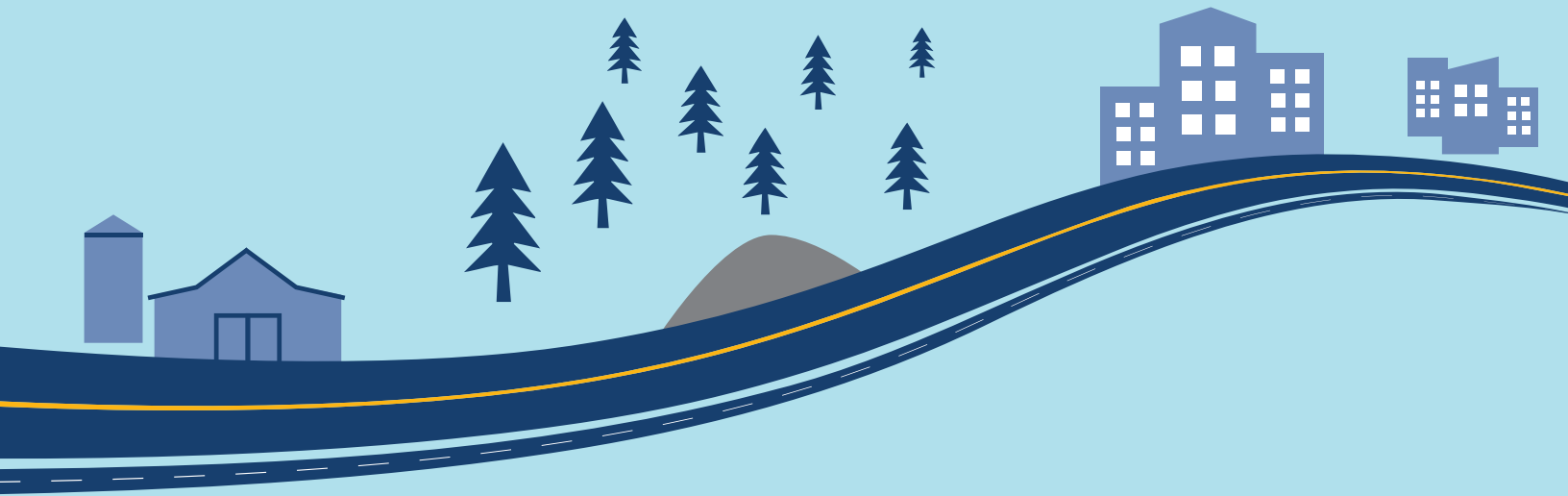




2025–2029



CALIFORNIA[®] SAFE ROADS

Strategic Highway Safety Plan *Implementation Plan*

Updated June 2026

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Acronyms and Abbreviations

Acronym	Definition
3HSP	Triennial Highway Safety Plan
ADAS	Advanced Driver Assistance System
AV	Autonomous Vehicle
CBO	Community Based Organization
CDD	Crash Data Dashboard
CEMSIS	California Emergency Medical Services Information System
CHP	California Highway Patrol
CPCA	California Primary Care Association
CRF	Crash Reduction Factor
CVSP	Commercial Vehicle Safety Plan
DUI	Driving Under the Influence
EL	Executive Leadership
EMSA	Emergency Medical Services Authority
FARS	Fatality Analysis Reporting System
FHWA	Federal Highway Administration
FSI	Fatal and Serious Injury
GDL	Graduated Driver Licensing
HIN	High Injury Network
HPAS	High Priority Areas
HPMS	Highway Performance Monitoring System
HSIP	Highway Safety Improvement Program
HSP	Highway Safety Plan
Implementation Plan	2025–2029 Implementation Plan Document
ISOAP	Intersection Safety and Operational Assessment Process
ITS	Intelligent Transportation Systems
LRSP	Local Road Safety Plan
NGO	Non-Governmental Organization
NHTSA	National Highway Traffic Safety Administration
OTS	Office of Traffic Safety

Acronym	Definition
PC	Post-Crash Care
RTP	Regional Transportation Plan
SafeTREC	Safe Transportation Research and Education Center
SC	Steering Committee
SCAG	Southern California Association of Governments
SHSP	Strategic Highway Safety Plan
SL	Safer Land Use
SMART	Specific, Measurable, Achievable, Relevant, Time Constrained
SR	Safe Roads
SS	Safe Speeds
SSA	Safe System Approach
SU	Safe Road Users
SV	Safe Vehicles
SWITRS	Statewide Integrated Traffic Records System
TIMS	Transportation Injury Mapping System
VMT	Vehicle Miles Traveled
VRU	Vulnerable Road Users

1. INTRODUCTION

In California, the Strategic Highway Safety Plan (SHSP) is a two-plan process, with the main plan being the 2025–2029 California SHSP document (SHSP) and the second being the 2025–2029 Implementation Plan Document (Implementation Plan). The SHSP contains higher-level strategies designed to inspire stakeholders to work toward the elimination of fatal and serious injury (FSI) crashes. The strategies were informed through data findings and analysis, stakeholder outreach, and regional workshops. The SHSP document is supported by this document, the Implementation Plan, which serves as California's action plan to eliminate traffic deaths and serious injuries through coordination of road safety partners. The Implementation Plan translates the statewide SHSP strategies into concrete actions, identifying specific strategies, countermeasures, and resource allocation to tackle key safety problems so that stakeholders work together for data-driven improvements. The Implementation Plan is regularly updated as new actions are developed, and additional data analyses are conducted over the life of the plan.

