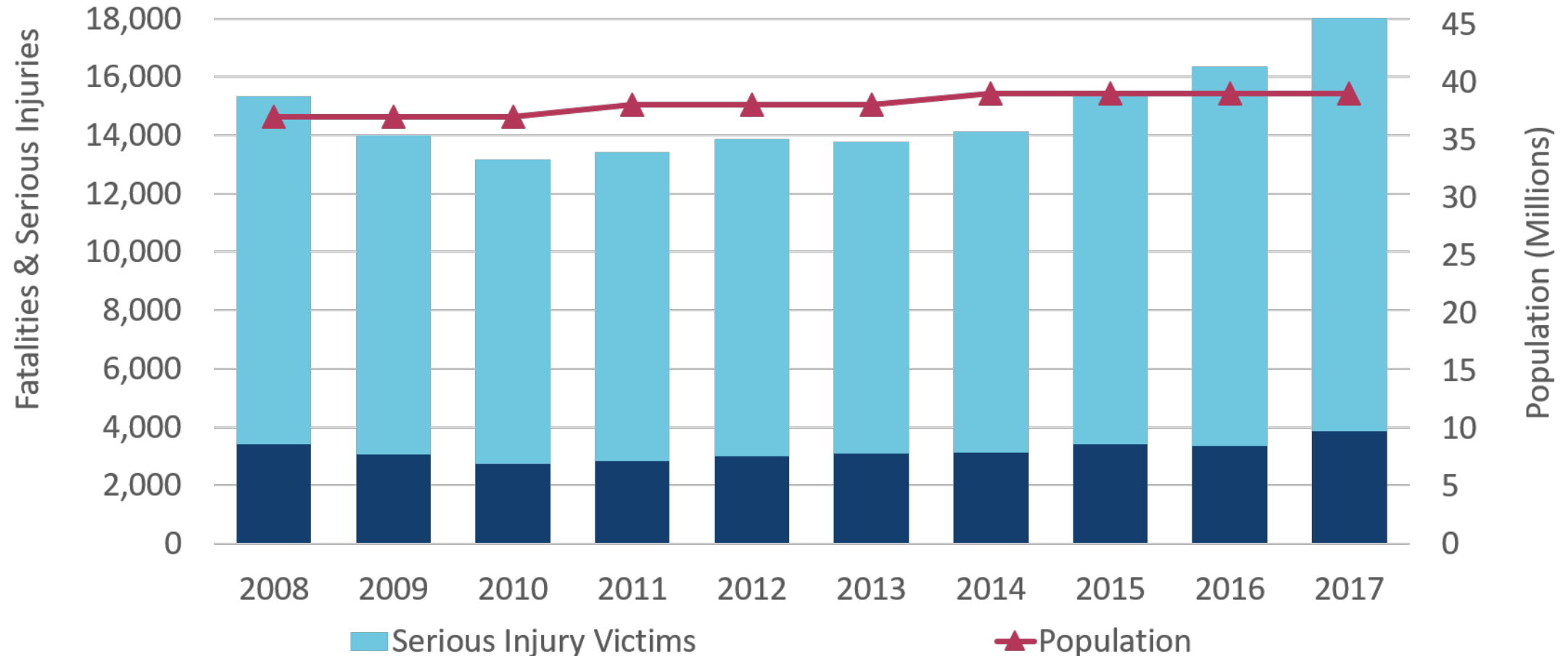




# STATEWIDE



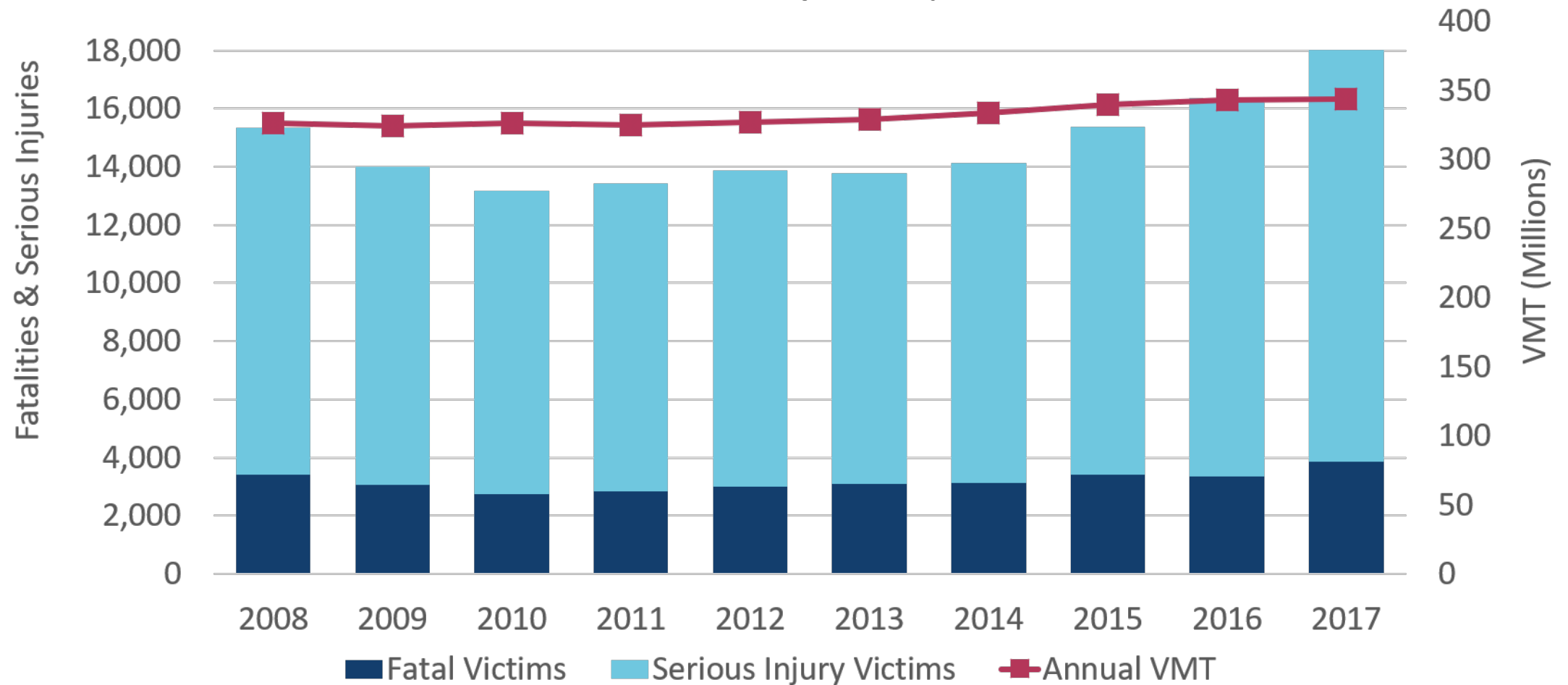
Total Fatalities and Serious Injuries by Year Versus Population



# STATEWIDE



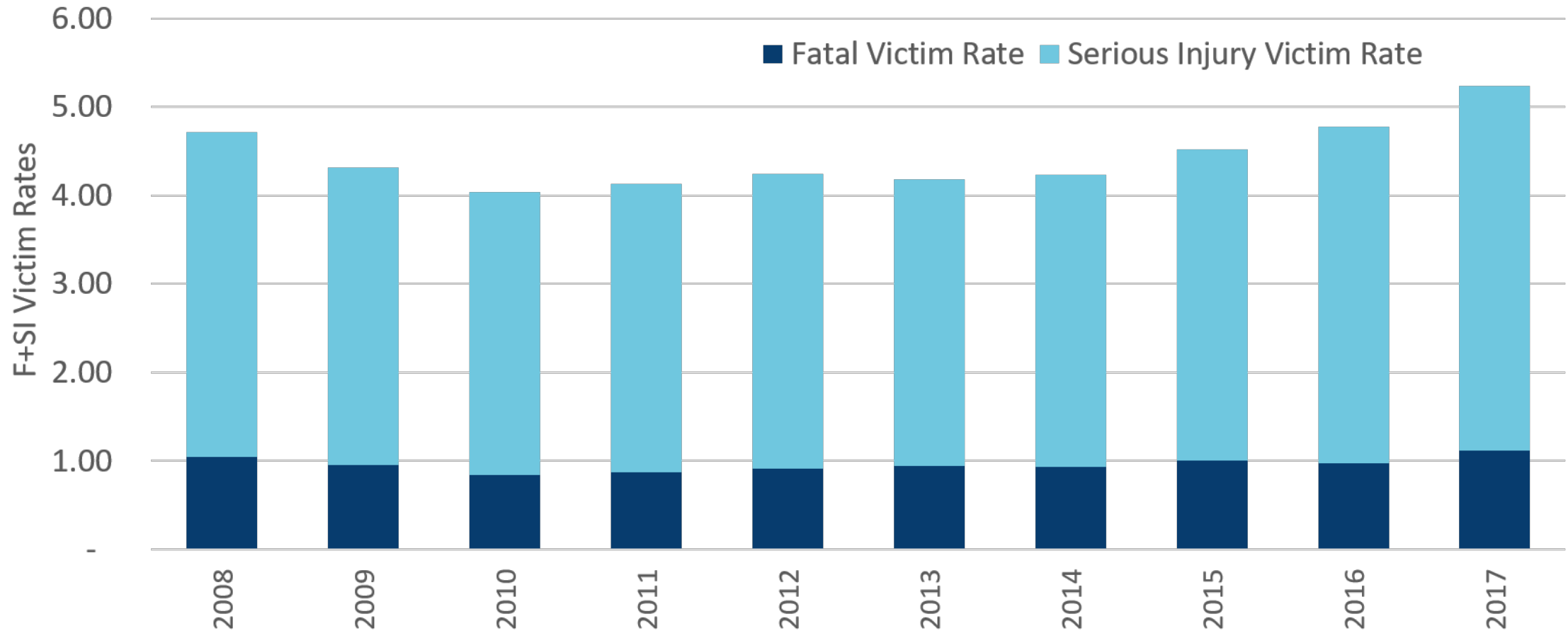
Total Fatalities and Serious Injuries by Year Versus VMT



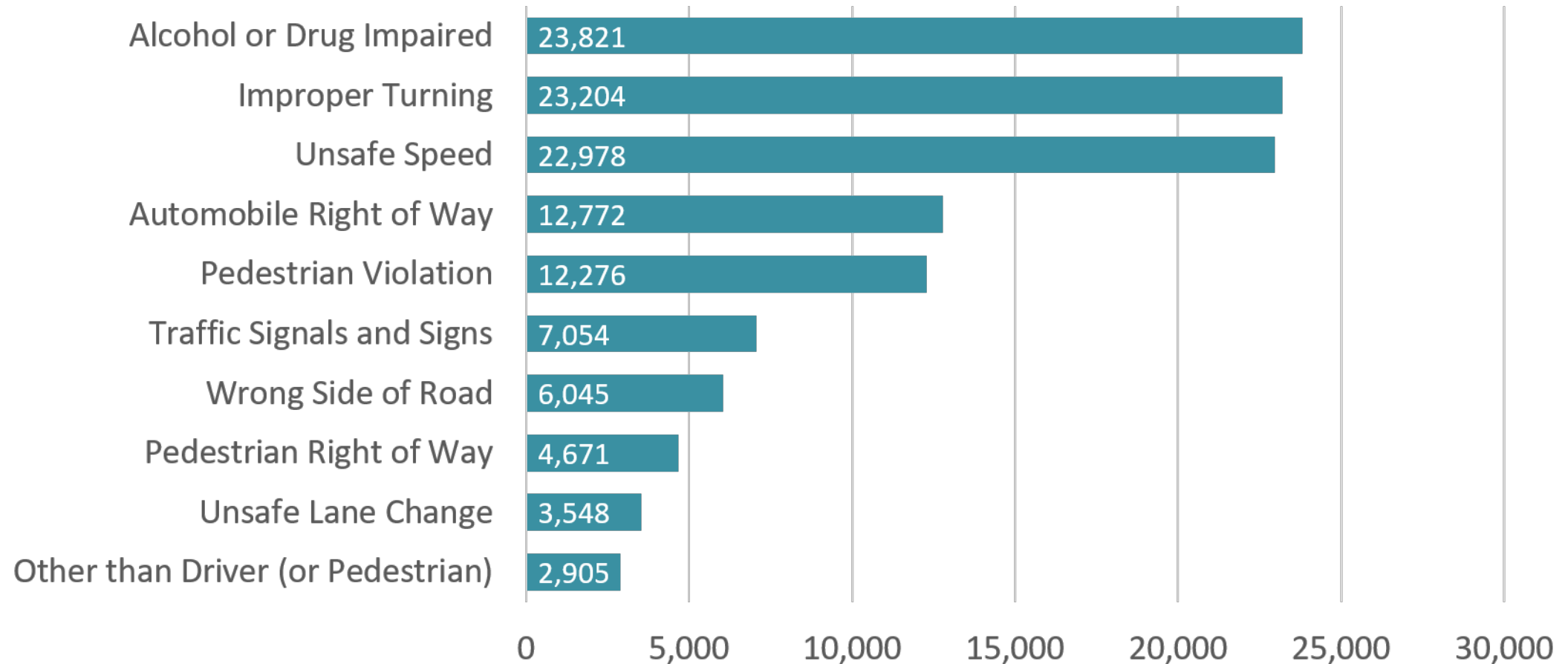
# STATEWIDE



## Fatality & Serious Injury Rates

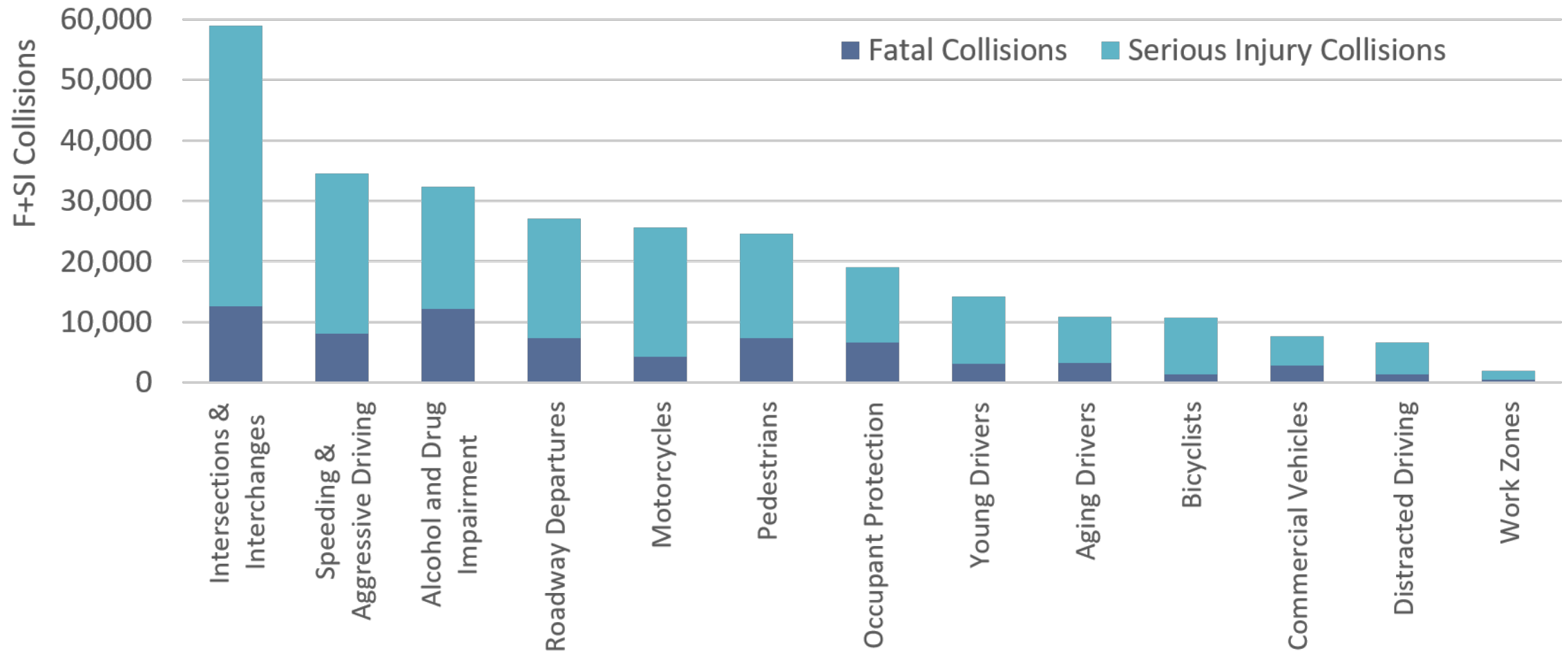


## Fatal & Serious Injury Collisions by Primary Cause



# STATEWIDE

## Fatal & Serious Injury Collisions



# STATEWIDE



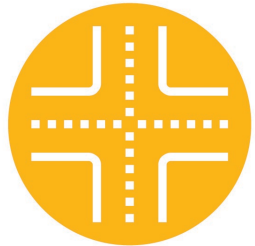
## Fatal and Serious Injury Collision Rankings

Category	Fatal and Serious Injury			Fatal Only		Serious Injury Only	
	Rank	%	% Change	Rank	%	Rank	%
Intersections, Interchanges, and Other Roadway Access	1	45.7 %	↑ 0.14%	1	43.2 %	1	46.5 %
Speeding and Aggressive Driving	2	26.8 %	↑ 2.24%	3	27.4 %	2	26.7 %
Alcohol and Drug Impairment	3	25.1 %	-4.91%	2	41.4 %	4	20.3 %
Driver Licensing and Competency (Fatal only)	4*	24.5 %*	↑ 2.04%	6	24.5 %*	*	*
Roadway Departures and Head-On Collisions	5	21.0 %	-1.52%	4	25.0 %	5	19.9 %
Motorcycles	6	19.9 %	↑ 2.04%	8	14.8 %	3	21.4 %
Pedestrians	7	19.0 %	↑ 0.85%	5	24.9 %	6	17.3 %
Occupant Protection	8	14.8 %	-2.18%	7	22.6 %	7	12.5 %
Young Drivers	9	11.0 %	-1.20%	10	10.6 %	8	11.2 %
Aging Drivers	10	8.5 %	↑ 1.65%	9	11.3 %	10	7.6 %
Bicycling	11	8.4 %	-0.40%	12	4.8 %	9	9.4 %
Commercial Vehicles	12	5.9 %	-2.65%	11	9.5 %	12	4.9 %
Distracted Driving	13	5.2 %	-0.20%	13	4.8 %	11	5.3 %
Work Zones	14	1.5 %	↑ 0.08%	14	1.8 %	13	1.4 %