1.1 Safe System Approach

The 2020–2024 SHSP introduced California to the Safe System Approach (SSA) and began the process of implementing the SSA in statewide road safety decision-making. The 2025–2029 SHSP continues the adoption of the SSA through institutionalizing and operationalizing it within the strategies and actions of the Implementation Plan.

The SSA is a systemic road safety framework designed to eliminate fatal and serious injury crashes. It acknowledges that humans are both fragile and fallible, which requires a roadway system that minimizes mistakes and their adverse effects. Notably, the SSA recognizes that FSI crashes result from complex interactions among multiple system elements. Consequently, the SSA encourages implementation of strategies that strengthen the six key system elements.

Figure 1: California SHSP SSA Wheel



Safe System Elements

- Safe Roads
- Safe Speeds
- Safe Road Users
- Safe Vehicles
- Post-Crash Care
- Safer Land Use

The SSA incorporates six principles to guide the design, selection, and integration of strategies. These principles are also the Guiding Principles for the SHSP.

Safe System Principles

- Death and Serious Injuries are Unacceptable
- Humans Make Mistakes
- Humans are Vulnerable
- Responsibility is Shared
- Redundancy is Crucial
- Safety is Proactive and Reactive

More detailed information regarding the SSA can be found in Section 3 of this document and in the SHSP document.

1.2 Strategy Development

Strategy development is guided by the SHSP Vision, Mission, and Goal, together with data analyses. The strategies are higher-level objectives for meeting the goal of zero traffic fatalities and serious injuries on all of California's public roadways.

The strategies developed through the lens of the SSA principles are not developed or implemented in isolation. Instead, they are combined to create an integrated system of defenses.

These defenses, referred to as defenses-in-depth, prevent mistakes from producing harmful outcomes. Defenses-in-depth rely on multiple, overlapping layers to protect people, so that if one defense (strategy) fails, others are in place to prevent harm through redundancy. Road systems should be designed to reduce errors, encourage safe behavior, and minimize harm to accommodate safe movement for all users. Speeds should be appropriate and safe under all conditions. People should be protected from large kinetic forces and operate within the rules.

The Implementation Plan aims to make this a reality through the development of actions to support these SSA strategies.

More detailed information regarding strategy development can be found in Section 3.6 of this document and in the SHSP document.

The Implementation Plan is a living document and will be updated periodically as new actions are developed and approved.

2. MEETING THE MISSION, VISION, AND GOAL

The SHSP sets forth a call to action to improve traffic safety. The SHSP Executive Leadership (EL) and Steering Committees (SC) are currently leading the development of the 2025–2029 SHSP and have identified the following Vision, Mission, and Goal, which guide the Implementation Plan.

VISION

Safe and accessible
roads for all road users
in California

MISSION

Collaborate to enhance
safety for all modes of
travel on California's
public roadways

GOAL

Zero traffic fatalities
and serious injuries on
all of California's
public roadways

In October 2025, California State Transportation Agency (CalSTA) Secretary Toks Omishakin and California Health and Human Services Agency (CalHHS) Secretary Kim Johnson launched a statewide initiative to reduce severe traffic crashes at high-risk areas. The announcement introduced a new policy emphasizing a prevention-first, SSA to road safety, aiming for a 30% reduction in deadly and serious injuries by 2035. This collaboration aligns transportation investments with community safety needs through infrastructure improvements, public health principles, and a focus on equity, involving local partners and law enforcement to create safer communities.

The collaboration that occurred to solidify this joint statement aligns with the 2025–2029 SHSP Vision, Mission, and Goal highlighting the importance that road safety and injury prevention holds across multiple agencies in the state. While zero traffic fatalities and serious injuries on all of California's public roadways is the overall goal, interim goals or targets are needed to recognize milestones on that journey, supporting incremental progress towards the overall goal, including a 30% reduction in fatal and serious injuries by 2035.

2.1 Safety Performance Measures

In 2016, the Federal Highway Administration (FHWA) issued the Highway Safety Improvement Program and Safety Performance Management Final Rules under 23 CFR 924. These rules require states to adopt a data-driven approach to reduce fatalities and serious injuries on all public roads by establishing five key performance measures:

- Number of fatalities
- Rate of fatalities per 100 million Vehicle Miles Traveled (VMT)
- Number of serious injuries
- Rate of serious injuries per 100 million VMT
- Number of non-motorized fatalities and non-motorized serious injuries

California's targets are informed by the [Office of Traffic Safety's 2024–2026 Highway Safety Plan \(HSP\)](#) and [Caltrans' 2024 Highway Safety Improvement Program \(HSIP\)](#). States must set annual statewide targets for these measures. Target-setting relies on comprehensive data analysis and forecasting, using historical averages and projected scenarios that account for safety interventions.

The SHSP 2025–2029 emphasizes continuous improvement through regular evaluation and adjustment of strategies, monitoring crash trends, identifying emerging issues, and implementing innovative solutions. An annual review of statewide safety strategies and actions implemented through SHSP multi-stakeholder collaboration will be conducted and shared with the SC and EL as part of SHSP implementation updates.