# STATEWIDE



**CALIFORNIA SAFE ROADS**  
2020 - 2024 Strategic Highway Safety Plan



Intersections, Interchanges,  
and Other Roadway Access

**43%**



Alcohol and Drug  
Impairment

**42%**



Speeding and  
Aggressive Driving

**28%**



Roadway Departure  
& Head-on Collisions

**26%**



Driver Licensing and  
Competency

**25%**



Pedestrians

**23%**



Occupant Protection

**19%**



Aging Drivers

**14%**



Motorcycles

**14%**



Young Drivers

**13%**



Commercial Vehicles

**10%**



Distracted Driving

**5%**



Bicycling

**4%**



Work Zone

**2%**

Percent of  
total fatalities

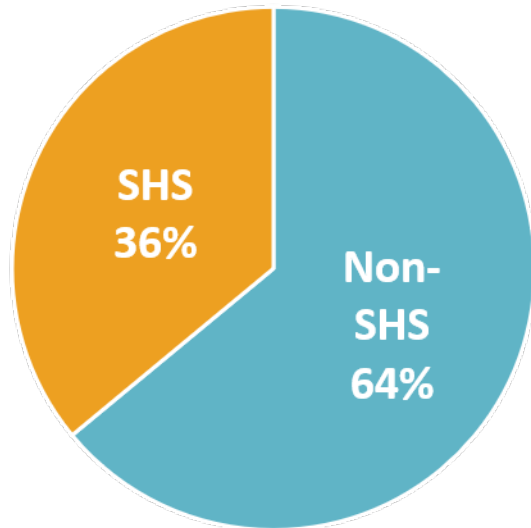


# STATEWIDE

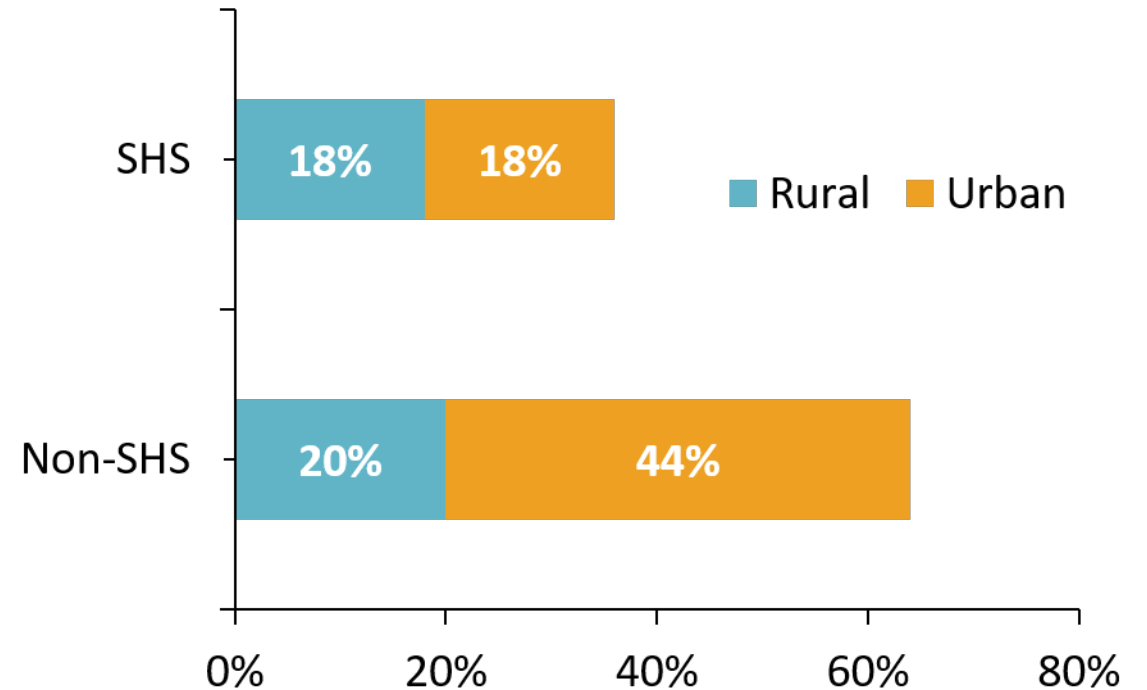
## Fatal & Serious Injury Collisions



### State Highway System (SHS) vs. Non-SHS

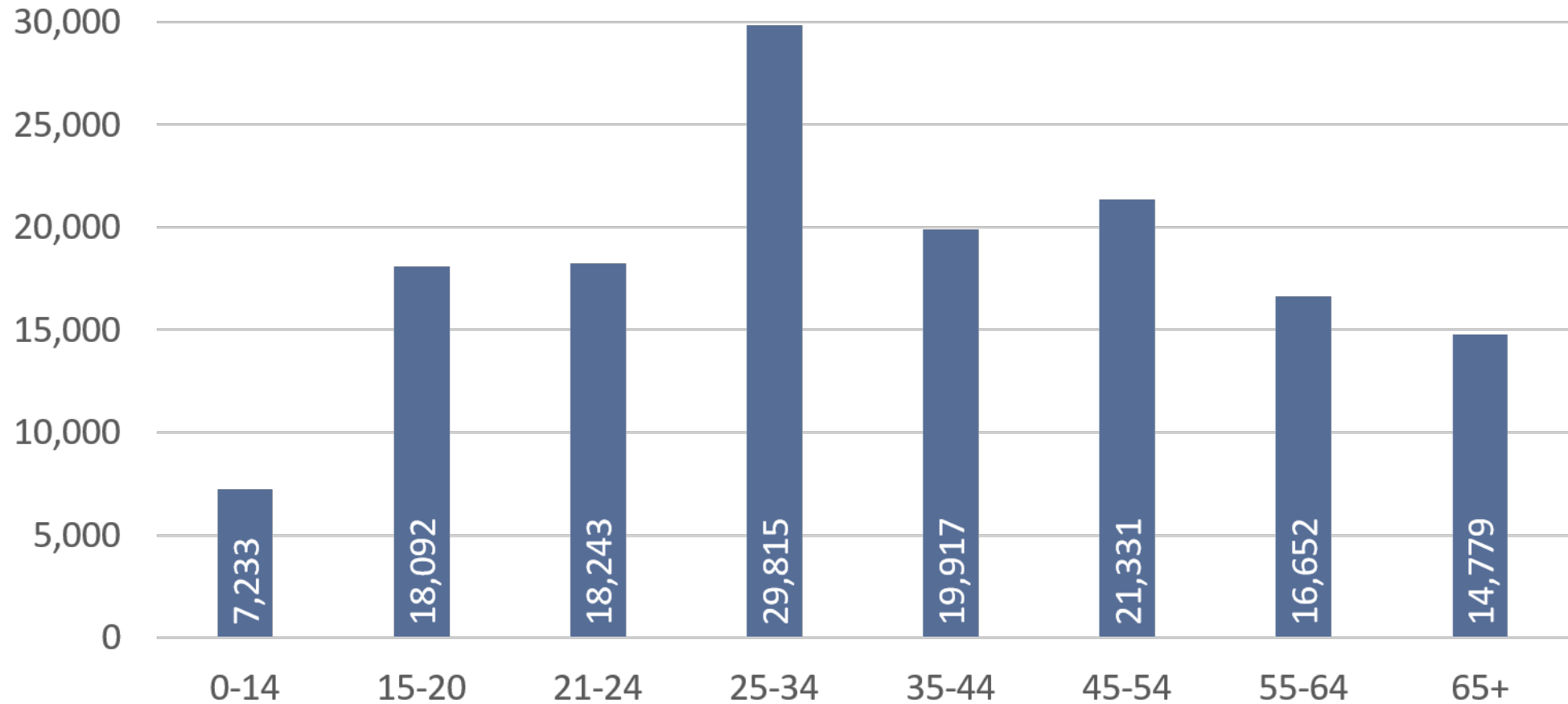


### Percent of Victims by Location



# STATEWIDE

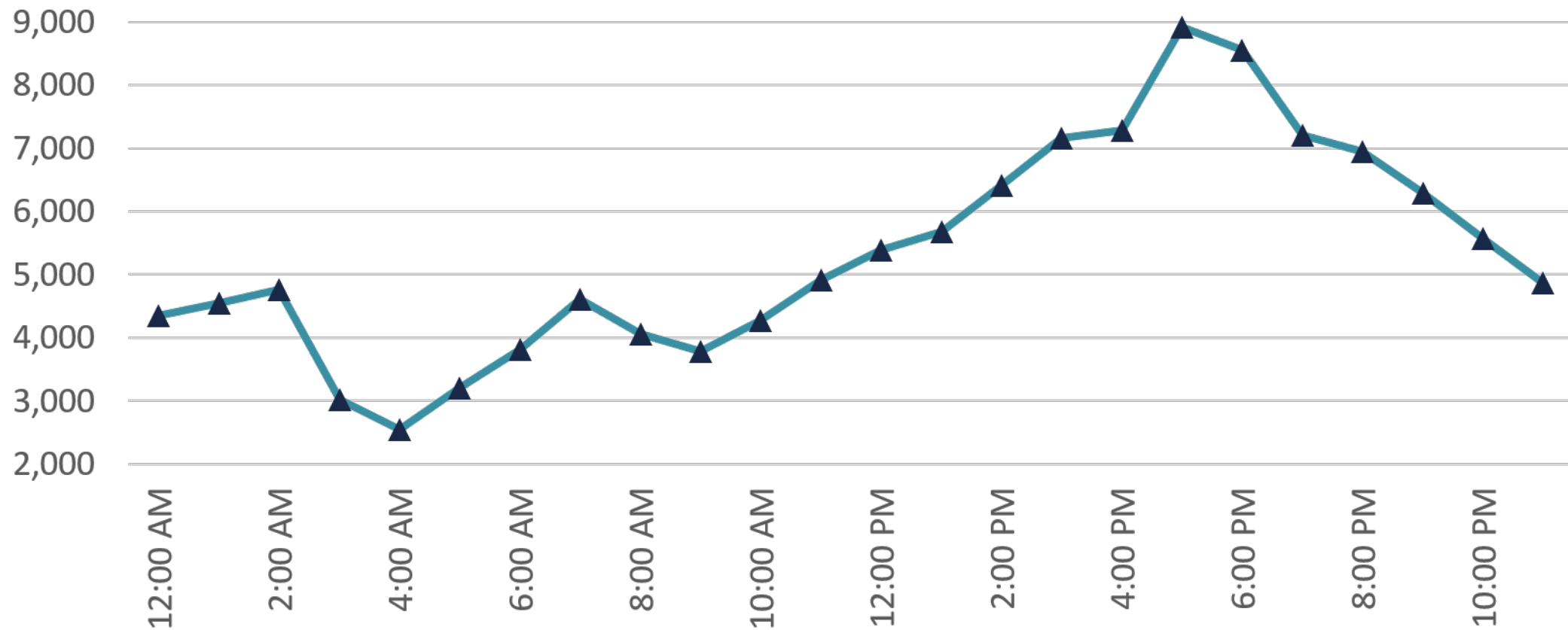
## Fatalities and Serious Injuries by Age



# STATEWIDE



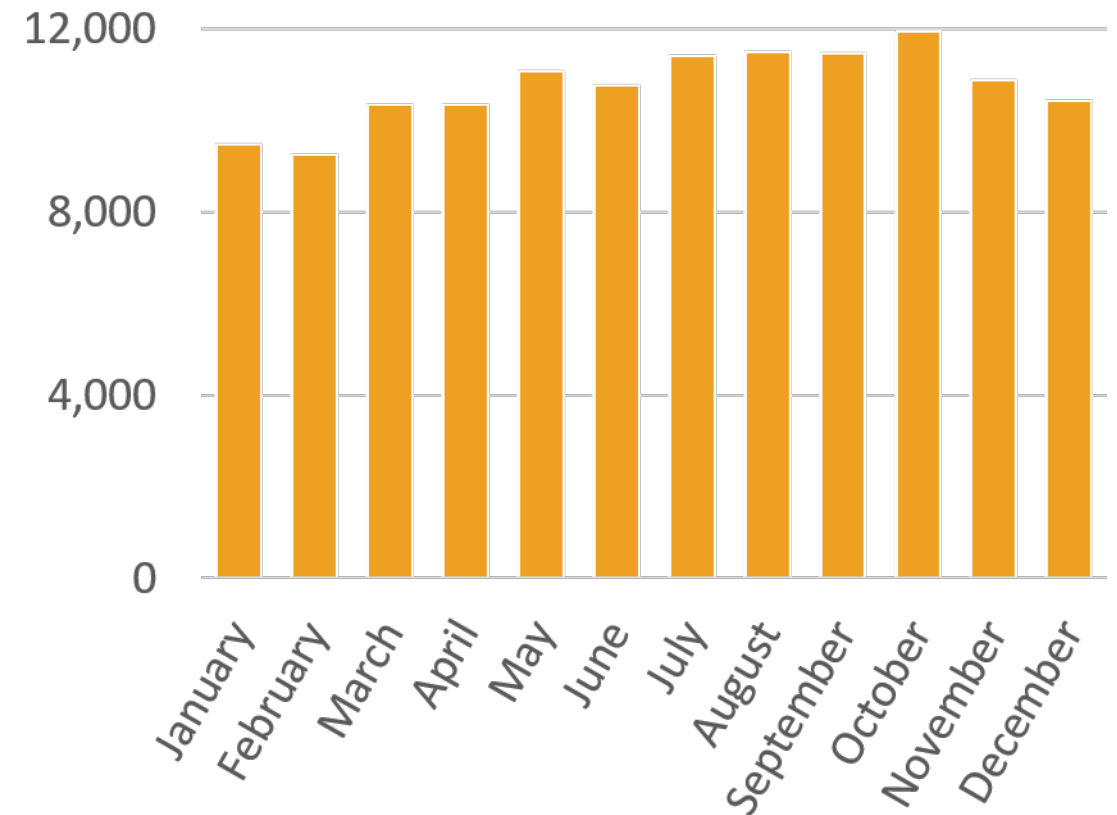
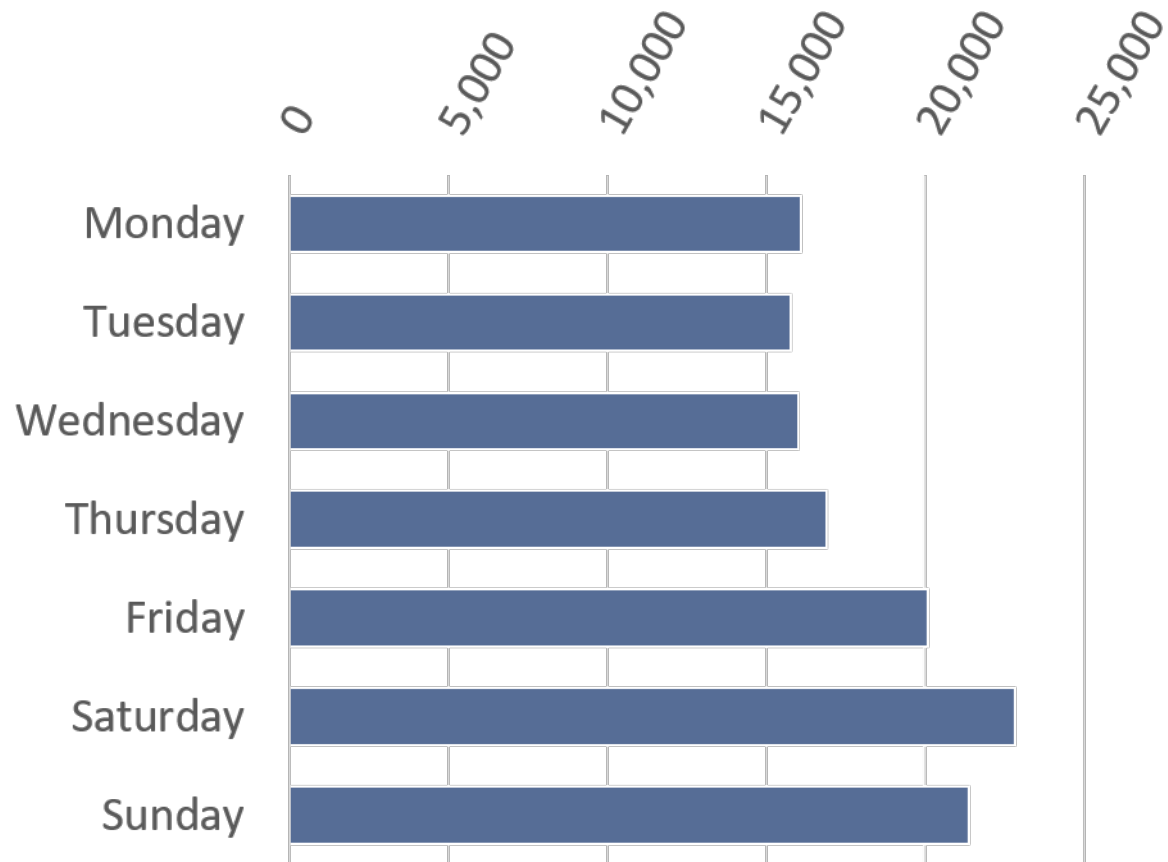
Fatal and Serious Injury Collisions by Time of Day



# STATEWIDE

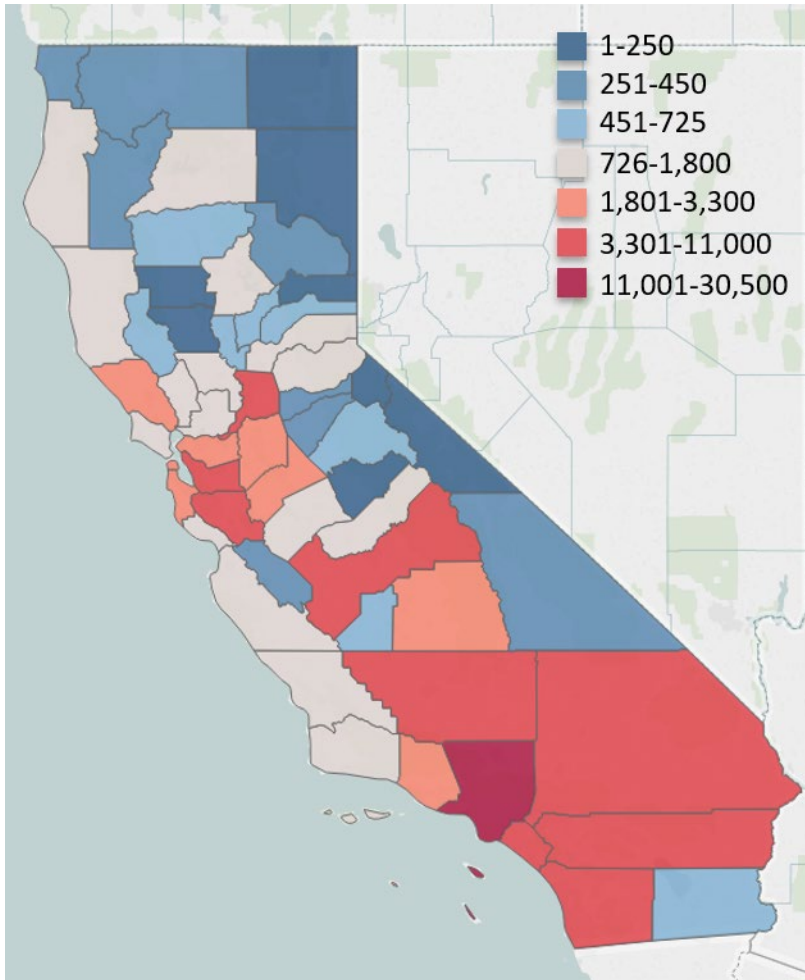


## Fatal and Serious Injury Collisions by Day and Month

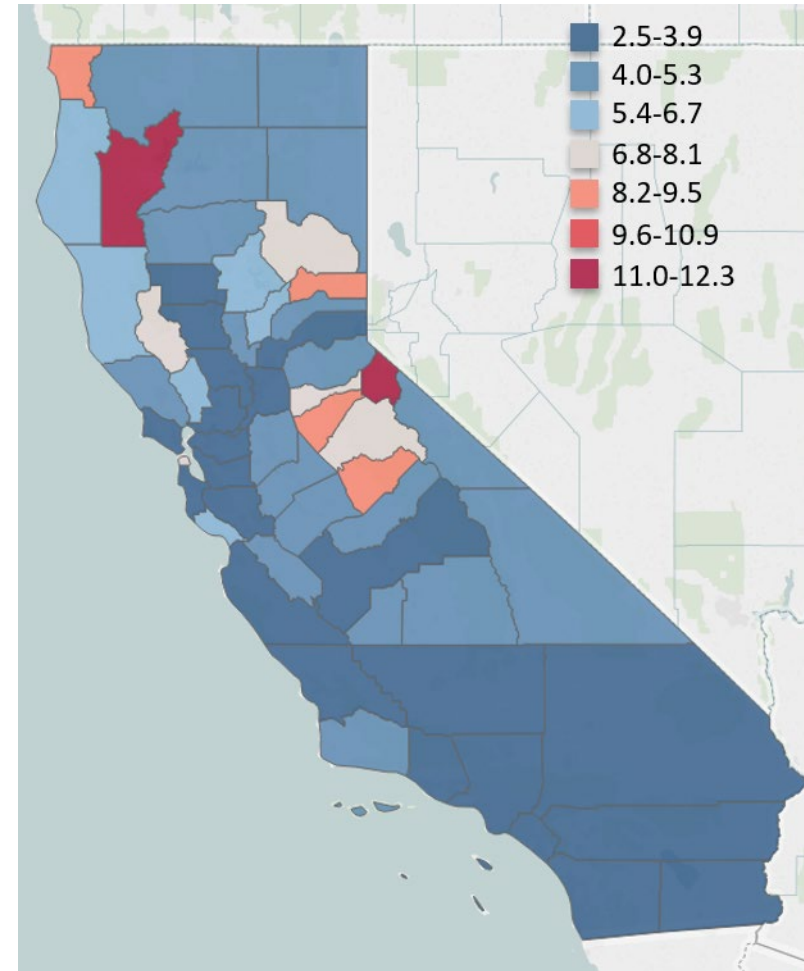


# STATEWIDE

## F+SI Collisions



## F+SI Collision Rate per 100M VMT





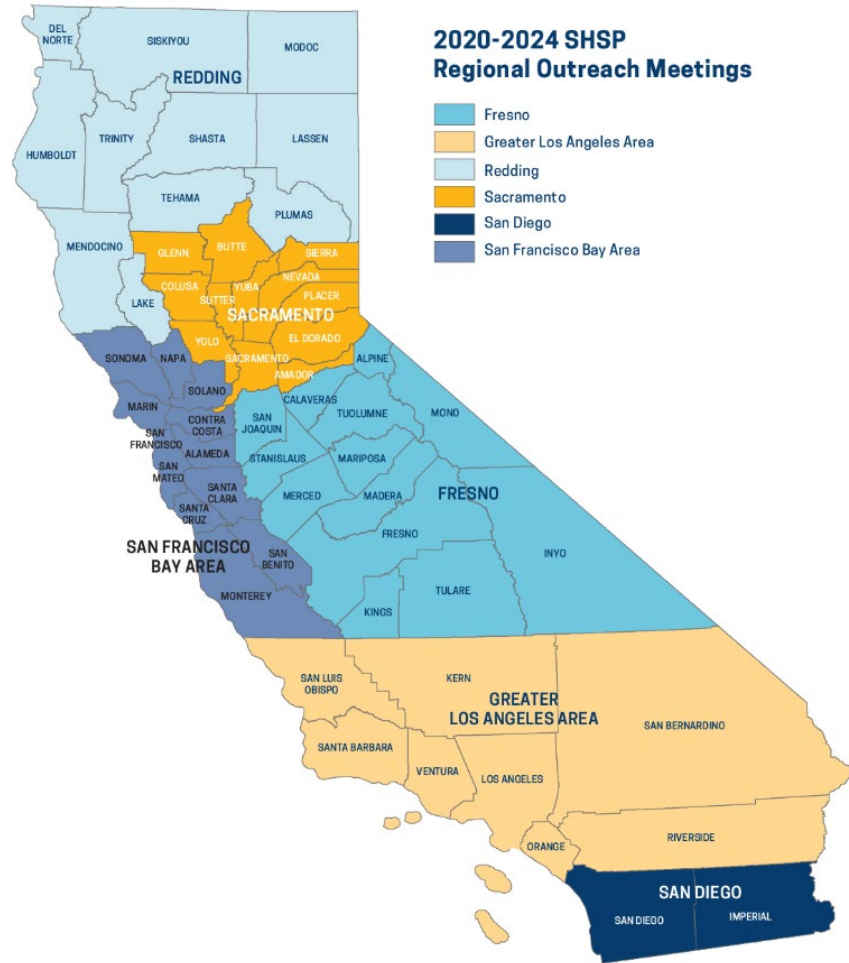
# **CALIFORNIA SAFE ROADS**

*2020 - 2024 Strategic Highway Safety Plan*

## Sacramento Region Summary



# OUTREACH EVENTS



## CALIFORNIA SAFE ROADS 2020 - 2024 Strategic Highway Safety Plan

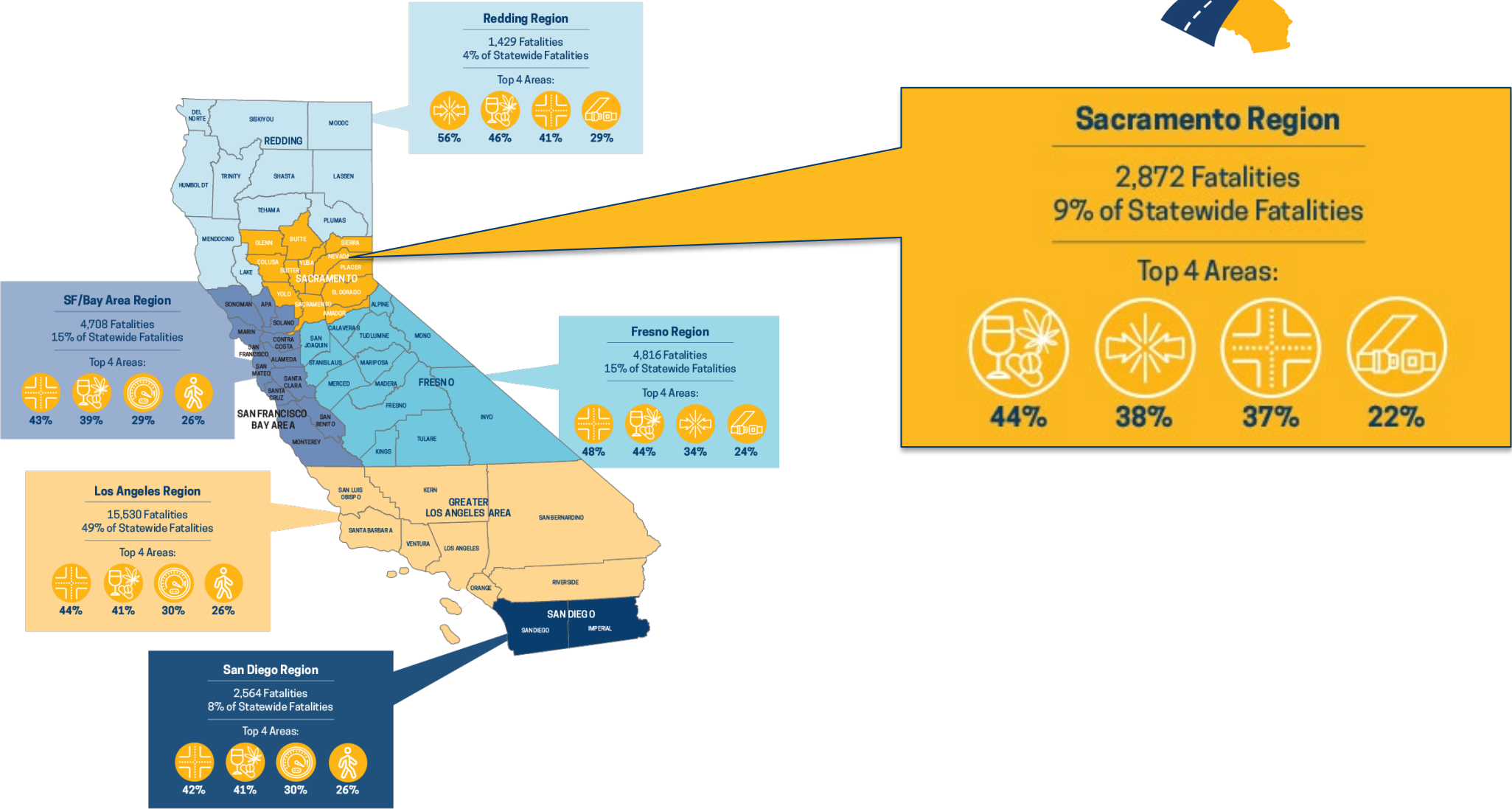
Join us at one of the following locations to collaborate on eliminating fatalities and serious injuries on all roadways in California.

- April 10 // Sacramento**
- April 11 // San Francisco Bay Area**
- April 12 // Redding**
- April 23 // San Diego**
- April 24 // Greater Los Angeles Area**
- April 25 // Fresno**

Email [Ca-SHSP@Kimley-Horn.com](mailto:Ca-SHSP@Kimley-Horn.com) for more information.



# REGIONAL



# SACRAMENTO REGION

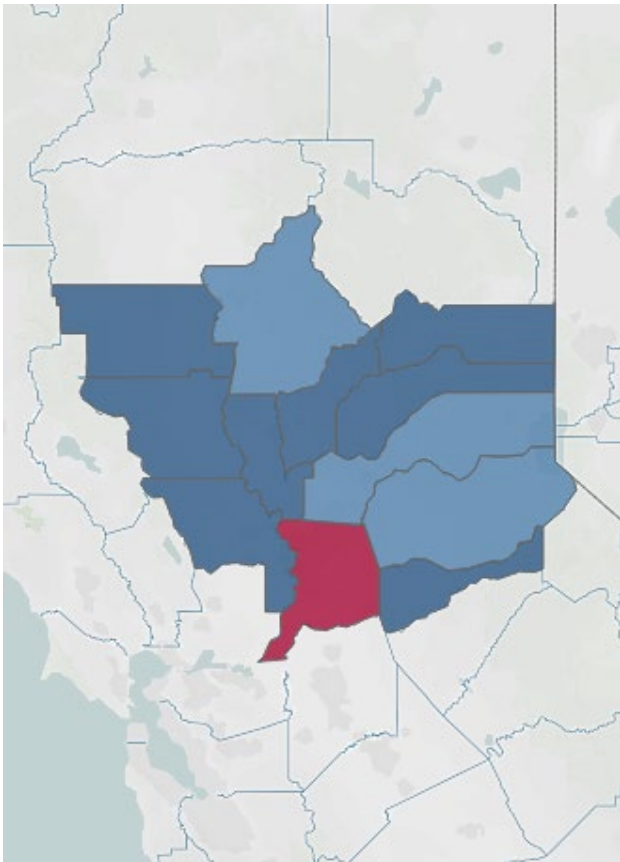


## 12 Counties

- Amador
- Butte
- Colusa
- El Dorado
- Glenn
- Nevada
- Placer
- Sacramento
- Sierra
- Sutter
- Yolo
- Yuba

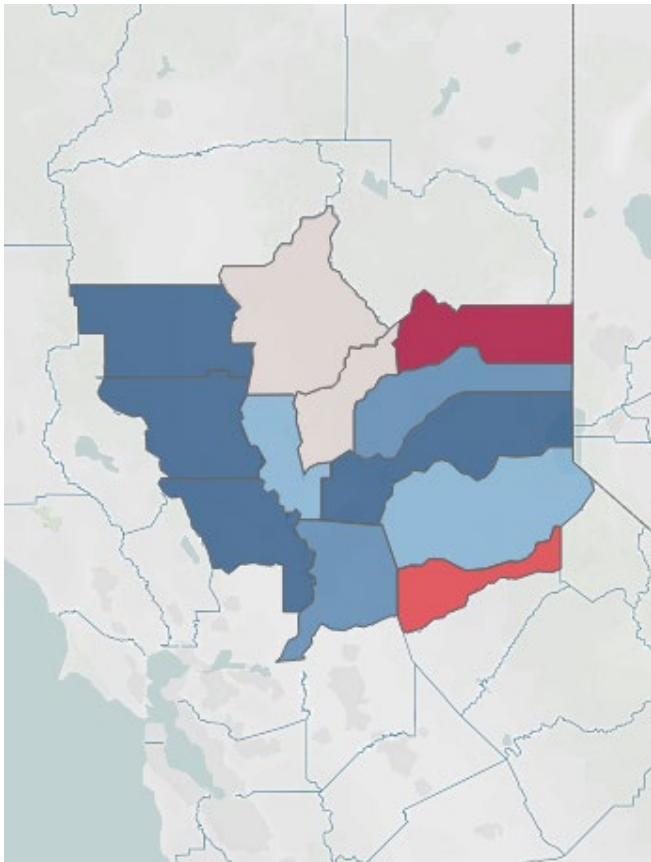
# REGIONAL

F+SI by County



County	F+SI
Sierra	34
Colusa	62
Glenn	73
Amador	90
Yuba	135
Sutter	140
Nevada	164
Yolo	228
El Dorado	325
Placer	326
Butte	396
Sacramento	1,708

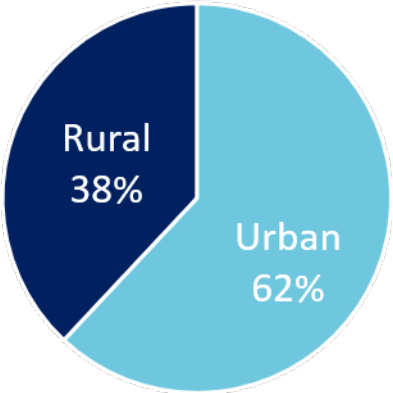
F+SI per 100M VMT



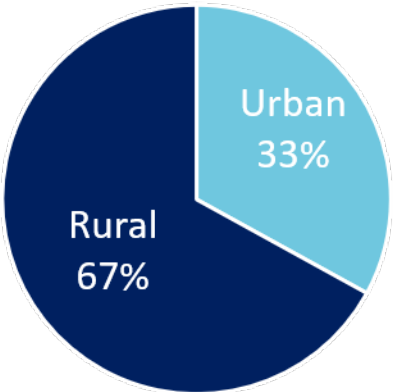
County	F+SI per 100M VMT
Placer	3.1
Colusa	3.5
Yolo	3.6
Sacramento	4.7
Nevada	4.9
Glenn	5.1
Sutter	5.5
El Dorado	6.7
Yuba	7.0
Butte	7.9
Amador	7.9
Sierra	10.8

# REGIONAL COLLISION DATA

## Population *Statewide:*



## *Fresno Region:*

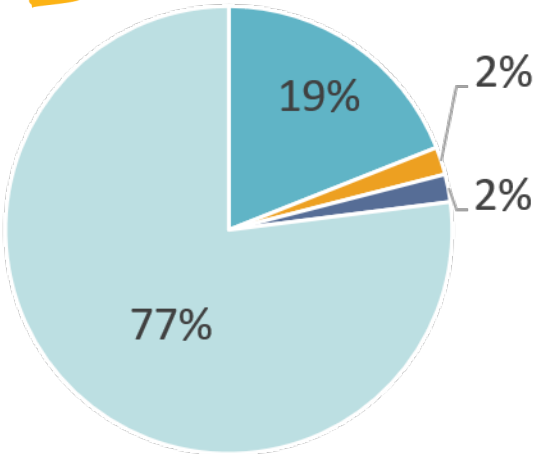


F+SI trends have more rural collisions in this region than California overall.