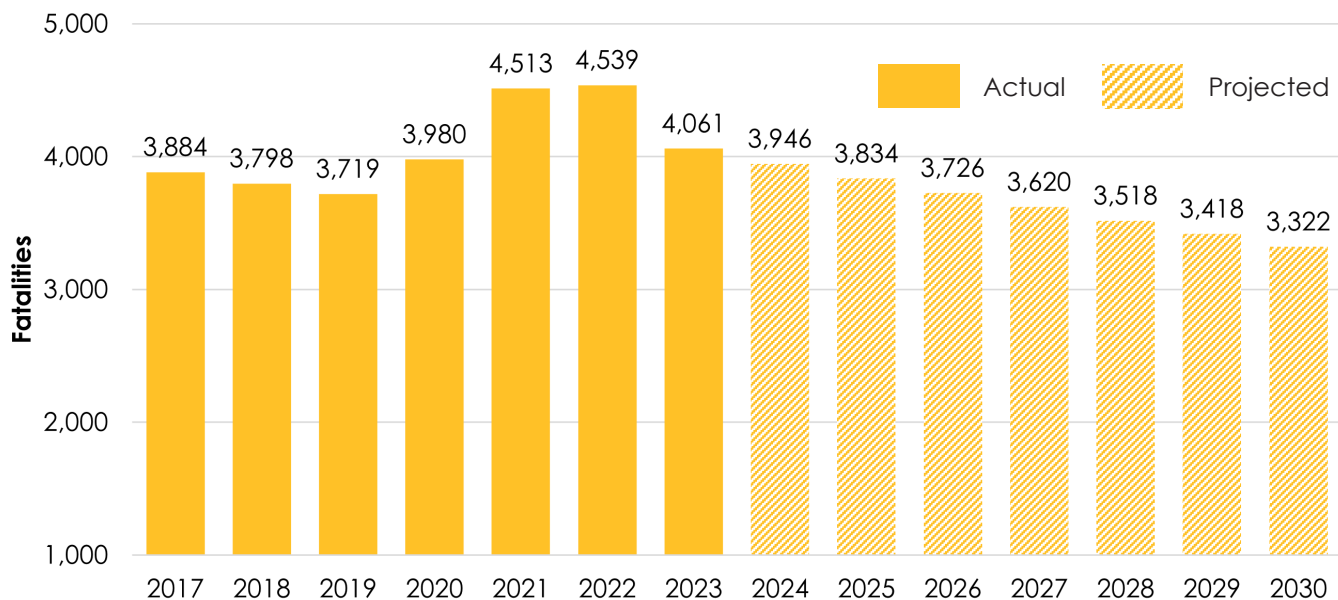
Additionally, a Mid-Term Evaluation will determine whether the SHSP is achieving meaningful progress toward interim targets for reducing fatal and serious injury crashes.

Figures 2–6 show actual and projected data for fatalities and serious injuries through the year 2030.

Annual Fatalities

- Annual reduction of **2.83%** per Office of Traffic Safety (OTS) 2024–2026 Triennial Highway Safety Plan (3HSP)
- Reduces from 4,061 in 2023 to 3,322 in 2030 (22.3% reduction)

Figure 2: Actual and Projected Fatalities Through 2030

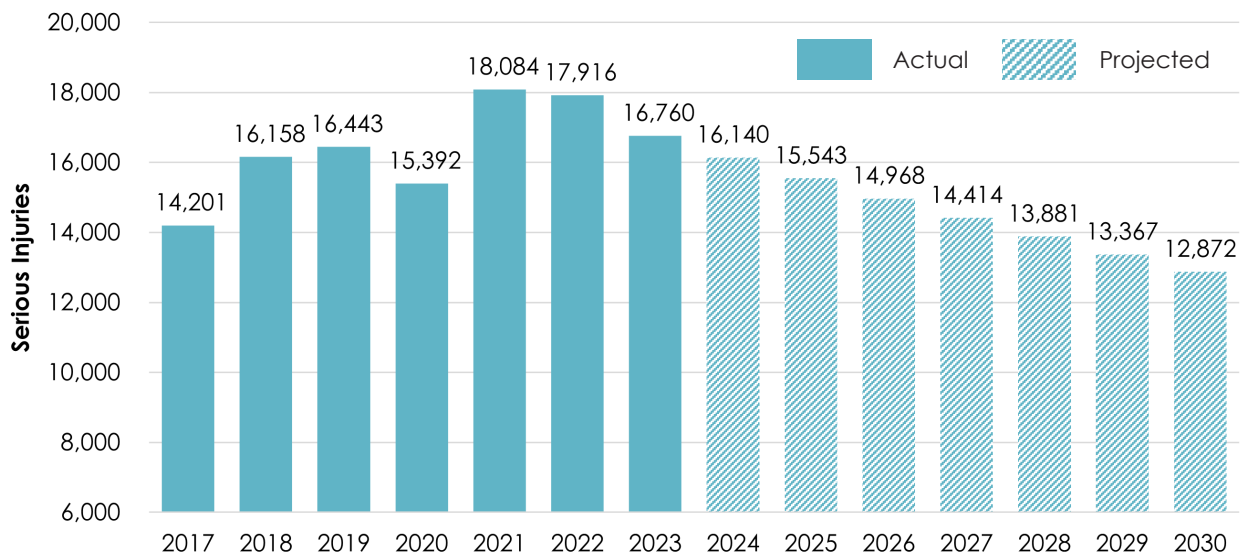


Source: Fatality Analysis Reporting System (FARS) 2017–2023, OTS 2024–2026 3HSP

Annual Serious Injuries

- Annual reduction of **3.70%** per OTS 2024–2026 3HSP
- Reduces from 16,760 in 2023 to 12,872 in 2030 (30.2% reduction)