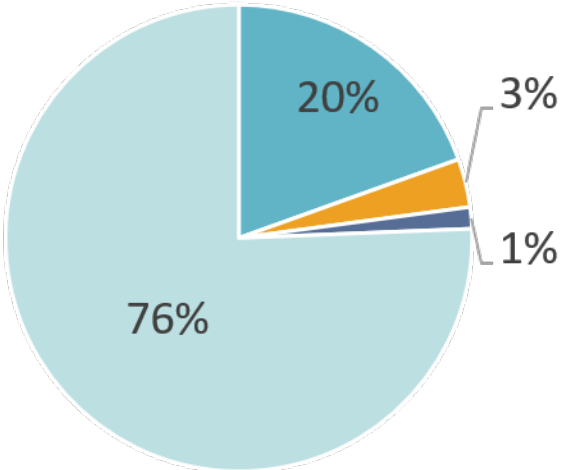
## Location Type *Statewide:*

- Highway
- Intersection
- Ramp (or Collector)
- Not State Highway



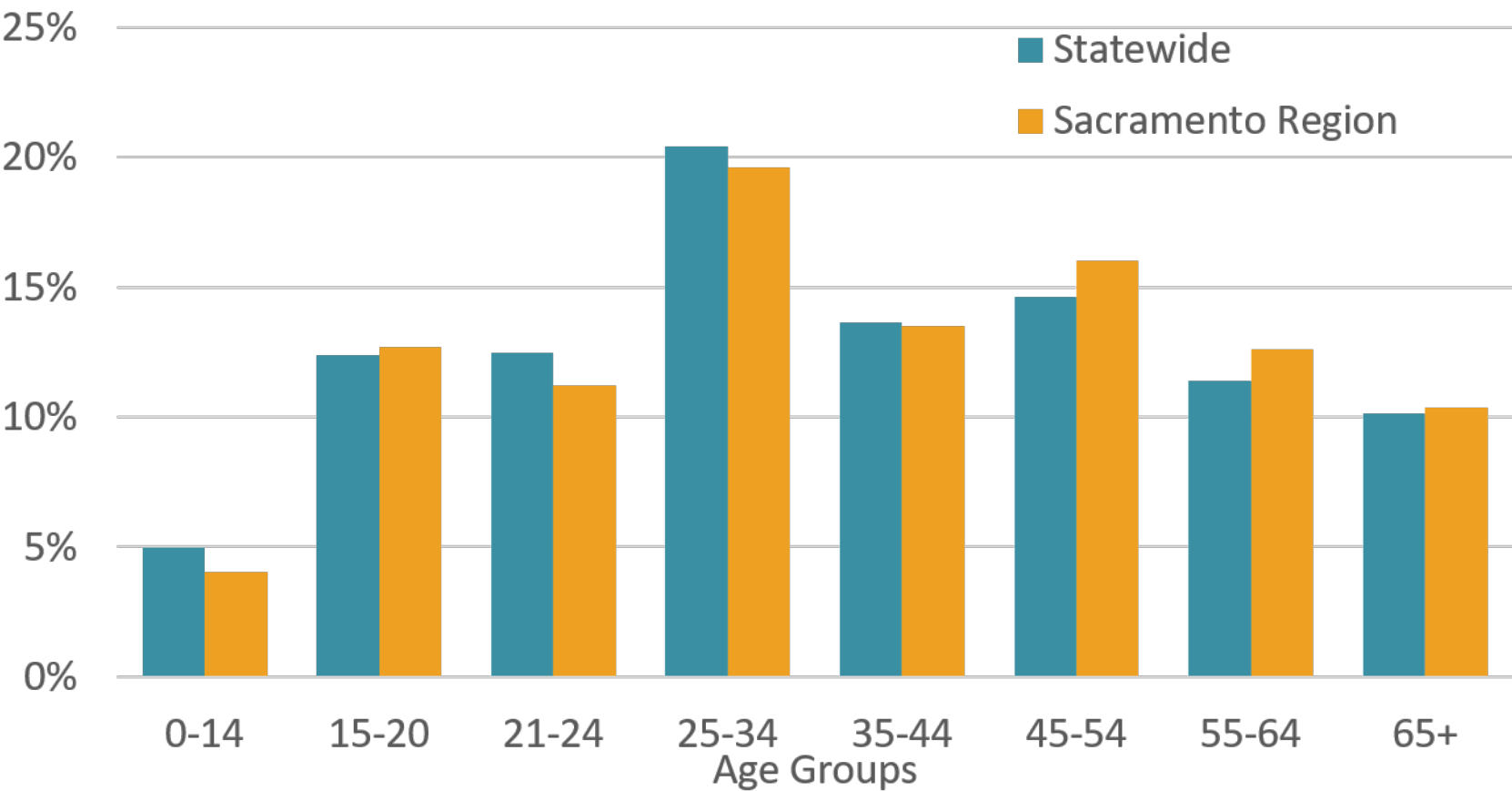
## *Fresno Region:*

- Highway
- Intersection
- Ramp (or Collector)
- Not State Highway



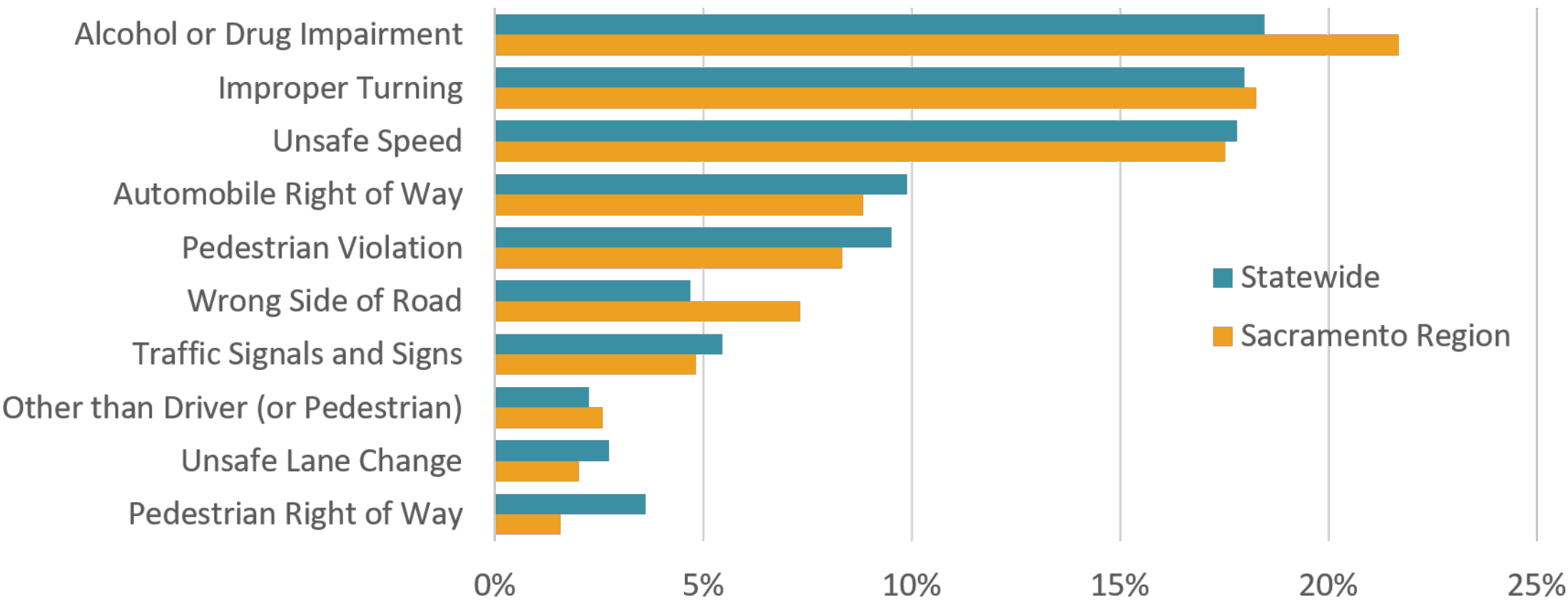
F+SI trends were similar in this region to California overall.

Fatal & Serious Injury Victims by Age



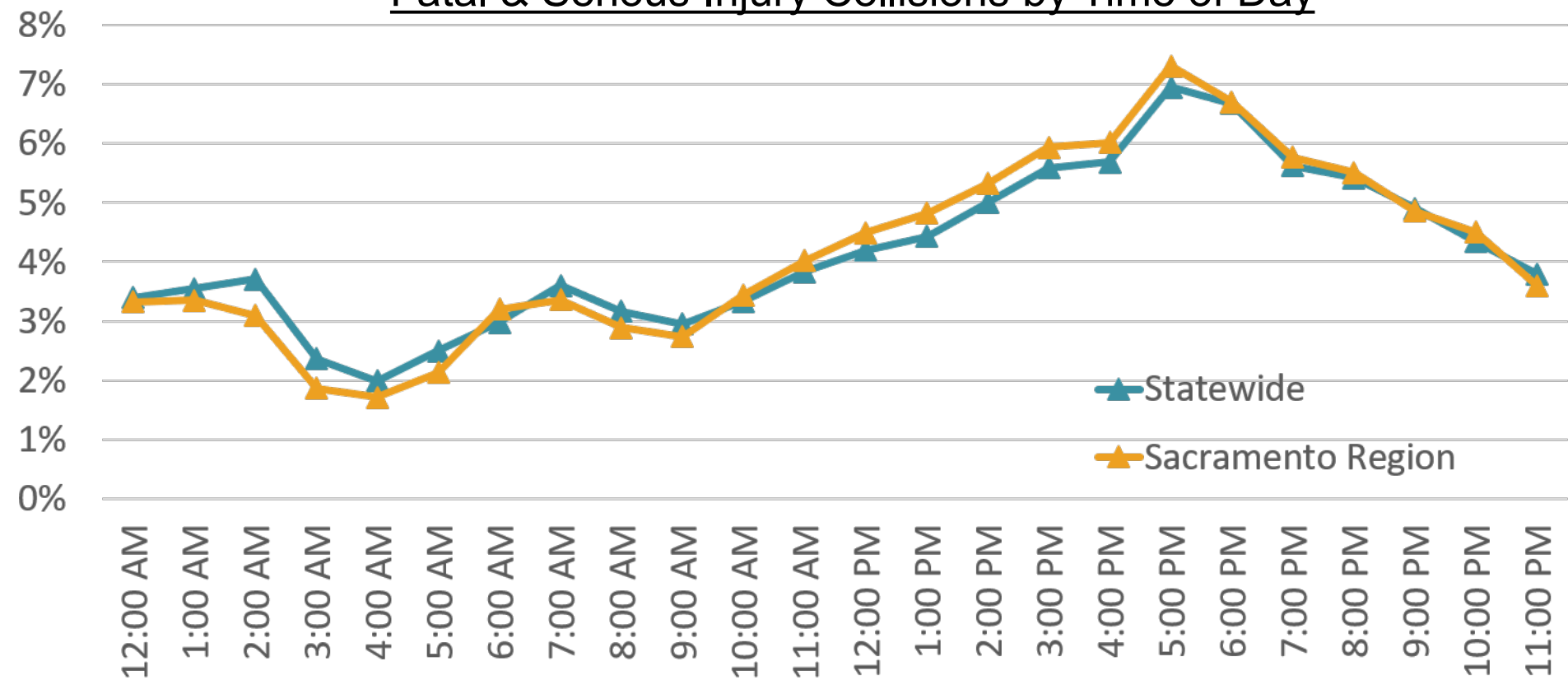
F+SI collisions involved more people aged 45+ in this region than California overall.

## Fatal & Serious Injury Collisions by Primary Cause



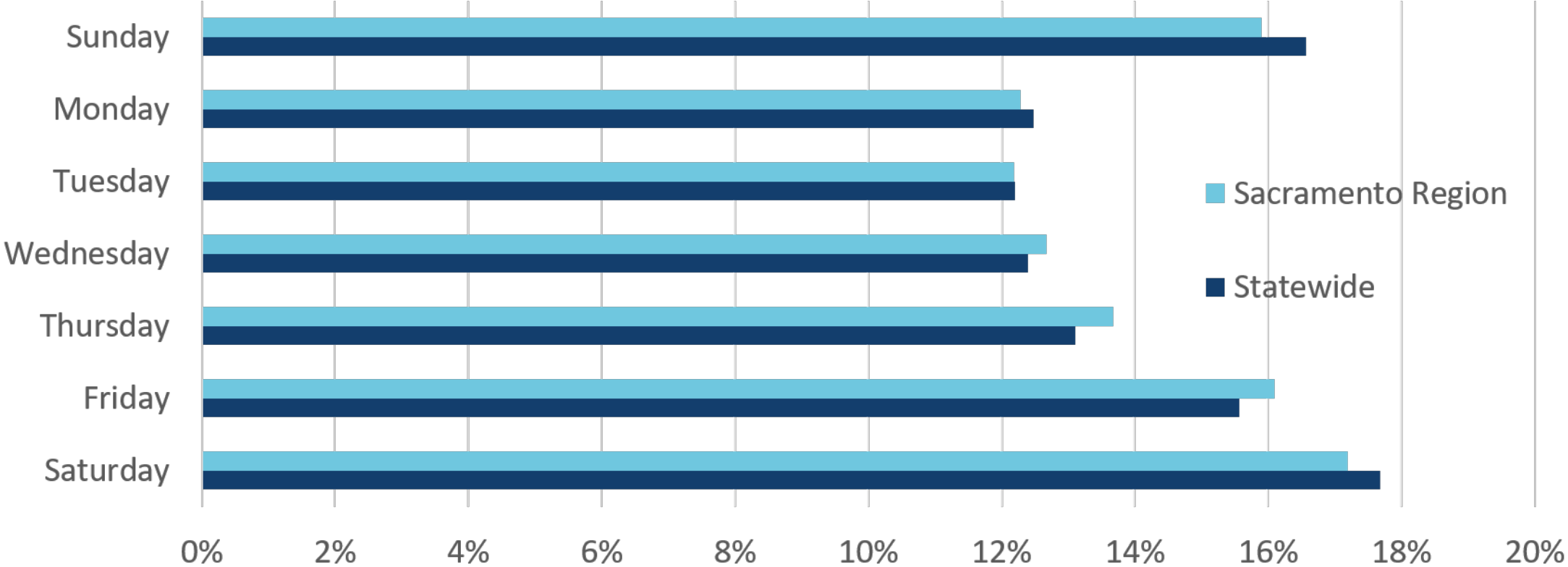
The top 5 primary collision factors were the same in this region and California overall.

Fatal & Serious Injury Collisions by Time of Day



Trends were similar in this region to California overall.

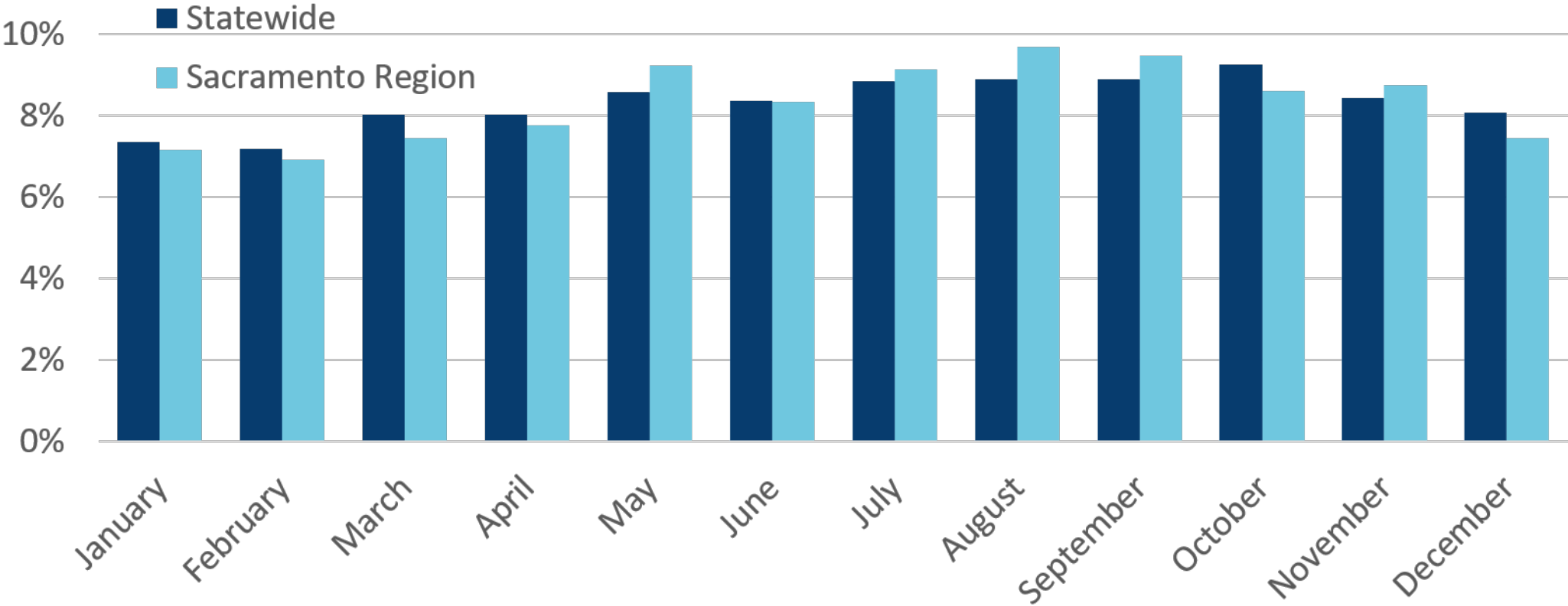
Fatal & Serious Injury Collisions by Day of Week



Trends were similar in this region to California overall.



Fatal & Serious Injury Collisions by Month of Year



Trends were similar in this region to California overall.

# REGIONAL



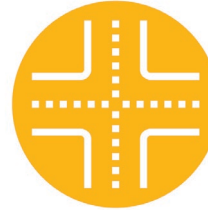
**CALIFORNIA SAFE ROADS**  
2020 - 2024 Strategic Highway Safety Plan



**Alcohol and Drug Impairment**  
Statewide: 42%  
Sacramento Region: 44%



**Roadway Departure**  
Statewide: 26%  
Sacramento Region : 38%  
Higher



**Intersections & Interchanges**  
Statewide: 43%  
Sacramento Region: 37%  
Lower



**Speeding and Aggressive Driving**  
Statewide: 28%  
Sacramento Region: 26%



**Driver Licensing and Competency**  
Statewide: 25%  
Sacramento Region: 24%



**Occupant Protection**  
Statewide: 19%  
Sacramento Region 22%



**Pedestrians**  
Statewide: 23%  
Sacramento Region : 19%  
Lower



**Aging Drivers**  
Statewide: 14%  
Sacramento Region: 16%



**Young Drivers**  
Statewide: 13%  
Sacramento Region: 14%



**Motorcycles**  
Statewide: 14%  
Sacramento Region: 13%



**Commercial Vehicles**  
Statewide: 10%  
Sacramento Region: 9%



**Bicycling**  
Statewide: 4%  
Sacramento Region: 5%



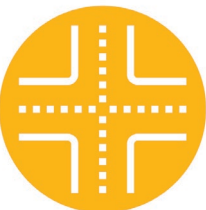
**Distracted Driving**  
Statewide: 5%  
Sacramento Region: 4%