Figure 3: Actual and Projected Serious Injuries Through 2030

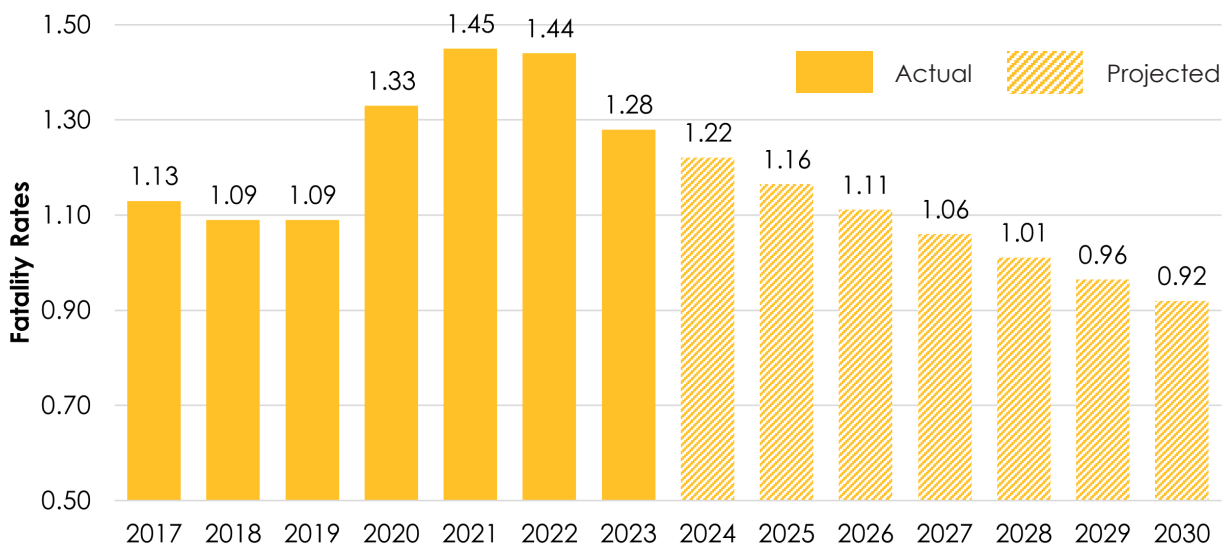


Source: Statewide Integrated Traffic Records System (SWITRS) 2017–2023, OTS 2024–2026 3HSP

Annual Fatality Rate

- Annual reduction of **4.61%** per HSIP
- Reduces from 1.28 in 2023 to 0.92 in 2030 (39.1% reduction)

Figure 4: Actual and Projected Fatality Rates Through 2030

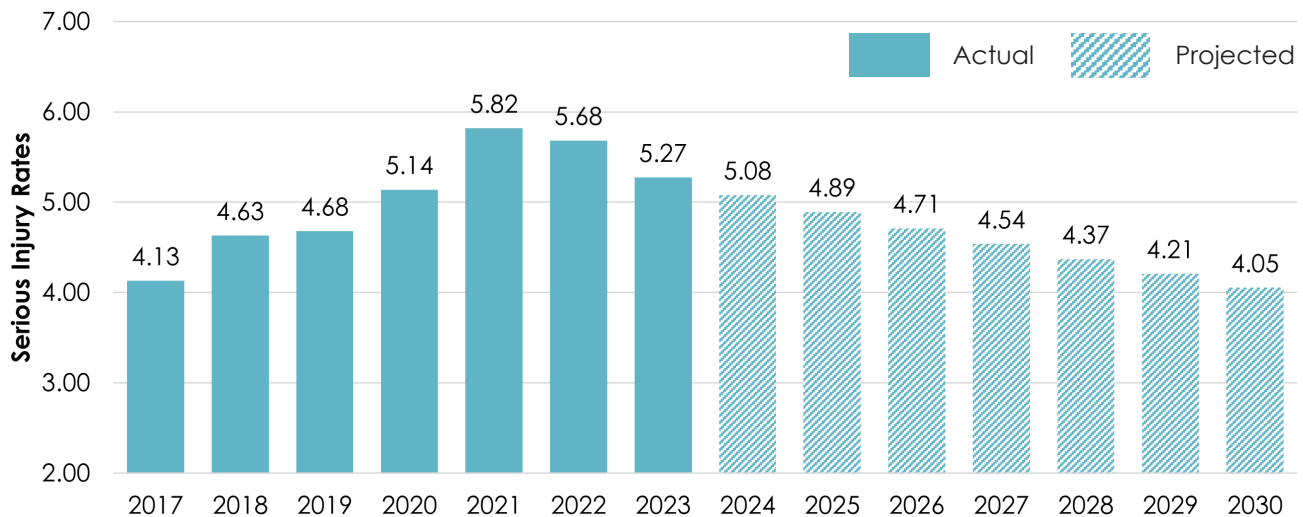


Source: FARS 2017–2023, Highway Performance Monitoring System (HPMS), HSIP

Annual Serious Injury Rate

- Annual reduction of **3.69%** per HSIP
- Reduces from 5.27 in 2023 to 4.05 in 2030 (30.1% reduction)

Figure 5: Actual and Projected Serious Injury Rates Through 2030

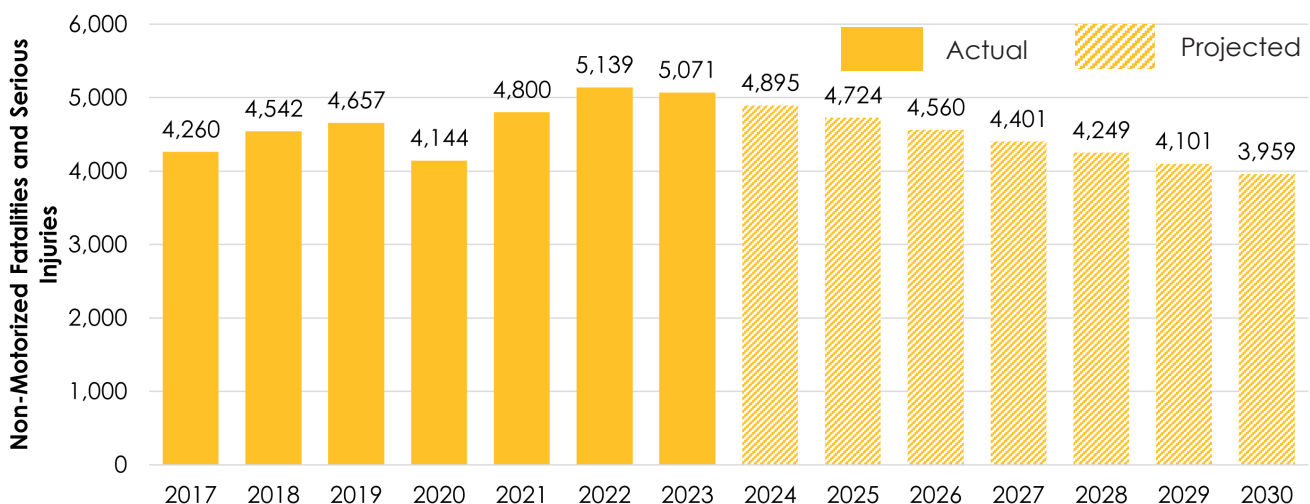


Source: SWITRS 2017–2023, HPMS, HSIP

Annual Non-Motorized Fatalities and Serious Injuries

- Annual reduction of **2.84%** for fatalities and **3.69%** for serious injuries per HSIP
- Reduces from 5,071 in 2023 to 3,959 in 2030 (28.1% reduction)

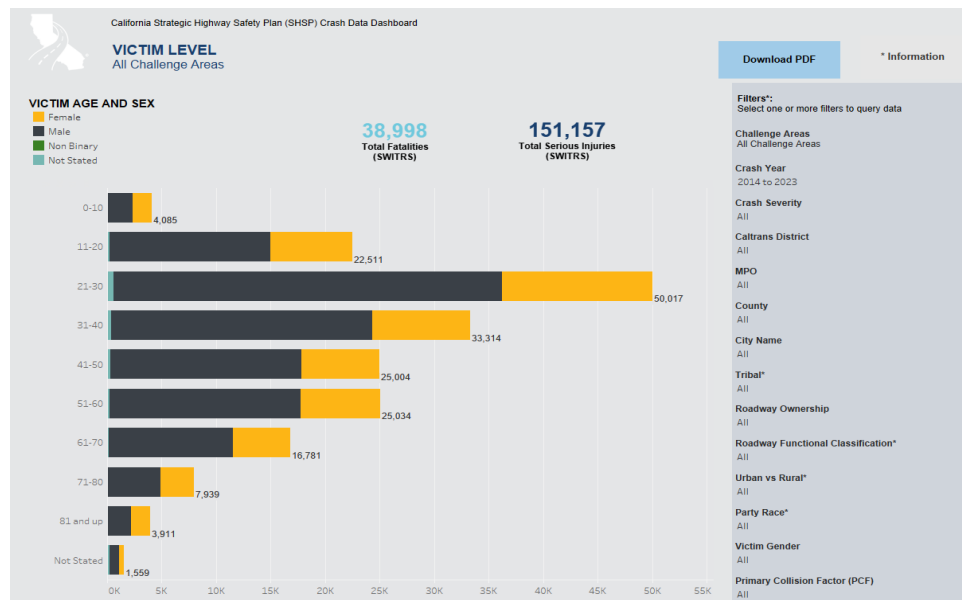
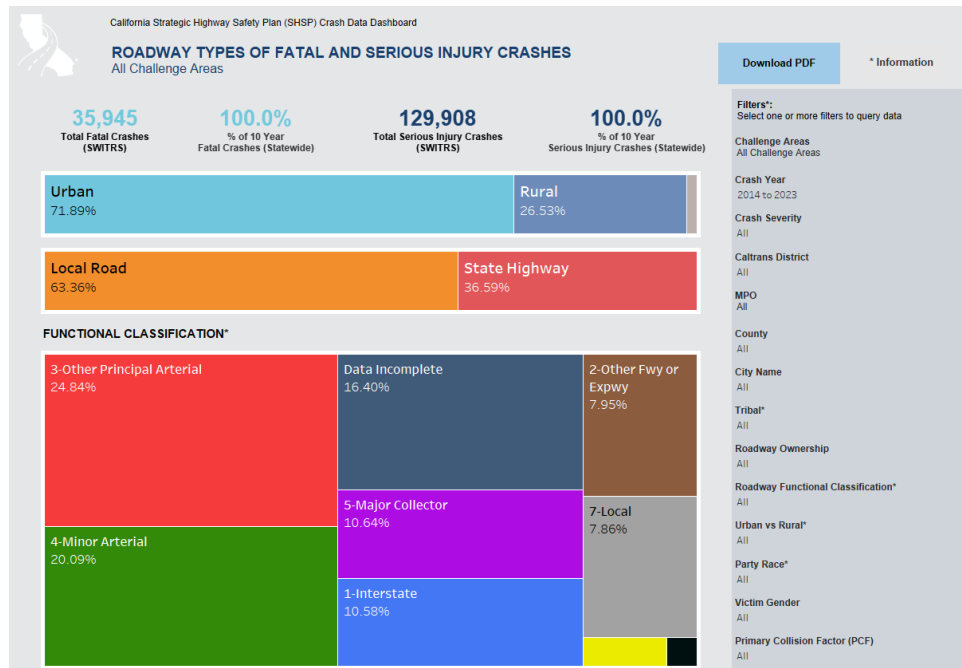
Figure 6: Actual and Projected Non-Motorized Fatalities and Serious Injuries Through 2030