**Work Zone**  
Statewide: 2%  
Sacramento Region: 2%

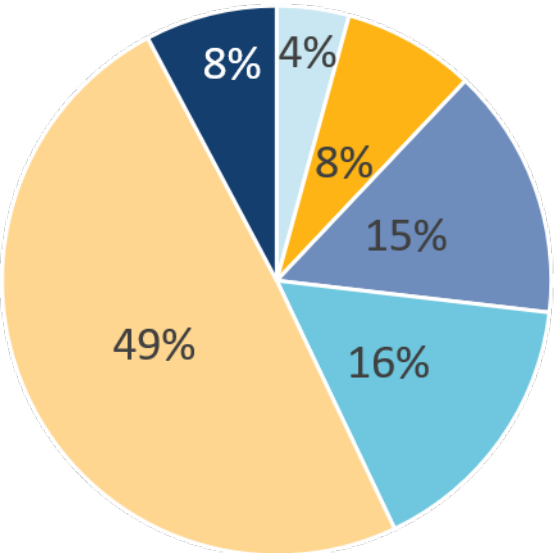
Percent of  
total fatalities

# INTERSECTIONS & INTERCHANGES

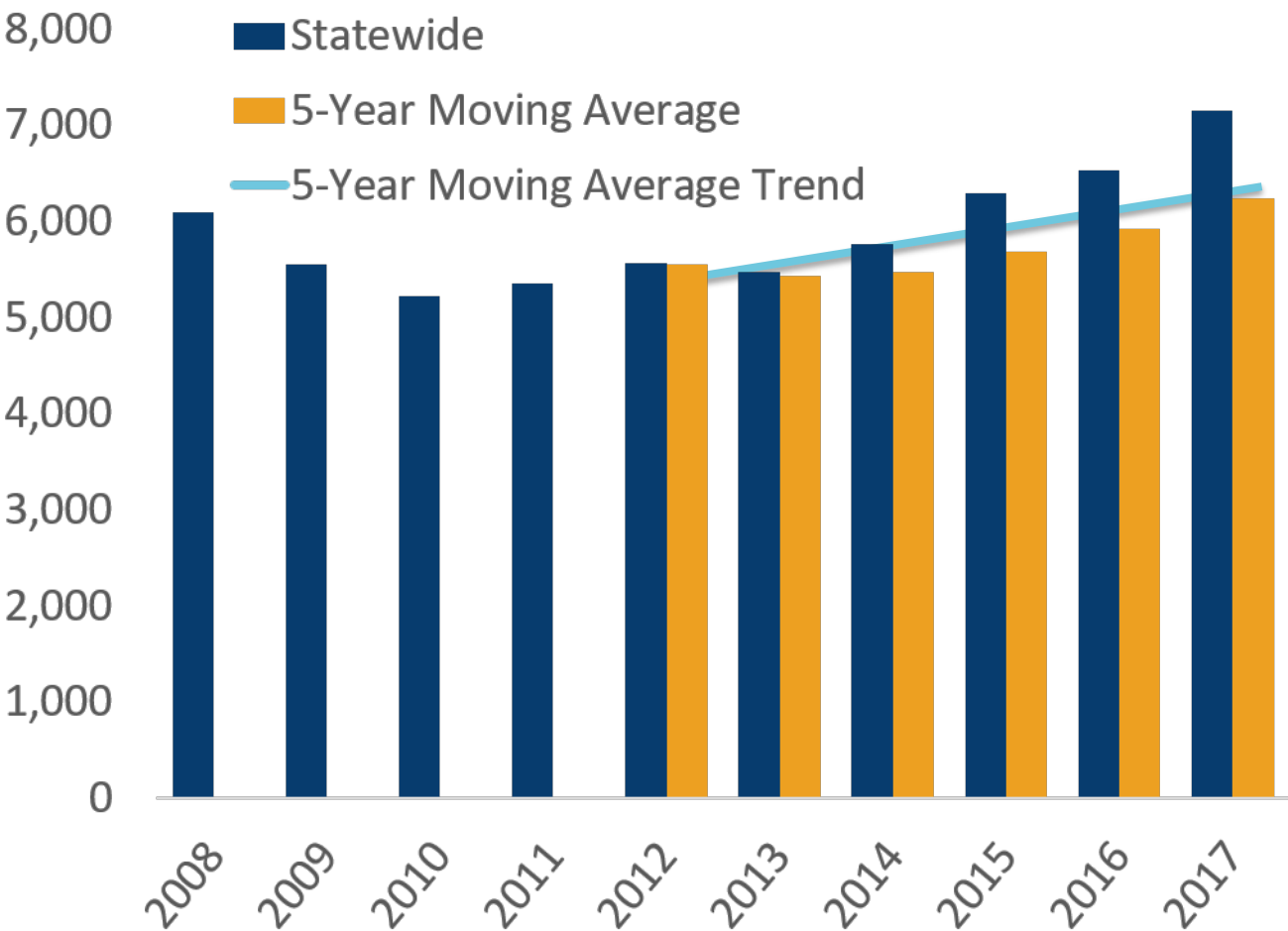


Statewide: 43%

Fresno: 48% | **Sacramento: 37%**  
Los Angeles: 44% | San Diego: 42%  
Redding: 41% | SF/Bay Area 43%



Redding Sacramento SF/Bay Area  
Fresno Los Angeles San Diego

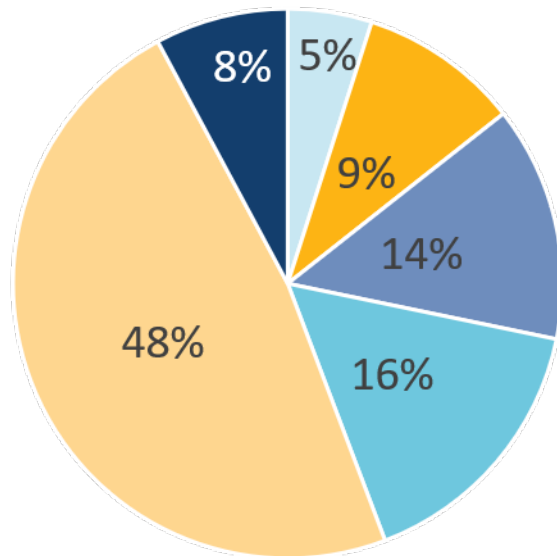


# ALCOHOL & DRUG IMPAIRMENT

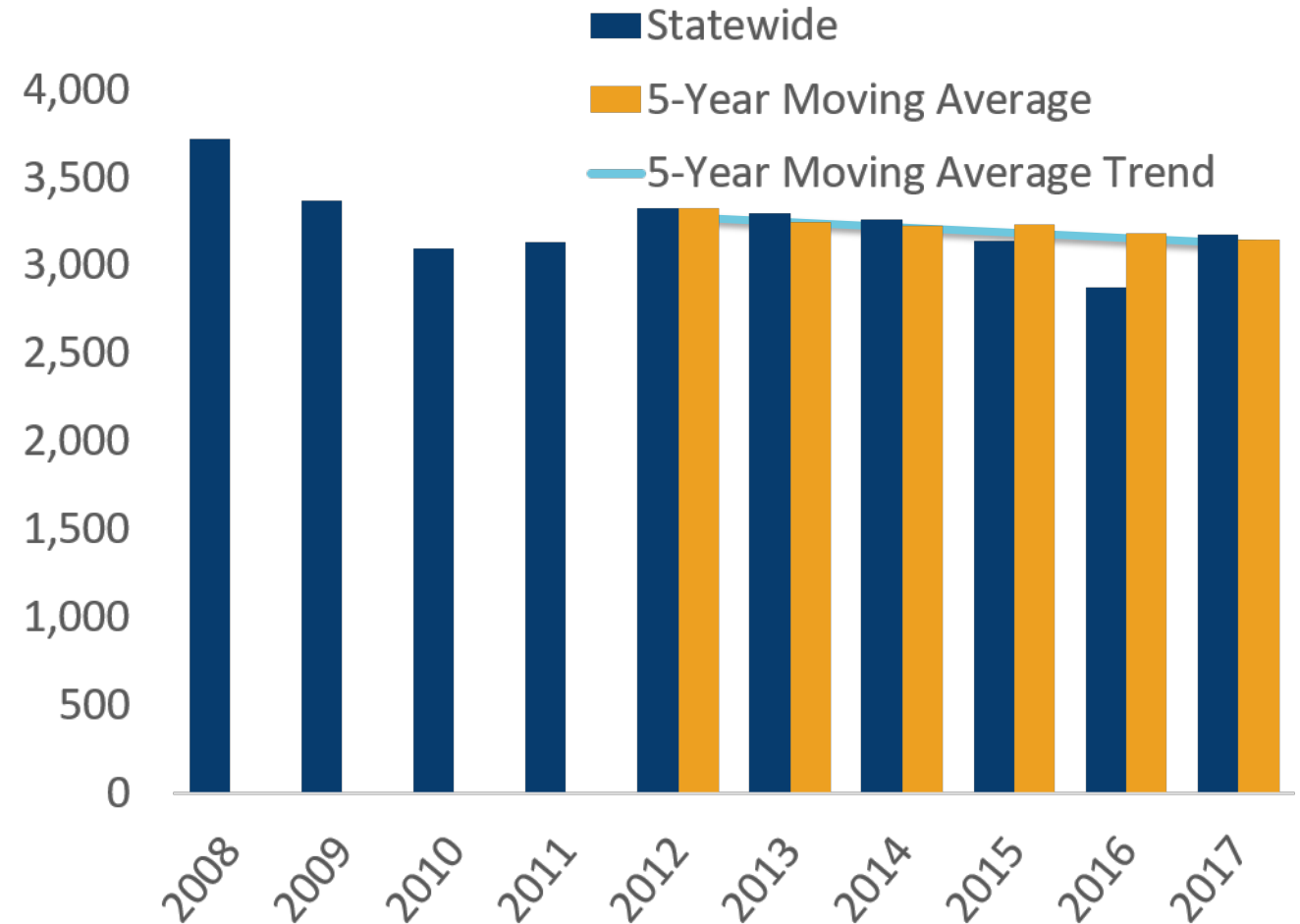


Statewide: 42%

Fresno: 44%	<b>Sacramento: 44%</b>
Los Angeles: 41%	San Diego: 41%
Redding: 46%	SF/Bay Area 39%



Redding	Sacramento	SF/Bay Area
Fresno	Los Angeles	San Diego

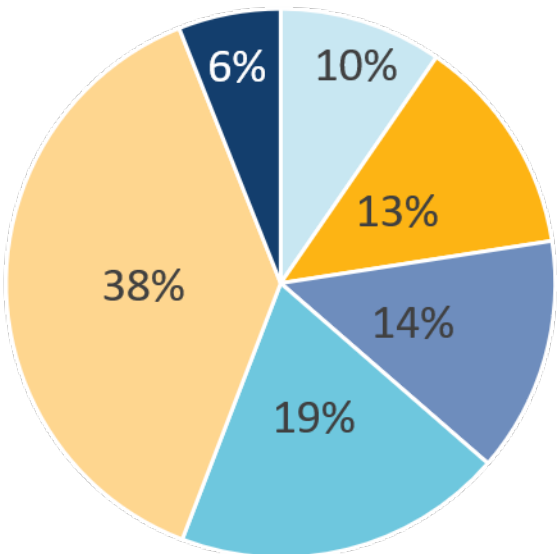


# ROADWAY DEPARTURES

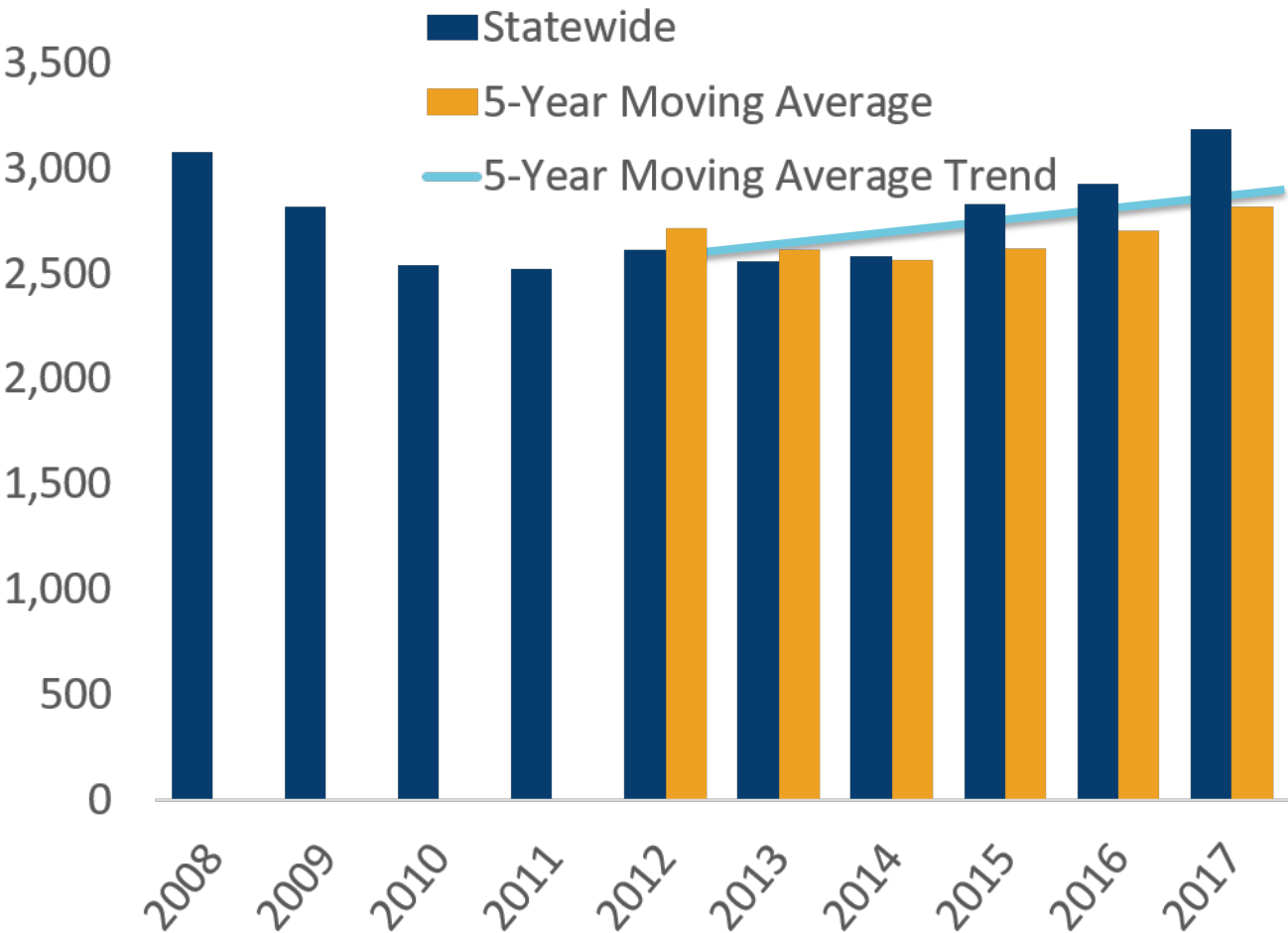


Statewide: 26%

Fresno: 34%    **Sacramento: 38%**  
Los Angeles: 20%    San Diego: 21%  
Redding: 56%    SF/Bay Area 25%