Source: FARS 2017–2023, SWITRS 2017–2023, HSIP

2.2 SHSP Crash Data Dashboard

During the development of the 2020–2024 SHSP, the SHSP Crash Data Dashboard (CDD) (<https://shsp.dot.ca.gov/>) was created to provide stakeholders with more up-to-date crash data information. This dashboard is continuously updated with both finalized and provisional annual crash data as it becomes available, enabling stakeholders to better analyze crash patterns and develop data-driven actions. The dashboard has been updated with additional partner datasets to enhance its capabilities beyond reactive crash data, supporting the development of actions for the Implementation Plan. Updated data also enables continuous monitoring of FSI data to track progress on targets.



3. IMPLEMENTING THE SAFE SYSTEM APPROACH

To prevent FSI crashes, a change in perspective and approach to road safety is needed. Instead of blaming individual causes for crashes, it is crucial to understand how all elements of the road system work together to influence crashes, thereby requiring changes throughout the entire system. To verify that all elements of the road system are addressed as part of the SHSP, strategies within the SHSP have been created based on the SSA elements and principles. Strategy development is guided by the SHSP Vision, Mission, and Goal, in tandem with data analyses. The strategies are higher-level objectives for meeting the larger goal of reducing fatalities and serious injuries on all of California's public roadways. All actions must align with one of the SHSP SSA strategies.

To dive deeper into how this integrated approach can be achieved, the following sections will explore critical concepts such as systems thinking, pro-social traffic safety culture, the SSA elements and principles, and the specific strategies developed under the SHSP to reduce road fatalities and serious injuries.

3.1 Systems Thinking

Systems thinking encourages proactive action by understanding how all elements of the road system—such as the interactions between roads, vehicles, people, laws, and others—shape future crash trends. From this perspective, system users and those who design and manage the system need to change their mindset and behaviors to create a safe system. These behavioral changes may require a shift in the broader culture.

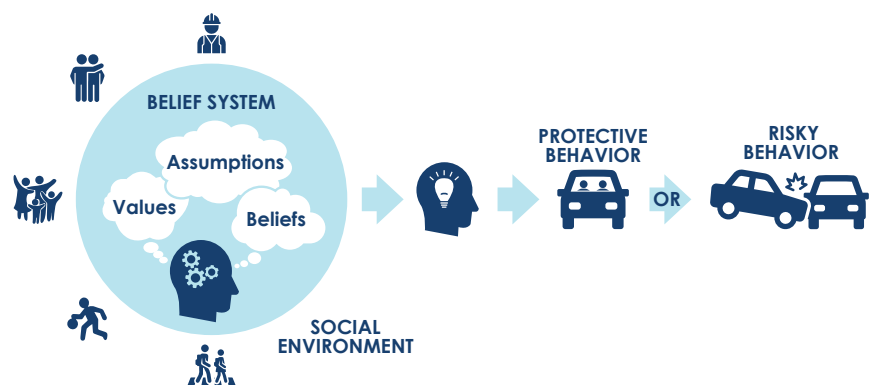
Each stakeholder needs to take ownership of their portion of the system and be willing to change their mode of operation if needed. They recognize how their portion of the system influences the rest of the system and achieving the goal. Sometimes this may require only a change in policy or an organization's operating practices; but it may also require cultural change among transportation agencies, policy makers, road safety stakeholders, and road users so that safety is the expected norm in all situations.

3.2 Traffic Safety Culture

Traffic safety culture is a framework designed to change behaviors among road users and stakeholders, thereby improving road safety. This framework depends on the natural influence that culture has on humans as social beings. Our deliberate behavior choices are shaped by what people believe is normal, expected, and rewarded within the social groups to which they belong (e.g., family, school, workplace). The goal of applying the traffic safety culture framework in road safety planning is to foster a culture that promotes and maintains safe behaviors through the group's social dynamics.

Figure 7 depicts how the belief system (culture) shared within different groups in the social environment influences behavior choice (willingness and intention).

Figure 7: Traffic Safety Culture



Some of these behaviors may reduce the potential of harmful crashes (protective behaviors), and some may increase the potential of harmful crashes (risky behaviors), and some may reduce the potential of harmful crashes (protective behaviors).

Beyond influencing individual behaviors, traffic safety culture plays a critical role at organizational and institutional levels, which is crucial for changing societal norms such that risky driving behaviors are not tolerated. Organizations act as catalysts for cultivating and sustaining traffic safety culture by embedding safety as a shared value across policies, practices, and decisions. By demonstrating leadership commitment, setting clear safety goals, and enforcing accountability, they establish standards that permeate communities. Institutions can reinforce this culture by funding training and infrastructure improvements, while cross-sector collaboration amplifies adoption of safe norms. Organizations can also advocate for policies that prioritize road user safety, ensuring safety is central to planning and funding. Ultimately, safety must be treated not only as an individual responsibility but as a collective priority that is institutionalized in organizational policies and procedures.

3.3 Pro-Social Traffic Safety Culture

There is growing interest in using traffic safety culture to encourage road users to prioritize both their own safety and that of others. Social groups are encouraged to take actions to support each other's safety. A pro-social traffic safety culture creates an environment where safe road users help at-risk users become safer and support collective safety goals.

For example, according to the September 2025 California Seat Belt Usage Report by Fresno State and the California Office of Traffic Safety, 93.9% of California drivers wear their seatbelts. These drivers are part of social groups that can be considered “non-traditional” stakeholders who can influence the behavior of other drivers.

A pro-social traffic safety culture fosters a social environment that expects, encourages, and rewards voluntary behavior that reduces future harm to others in support of shared safety goals. **Figure 8** provides examples of types of pro-social behaviors that non-traditional stakeholders may engage in, especially those already sharing a strong culture of traffic safety. As part of this plan, action development will be encouraged to incorporate aspects of pro-social traffic safety culture where appropriate, particularly within behavior-focused Challenge Areas. For example, campaigns that showcase the social environments associated with family, friends, or co-workers leverage the bonds and roles shared by group members to encourage safe behavior.

Figure 8: Pro-Social Traffic Safety Culture Behaviors



3.4 Safe System Approach Elements

The SSA is built on six interconnected elements that work together to prevent fatal and serious injury crashes. Each element addresses a different aspect of the road system, recognizing that no single intervention can eliminate traffic deaths and serious injuries. By implementing strategies across all six elements simultaneously, California can create layers of protection that account for human error and vulnerability. The following elements of the SSA are:

- **Safe Roads:** Design roadway environments to mitigate human mistakes and account for injury tolerances, to encourage safer behaviors, and to facilitate safe travel by the most vulnerable users.
- **Safe Speeds:** Promote safer speeds in all roadway environments through a combination of thoughtful, equitable, context-appropriate roadway design, appropriate speed-limit setting, targeted education, outreach campaigns, and enforcement.
- **Safe Road Users:** Encourage safe, responsible driving and behavior by people who use our roads and create conditions that prioritize their ability to reach their destination unharmed.
- **Safe Vehicles:** Expand the availability of vehicle systems and features that help to prevent crashes and minimize the impact of crashes on both occupants and non-occupants.
- **Post-Crash Care:** Enhance the survivability of crashes through expedient access to effective emergency medical care, while creating a safe working environment for vital first responders and preventing secondary crashes through robust traffic incident management practices.
- **Safer Land Use:** Acknowledge that land use decisions and development patterns have an impact on our ability to create a safe and more accessible road system for all people, especially vulnerable road users (VRU). For the SHSP, Safer Land Use supports mode shift away from individual motorized modes, where appropriate and possible. Safer Land Use also promotes community-based planning, with an awareness of the impact of past roadway and land use decisions.

3.5 Safe System Approach Principles

There are six core guiding principles for the California SSA and the SHSP. They define how the state will prevent traffic deaths and serious injuries and form the basis for all decision-making. These principles represent a fundamental shift in thinking about traffic safety, placing human life at the center of all road safety decisions and establishing shared responsibility for creating safer roadways:

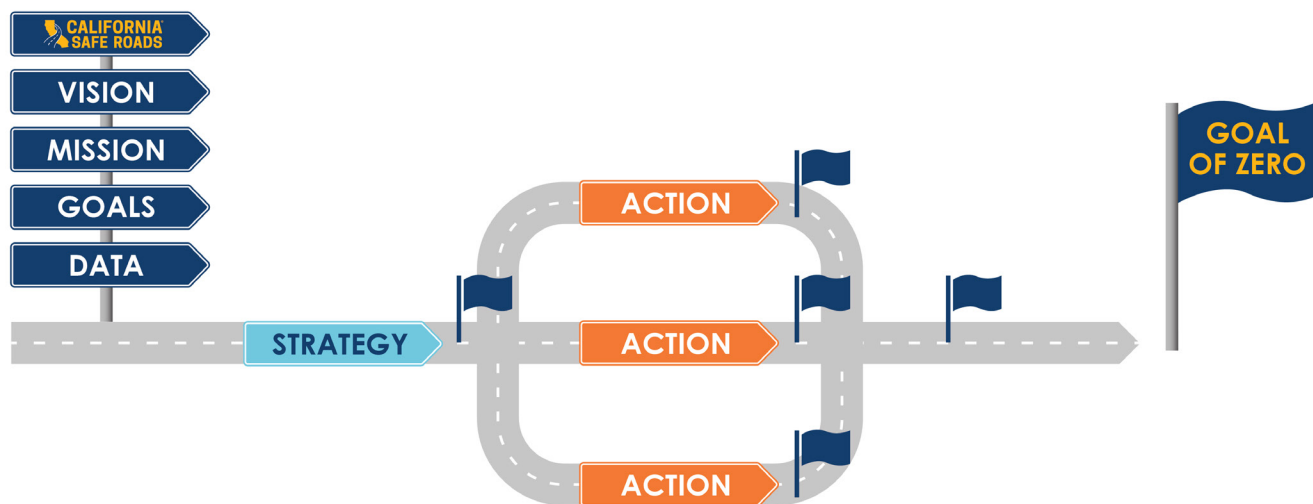
- **Death and Serious Injuries are Unacceptable:** The SSA prioritizes crashes that result in death and serious injuries, since no one should experience either when using the road system.
- **Humans Make Mistakes:** People will inevitably make mistakes that can lead to crashes, but the road system can be designed and operated to accommodate human mistakes and injury tolerances to avoid death and serious injuries.
- **Humans are Vulnerable:** People have limits for tolerating crash forces before death and serious injury occur; therefore, it is critical to design and operate a road system that is human-centric and accommodates human vulnerabilities.
- **Responsibility is Shared:** All stakeholders (road system users and managers, vehicle manufacturers, etc.) share responsibility that crashes do not lead to fatal or serious injuries.
- **Redundancy is Crucial:** Reducing risks requires that all parts of the road system are strengthened so that if one part fails, the other parts still protect people.
- **Safety is Proactive and Reactive:** Proactive tools should be used to identify potential hazards before crashes happen, while also recognizing the importance of historical data that helps inform where and why crashes happen.