Redding    Sacramento    SF/Bay Area  
Fresno    Los Angeles    San Diego

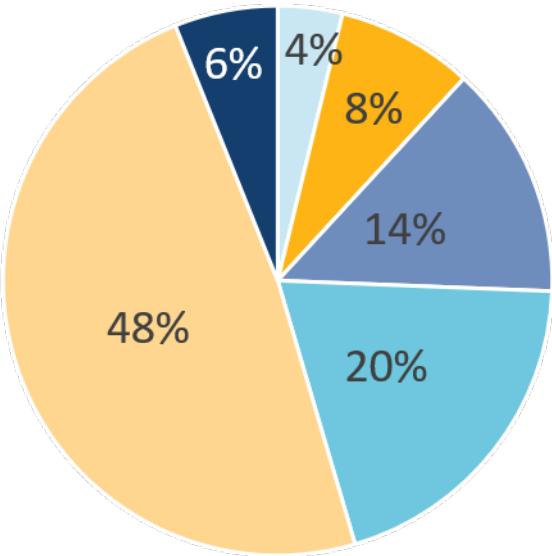


# DRIVER LICENSING & COMPETENCY

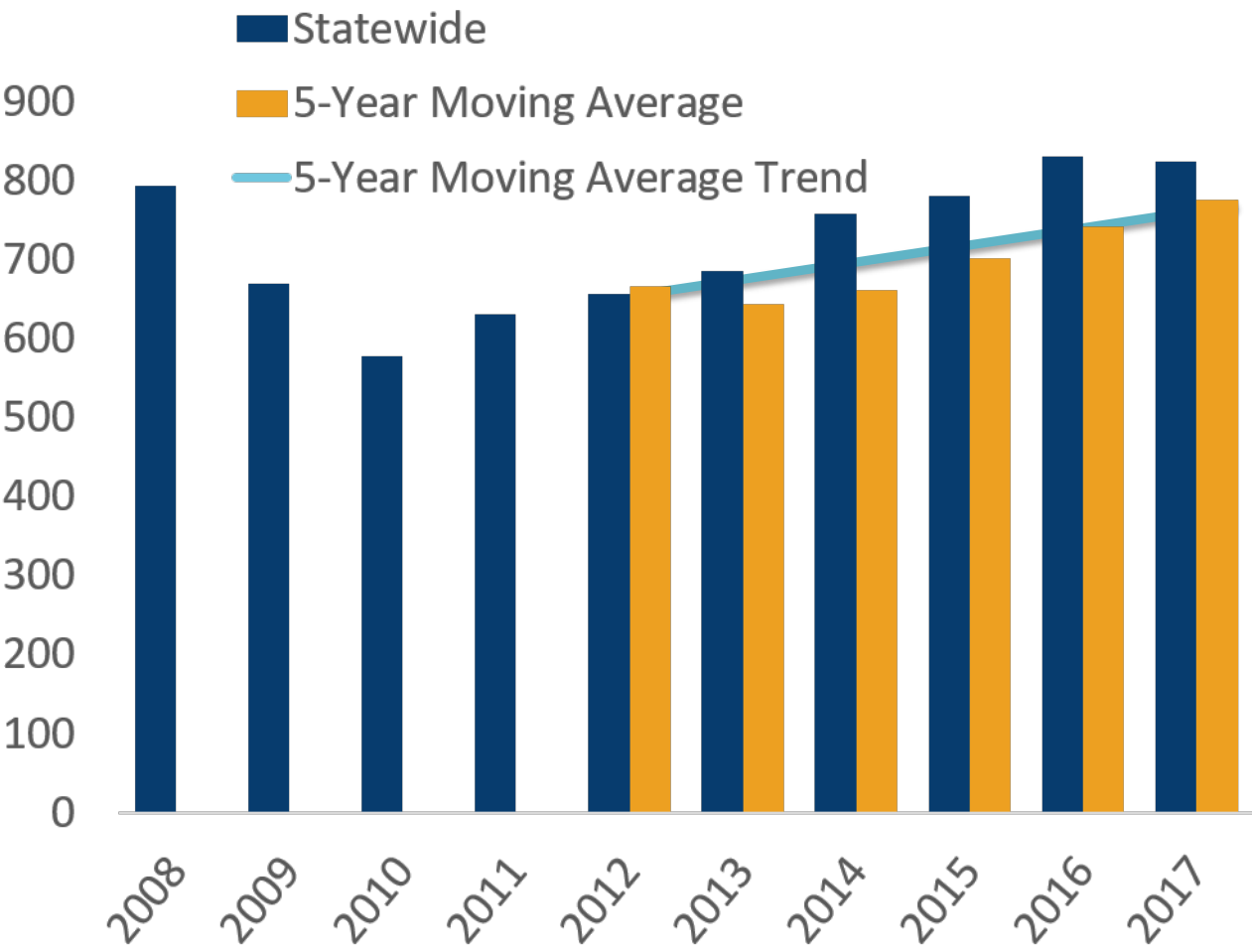


Statewide: 25%

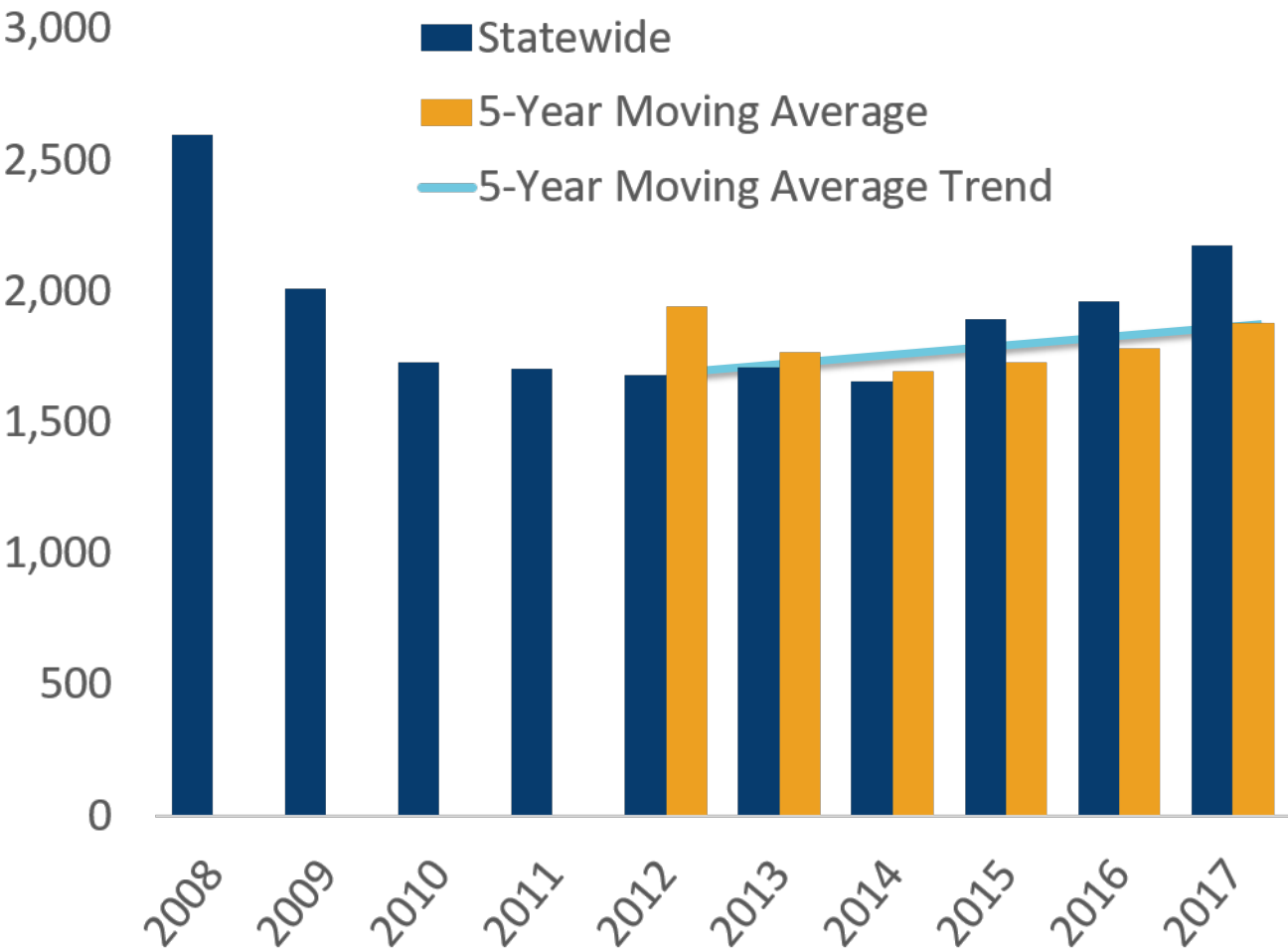
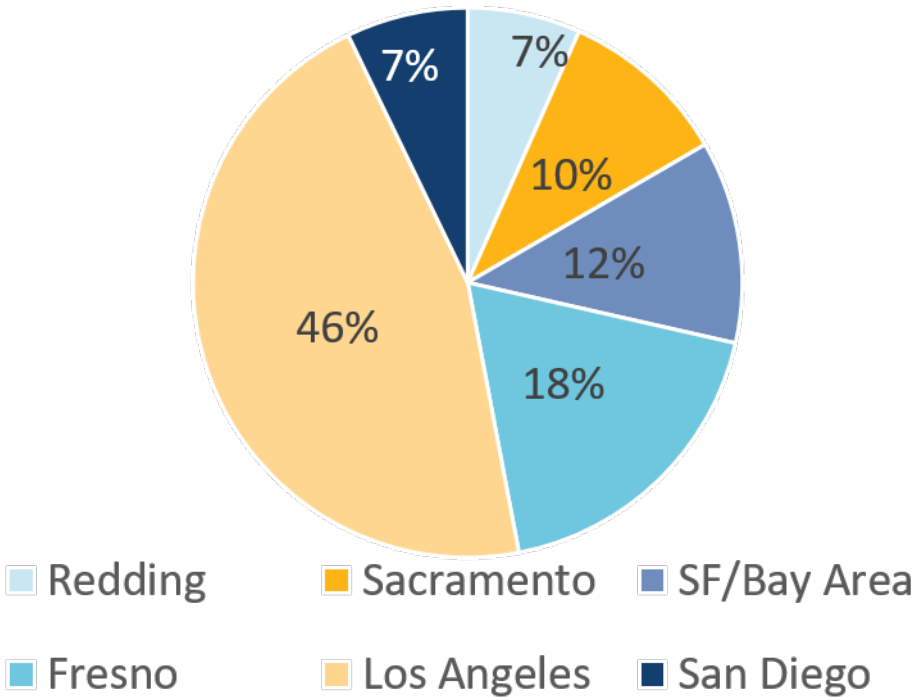
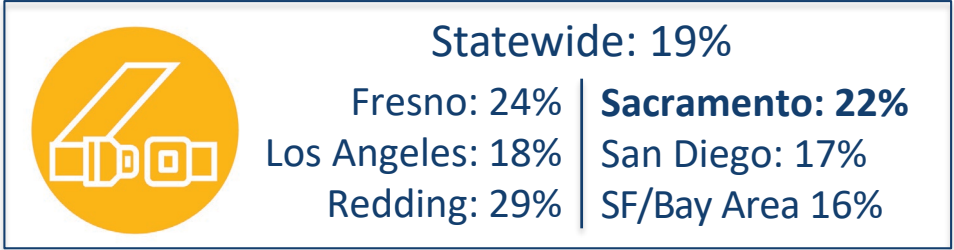
Fresno: 33%	<b>Sacramento: 24%</b>
Los Angeles: 25%	San Diego: 19%
Redding: 21%	SF/Bay Area 24%



Redding Sacramento SF/Bay Area  
Fresno Los Angeles San Diego



# OCCUPANT PROTECTION

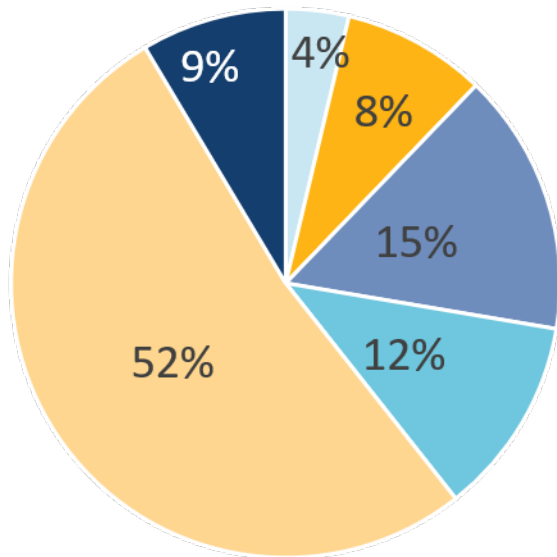


# SPEEDING & AGGRESSIVE DRIVING

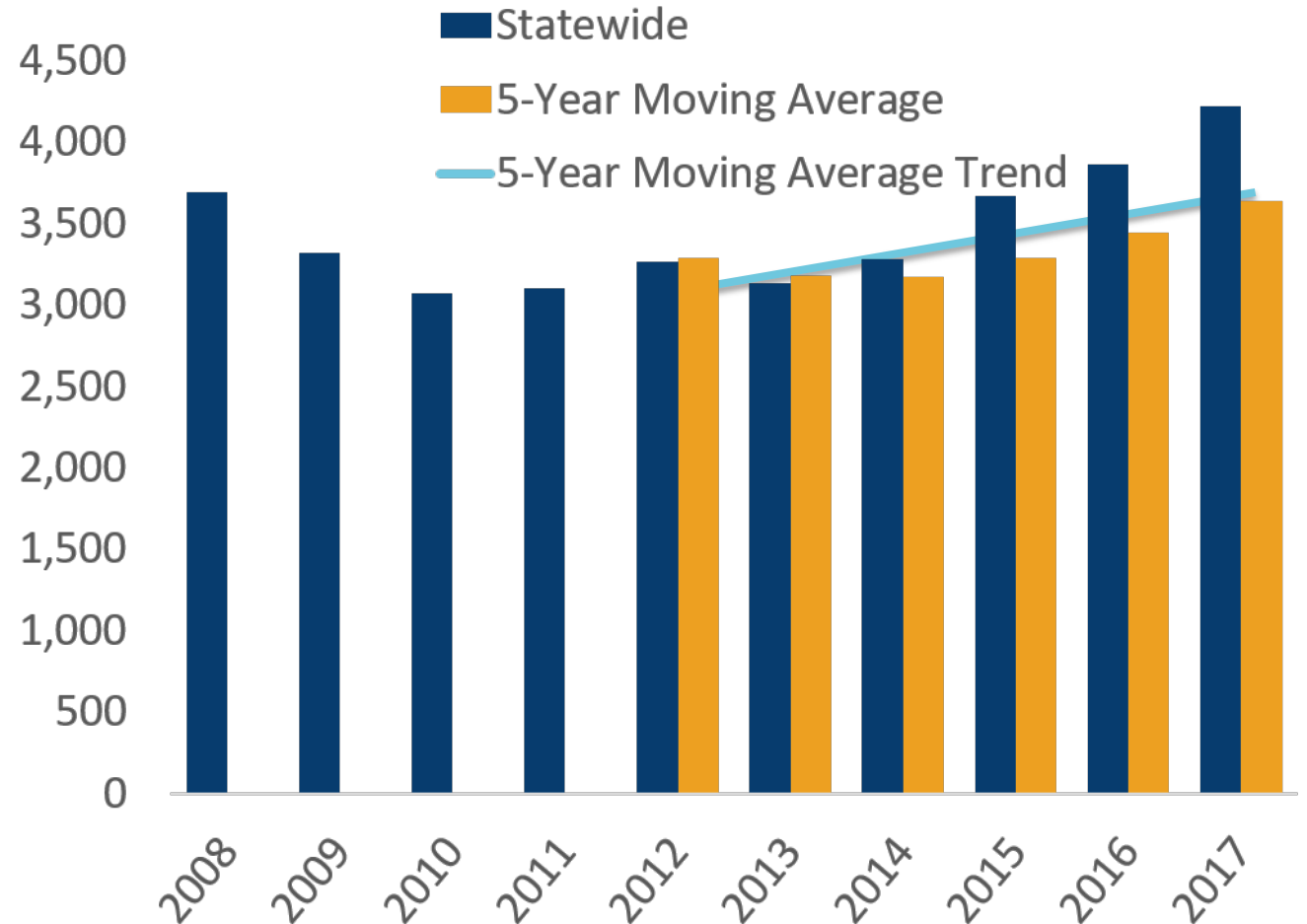


Statewide: 28%

Fresno: 22%	<b>Sacramento: 26%</b>
Los Angeles: 30%	San Diego: 30%
Redding: 23%	SF/Bay Area 29%



Redding	Sacramento	SF/Bay Area
Fresno	Los Angeles	San Diego



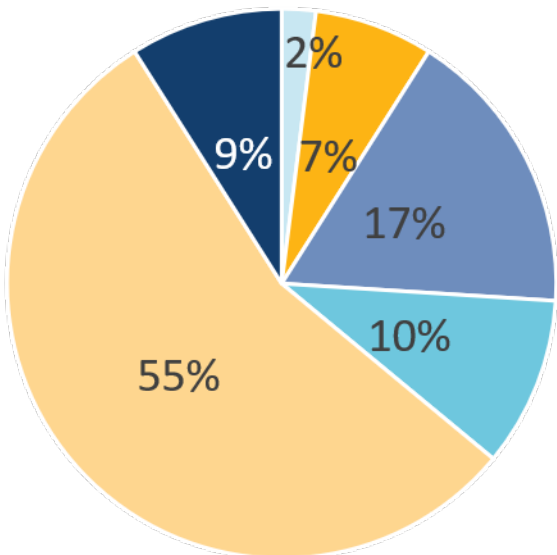


# PEDESTRIANS

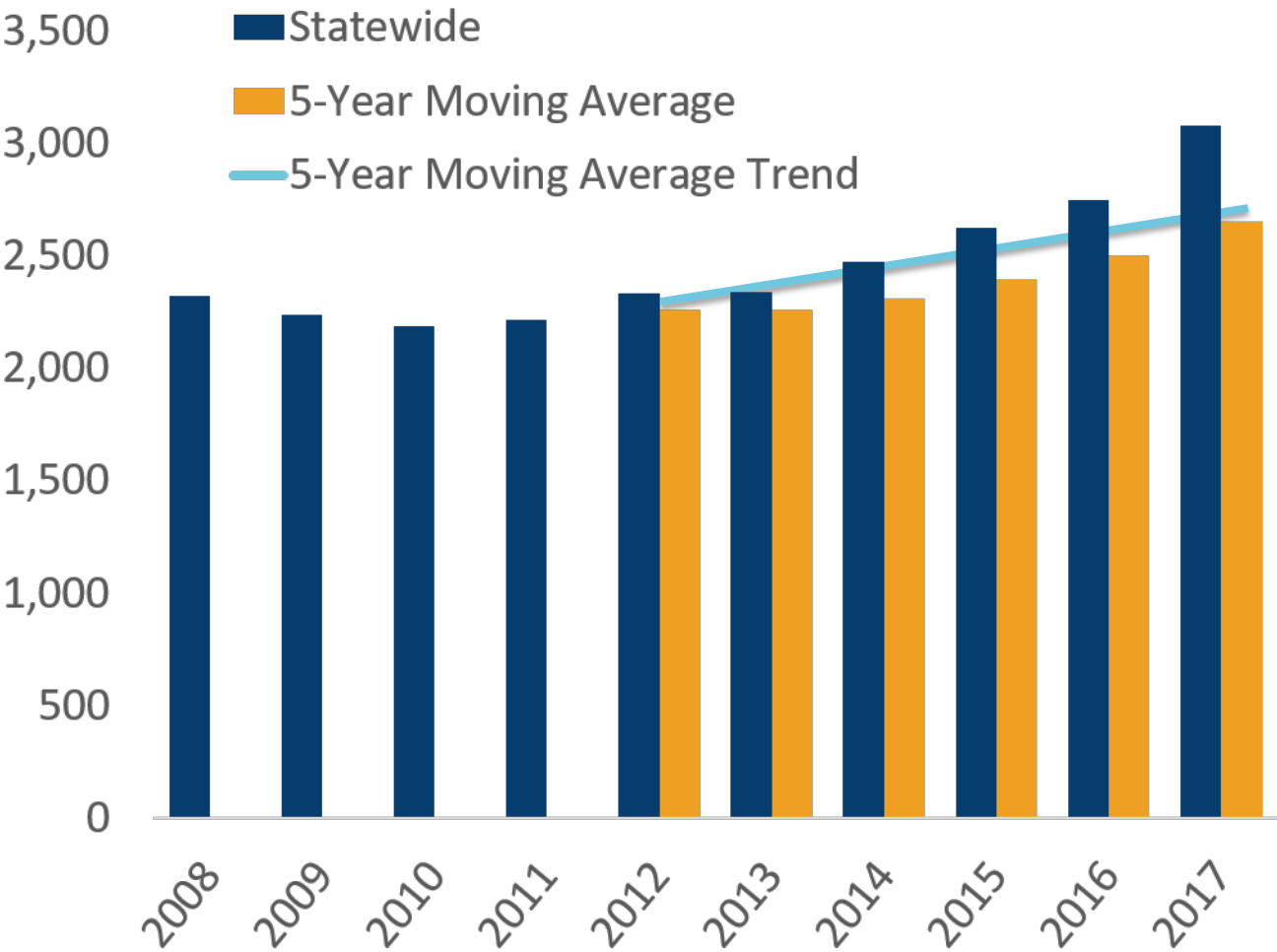


Statewide: 23%

Fresno: 15%	<b>Sacramento: 19%</b>
Los Angeles: 26%	San Diego: 26%
Redding: 12%	SF/Bay Area 26%



Redding	Sacramento	SF/Bay Area
Fresno	Los Angeles	San Diego

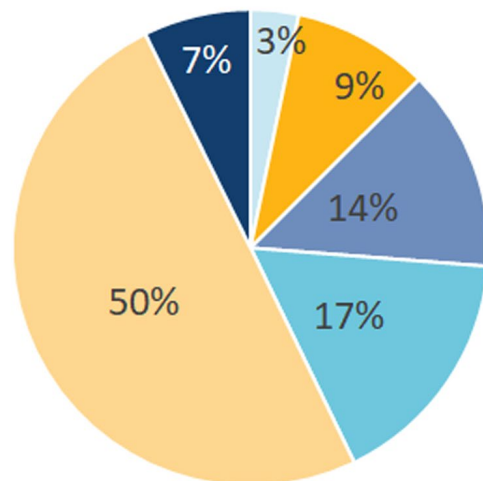


# YOUNG DRIVERS

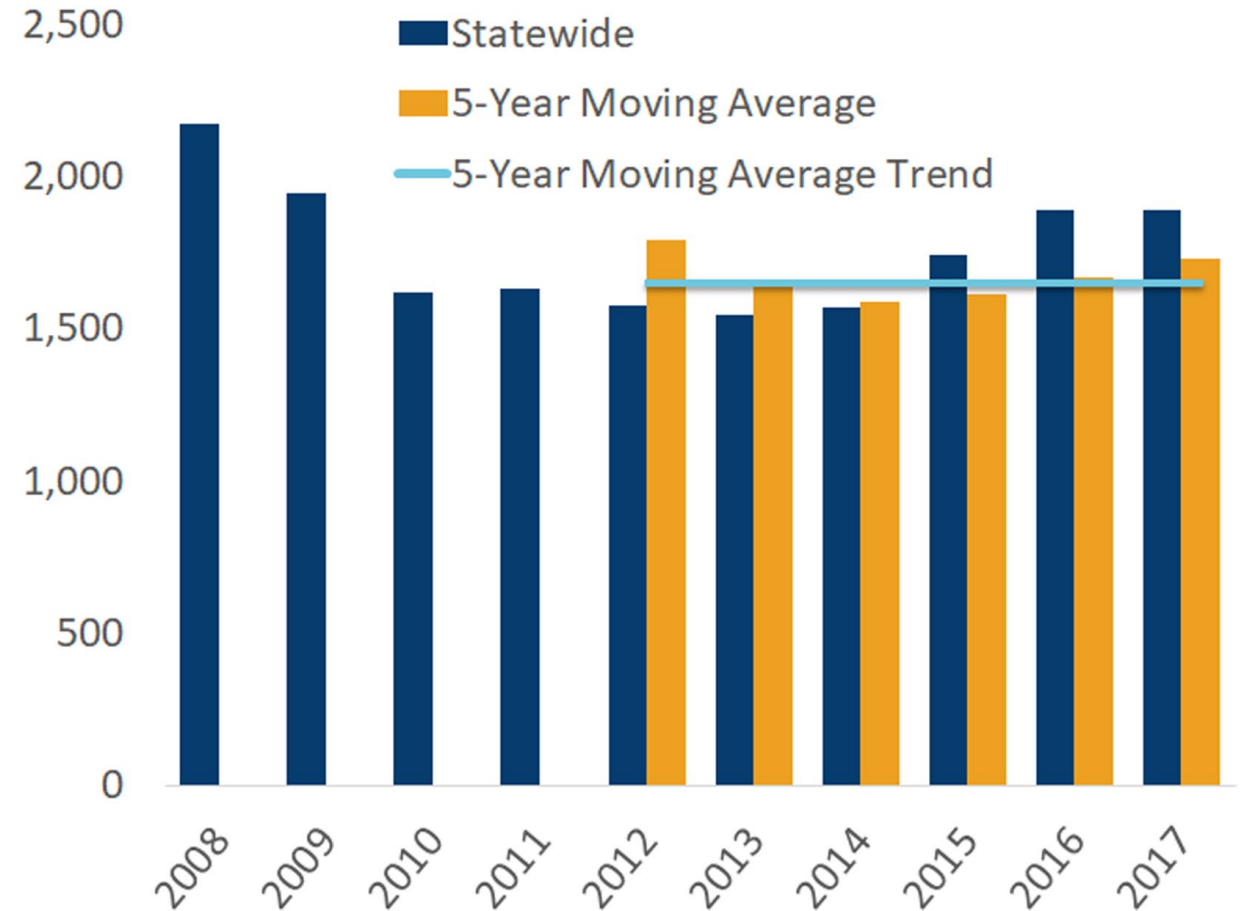


Statewide: 13%

Fresno: 15%	<b>Sacramento: 14%</b>
Los Angeles: 14%	San Diego: 12%
Redding: 10%	SF/Bay Area 13%



Redding	Sacramento	SF/Bay Area
Fresno	Los Angeles	San Diego

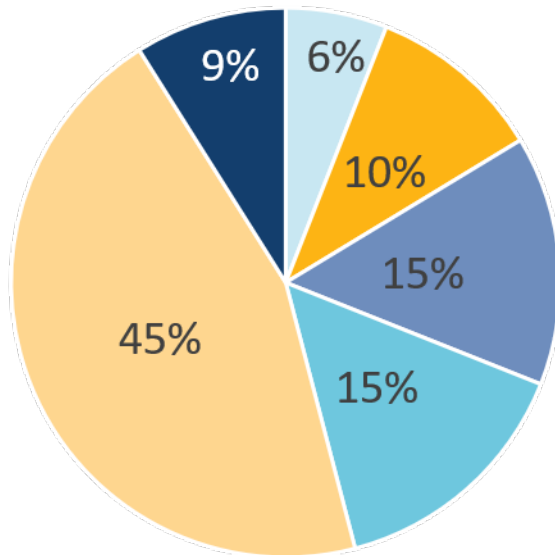


# AGING DRIVERS

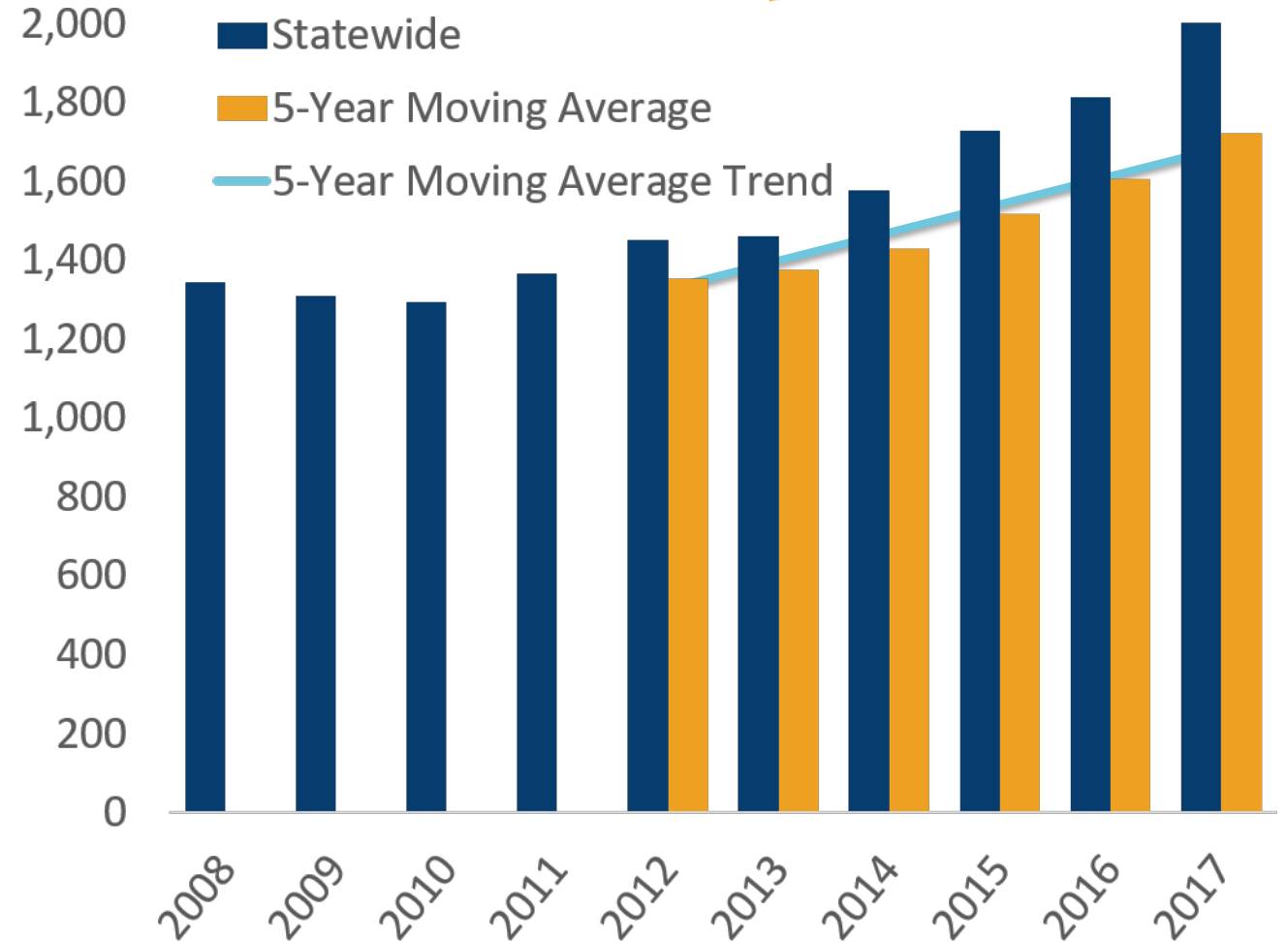


Statewide: 14%

Fresno: 14%	<b>Sacramento: 16%</b>
Los Angeles: 13%	San Diego: 15%
Redding: 19%	Bay Area 14%



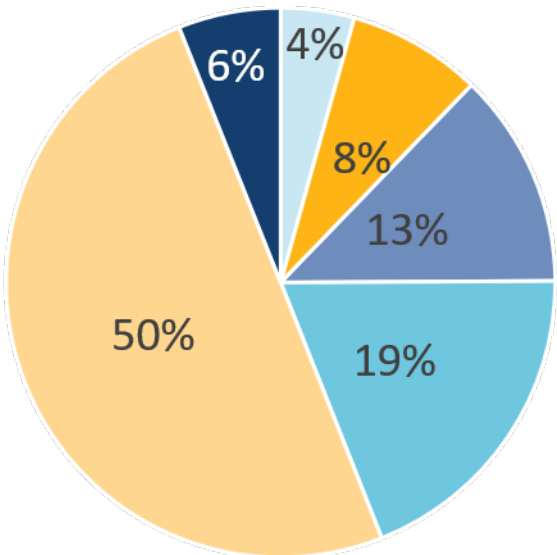
■ Redding
 ■ Sacramento
 ■ SF/Bay Area  
■ Fresno
 ■ Los Angeles
 ■ San Diego



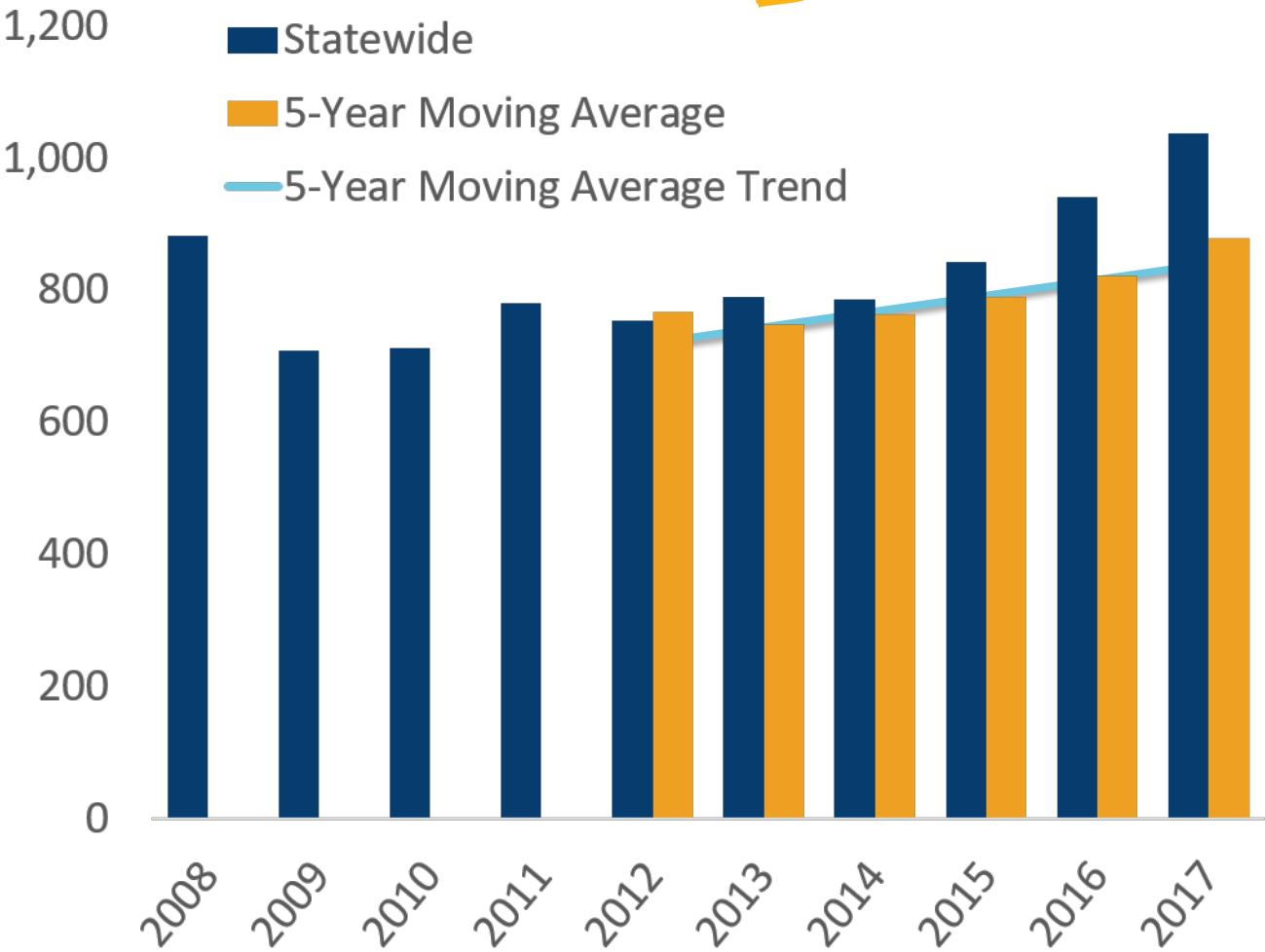
# COMMERCIAL VEHICLES



Statewide: 10%  
Fresno: 13% | **Sacramento: 9%**  
Los Angeles: 10% | San Diego: 8%  
Redding: 10% | SF/Bay Area 8%



Redding Sacramento SF/Bay Area  
Fresno Los Angeles San Diego

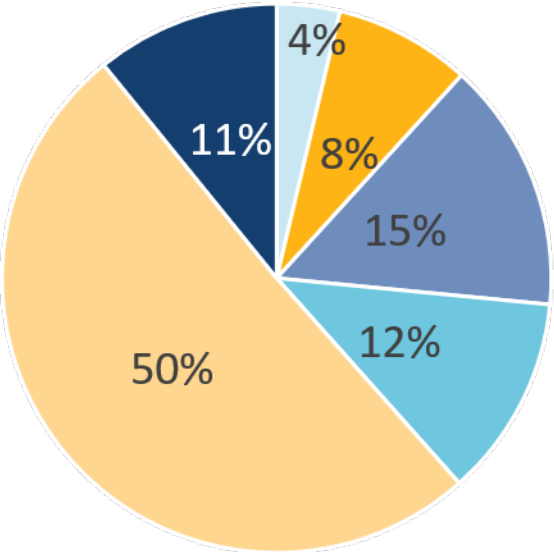


# MOTORCYCLES

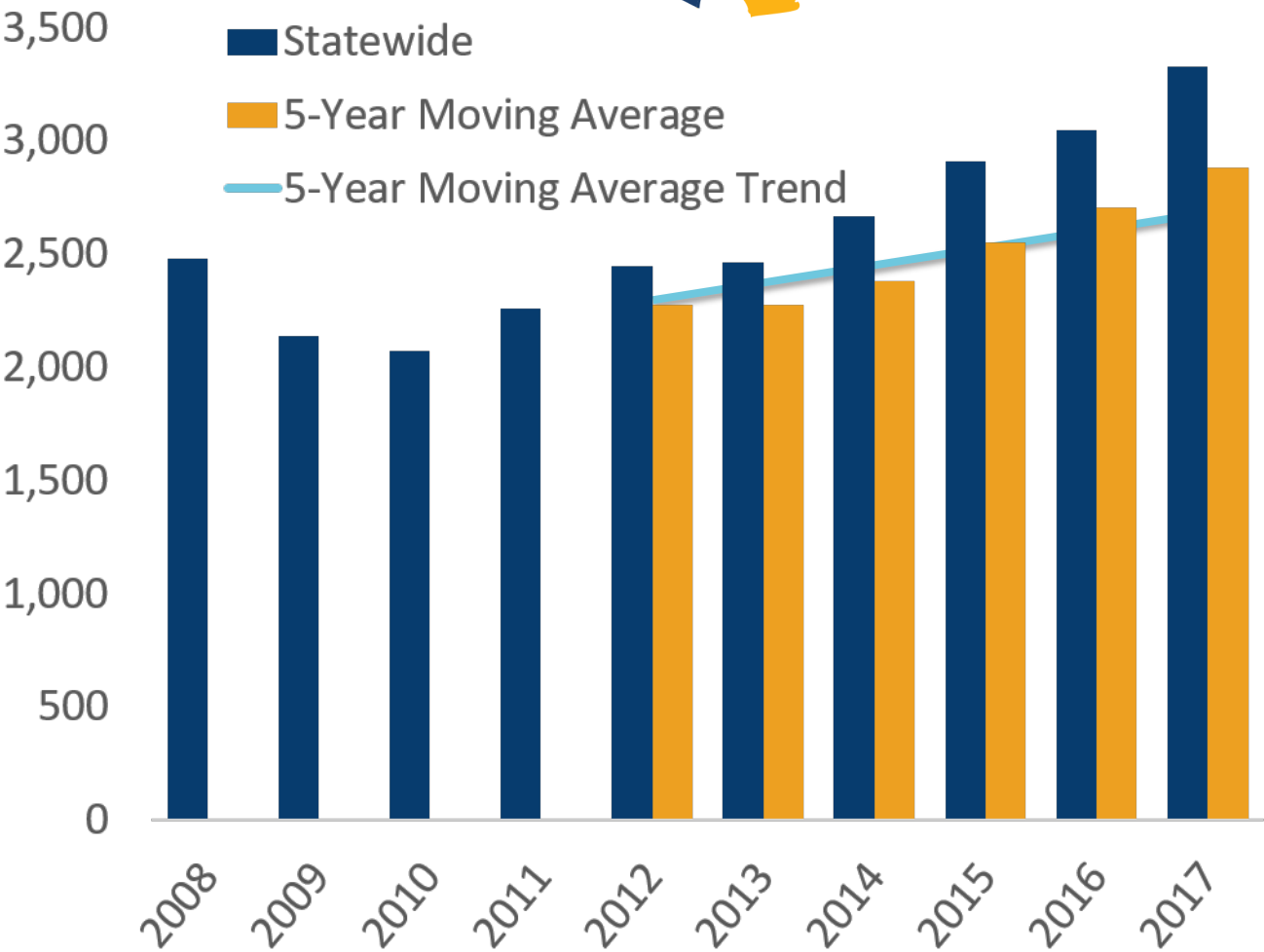


Statewide: 14%

Fresno: 11%	<b>Sacramento: 13%</b>
Los Angeles: 15%	San Diego: 19%
Redding: 12%	SF/Bay Area 14%



Redding	Sacramento	SF/Bay Area
Fresno	Los Angeles	San Diego

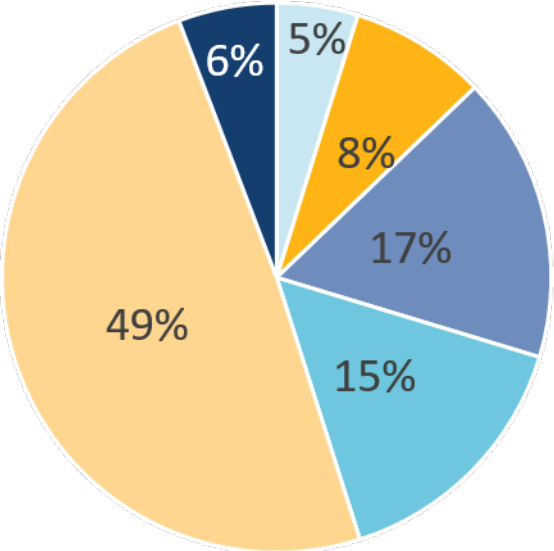


# DISTRACTED DRIVING

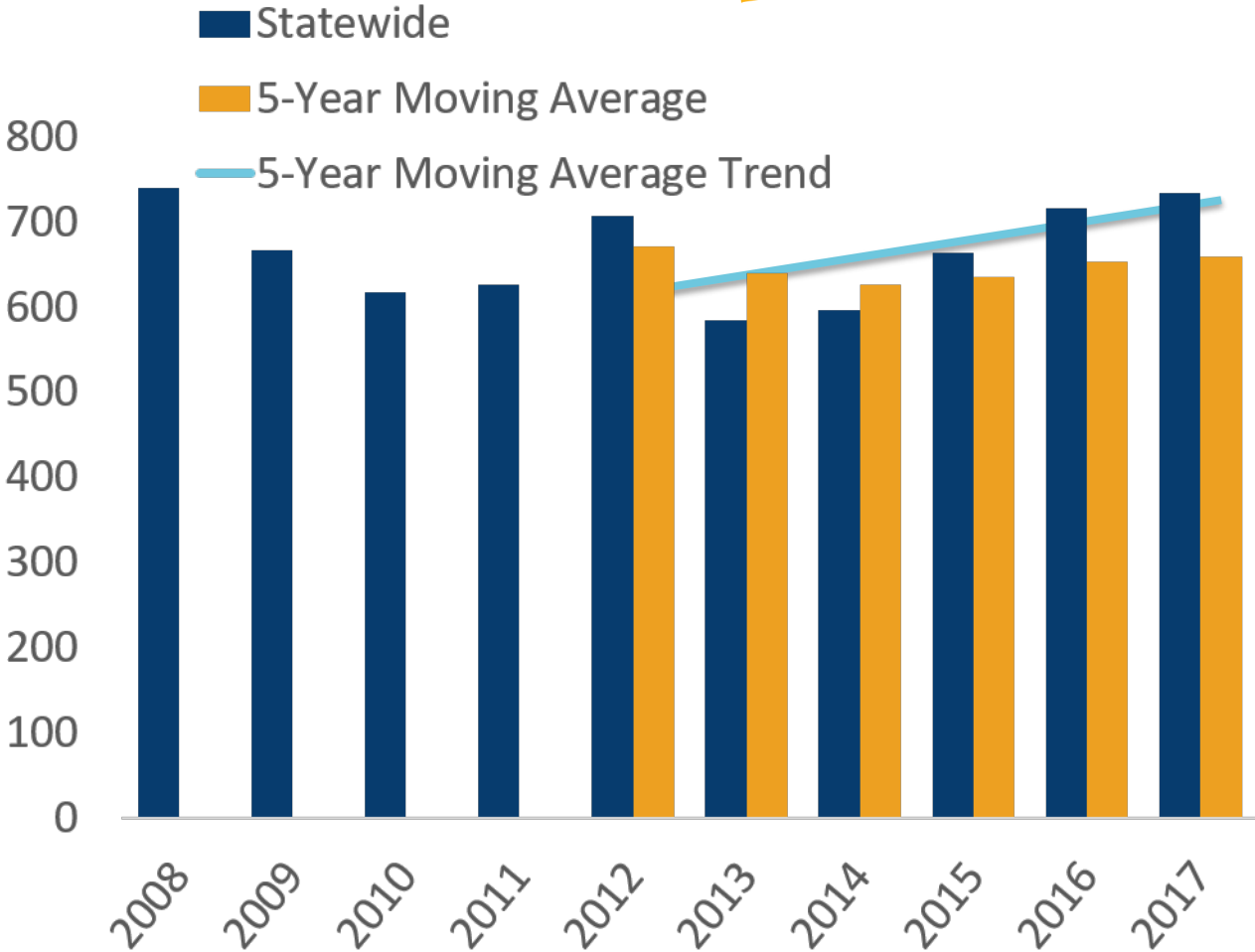


Statewide: 5%

Fresno: 5%	<b>Sacramento: 4%</b>
Los Angeles: 5%	San Diego: 3%
Redding: 5%	SF/Bay Area 5%



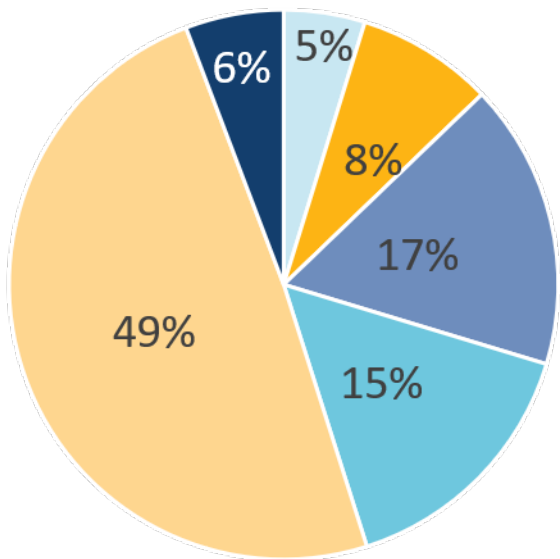
Redding	Sacramento	SF/Bay Area
Fresno	Los Angeles	San Diego



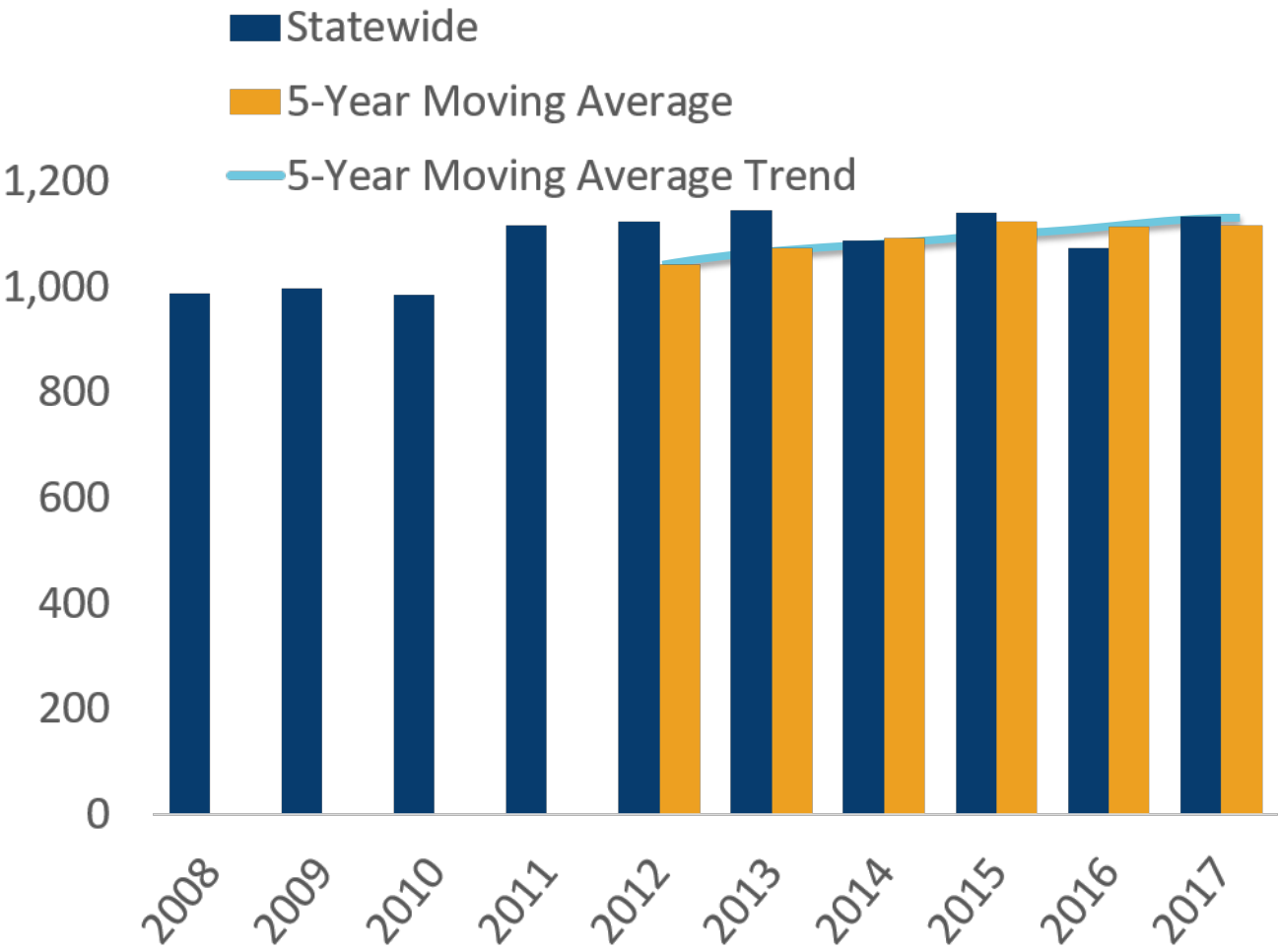
# BICYCLING



Statewide: 4%  
Fresno: 4% | **Sacramento: 5%**  
Los Angeles: 4% | San Diego: 3%  
Redding: 3% | SF/Bay Area 6%



Redding Sacramento SF/Bay Area  
Fresno Los Angeles San Diego

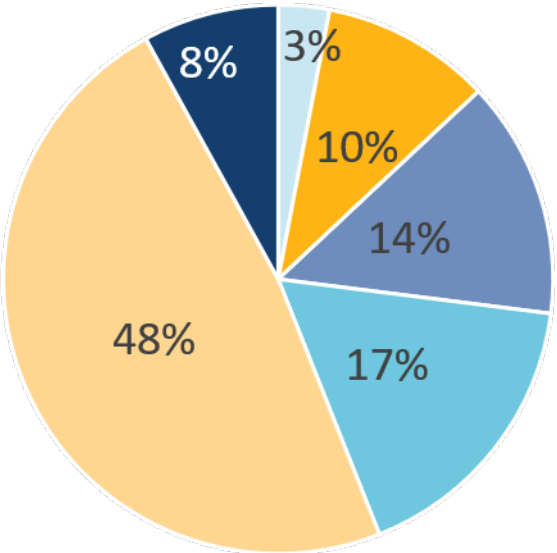


# WORK ZONE

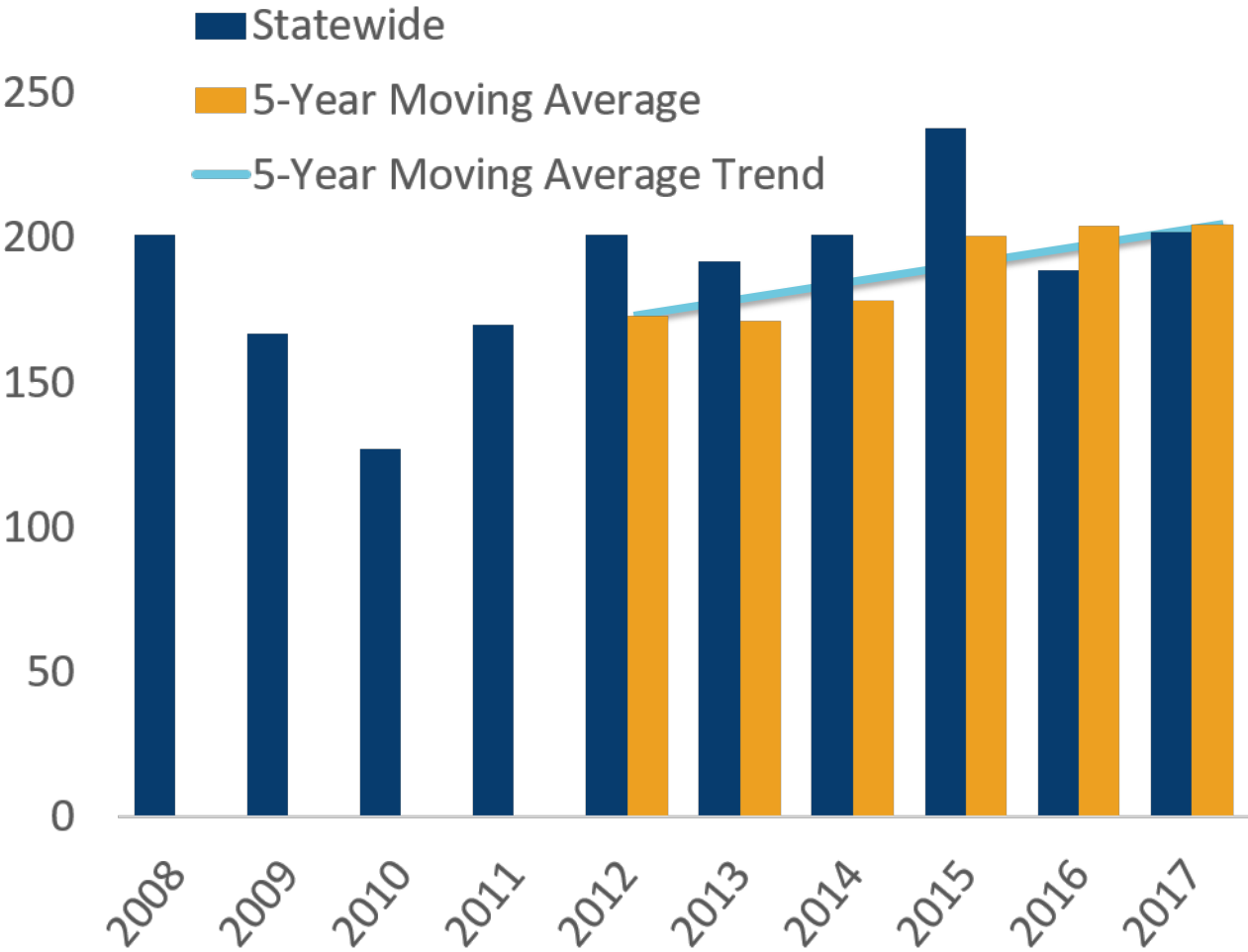


Statewide: 2%

Fresno: 2%	<b>Sacramento: 2%</b>
Los Angeles: 2%	San Diego: 2%
Redding: 1%	SF/Bay Area 2%



Redding	Sacramento	SF/Bay Area
Fresno	Los Angeles	San Diego







# **CALIFORNIA SAFE ROADS**

*2020 - 2024 Strategic Highway Safety Plan*

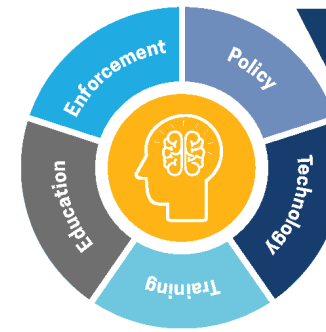
Safety Strategy Session



# EXAMPLE STRATEGIES

**Infrastructure-Related Collisions** are inclusive of a variety of collision types, including pedestrians, bicyclists, motorcycles, roadway, and intersection collisions.

 Median and Pedestrian Crossing Islands	 	 Longitudinal Rumble Stripes	
 Pedestrian Hybrid Beacon	 	 Median Barriers	
 Leading Pedestrian Intervals		 Tapered Edge	
 Walkways		 Reduce Left-Turn Conflict Intersections	
 Road Diet	 	 Multiple Low-Cost Measures at Stop-Controlled Intersections	
 Crosswalk Enhancements		 Backplates with Retroreflective Borders	
 Corridor Access Management	 	 Dedicated Left-turn and Right-turn lanes	
 Roadside Design Improvement at Curves	 	 Roundabouts	
 Enhanced Delineation and Friction for Horizontal Curves	 	 Yellow Change Intervals	



**Behavior-Related Collisions** are inclusive of a variety of collision types, including aggressive driving, alcohol-involved, drug-involved, distracted, young driver, and aging driver collisions.

## Policy

- All offender alcohol ignition interlock law
- DWI courts
- Stronger graduated driver licensing laws
- Screening of older drivers

## Training

- Employer-based programs targeting workers that are at higher risk of drowsy-driving
- Drug recognition expert training for law enforcement
- Responsible beverage service training
- Motorcycle rider training

## Technology

- Automated enforcement for speed and red light running.


## Education












- Education campaigns about increased enforcement
- Alternative transportation programs
- Increased parental involvement programs
- Mandatory driver education for novice drivers
- Education campaigns for physicians and law enforcement about older driver screening
- Education campaigns targeted to low seat-belt users
- School programs

## Enforcement

- High visibility enforcement
- Publicized sobriety check-points
- Saturation patrols
- Enforcement of graduated driver licensing and zero tolerance laws
- Integrated enforcement

# EXAMPLE STRATEGIES

	Median and Pedestrian Crossing Islands		
	Pedestrian Hybrid Beacon		
	Leading Pedestrian Intervals		
	Walkways		
	Road Diet		

	Crosswalk Enhancements		
	Corridor Access Management		
	Roadside Design Improvement at Curves		
	Enhanced Delineation and Friction for Horizontal Curves		

# EXAMPLE STRATEGIES



Longitudinal Rumble Stripes



Median Barriers



Tapered Edge



Reduce Left-Turn Conflict Intersections



Multiple Low-Cost Measures at Stop-Controlled Intersections



Backplates with Retroreflective Borders



Dedicated Left-turn and Right-turn lanes



Roundabouts



Yellow Change Intervals

# EXAMPLE STRATEGIES

## Policy

- All offender alcohol ignition interlock law



- DWI courts



- Stronger graduated driver licensing laws



- Screening of older drivers



## Training

- Employer-based programs targeting workers that are at higher risk of drowsy-driving



- Drug recognition expert training for law enforcement



- Responsible beverage service training



- Motorcycle rider training



## Technology

- Automated enforcement for speed and red light running.



# EXAMPLE STRATEGIES

## Education

- Education campaigns about increased enforcement
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## Enforcement

- High visibility enforcement
- Publicized sobriety checkpoints
- Saturation patrols
- Enforcement of graduated driver licensing and zero tolerance laws
- Integrated enforcement



# SAFETY STRATEGY SESSION



- Open House Format
- Discuss data and strategies with facilitators and attendees at 5 stations
- Fill out comment forms
  - What is the biggest safety issue in your community?
  - What specific data should drive the strategies?
  - What strategies/programs are most effective in your region?
  - What can be done to improve implementation?
  - What other ideas do you have?

# SAFETY STRATEGY SESSION



- Handouts
  - Statewide Overview
  - Data specific to each sub category
  - Example strategies



# Safety Strategy Session



- **Stations**

## **Overview**

Collision Overview

Vision / Mission / Objective

## **Drivers & Passengers**

1. Driver licensing
2. Aggressive driving
3. Driving under influence
4. Distracted driving
5. Occupant protection
6. Young drivers (<21)
7. Aging drivers (>65)
8. Commercial vehicle operations

## **Infrastructure**

9. Intersections
10. Lane/Roadway departures
11. Work zones

## **Vulnerable Users**

12. Pedestrians
13. Bicyclists
14. Motorcyclists

## **Vehicles**

15. Equipment

## **Emergency Response**

16. Emergency Response



# **CALIFORNIA SAFE ROADS**

*2020 - 2024 Strategic Highway Safety Plan*

Report Out / Closing