3.6 SHSP Strategies

The development of the SHSP Strategies for the Implementation Plan is grounded in the SHSP Vision, Mission, and Goal and aligns with the SSA elements and principles. These strategies are high-level objectives aimed at achieving the overarching goal of zero fatalities and serious injuries on all of California's public roadways. The Vision, Mission, and Goal coupled with the data-driven process formed the basis for strategy development. Layered into the process are the SSA principles. The SSA principles, "death and serious injury are unacceptable" and "redundancy is crucial," are universal and apply to all strategies that are developed for the SHSP. Furthermore, the SHSP emphasizes inclusivity and responsiveness to end-user needs as fundamental aspects, and guides all strategies with this foundational belief in mind.

The strategies are designed to foster collaboration and systems thinking. Organizations and people should include thoughts beyond their own scope such as planning, design and implementation. For example our roads determine the future traveling habits of our populations. When there are good and safe alternatives to driving, like safe and convenient walking and biking paths, more people may opt to walk and bike for short trips. Considering land use and technology can assist in creating options. Continuing to perform road improvements where roads are simply widened and make convenience and time the parameters, car travel may be improved but the result may be less safety or options for pedestrian and bicycle travel.

Figure 9: Strategies Road Map



The strategies below are classified by the SSA elements.



Safe Roads (SR)

SR.1: Promote the design, operation, and use of self-enforcing roadways that anticipate human error.

+ Humans Make Mistakes

SR.2: Design, operate, and maintain roadways to minimize the release of kinetic energy in a crash for any mode, including designs that reduce conflict points and separate modes in time or space.

+ Humans are Vulnerable

SR.3: Involve representation of stakeholders from applicable infrastructure sectors in design projects (e.g., finance, engineering, land use, etc.).

+ Responsibility is Shared

SR.4: Consider both the existing and future needs of all modes, including safety planning, design, operations, and maintenance programs for roadways.

+ Safety is Proactive and Reactive



Safe Speeds (SS)

SS.1: Set safe and credible speed limits, prioritizing contexts associated with excessive speeding.

+ Humans Make Mistakes

SS.2: Set speeds based on human survivability.

+ Humans are Vulnerable

SS.3: Partners collaborate so that speed limits are established according to the road's functional class and context, particularly considering VRU activity. Additionally, appropriate speed legislation, design, driver education, vehicle technology, and enforcement must support these limits.

+ Responsibility is Shared

SS.4: Develop safe speed policies that anticipate the implications of changes in VRU exposure and vehicle types.

+ Safety is Proactive and Reactive



Safe Road Users (SU)

SU.1: Provide facilities that address systemic safety issues and accommodate road user needs and capabilities.

+ Safety is Proactive and Reactive

SU.2: Create and promote pro-social traffic safety culture, whereby all road users recognize and accept responsibility to verify the others' safety

+ Responsibility is Shared

SU.3: Create a road user culture that normalizes the use of personal safety and vehicle equipment designed to reduce harm (e.g., helmets, child seats).

+ Humans are Vulnerable

SU.4: Educate stakeholders and road users about the conditions that increase high-risk behavior to provide awareness and skills to avoid those conditions and minimize the outcomes of mistakes.

+ Humans Make Mistakes



Safe Vehicles (SV)

SV.1: Review regulatory standings periodically so that modes of travel are evaluated on an ongoing basis to address changing technology and times.

+ Safety is Proactive and Reactive

SV.2: Promote and facilitate the rapid deployment of the best available technologies to improve vehicle safety, especially for the benefit of VRU, with a priority focus on state, regional, county, and city fleet vehicles.

+ Responsibility is Shared

SV.3: Encourage the development and inclusion of both active and passive safety systems within vehicles to protect road users, both inside and outside of the vehicle, and eliminate barriers to adoption.

+ Humans are Vulnerable

SV.4: Support and expand use of Advanced Driver Assistance Systems (ADAS) in vehicles to minimize human error and limit risk-taking.

+ Humans Make Mistakes



Post-Crash Care (PC)

PC.1: Increase the ability of first responders to mitigate harm caused by traffic incidents.

+ Humans Make Mistakes

PC.2: Reduce response times tied to the golden hour.*

+ Humans are Vulnerable

PC.3: Promote interoperable communications and interdisciplinary training to establish multi-agency collaboration for the most effective and responsive services, supported by legislation and appropriate equipment.

+ Responsibility is Shared

PC.4: Locate emergency response/trauma centers in areas with access to road systems that are predicted to have increased fatality and serious injury rates (per capita).

+ Safety is Proactive and Reactive

**The golden hour is defined as the first hour after an out-of-hospital traumatic injury has occurred. Lerner EB, Moscati RM. The golden hour: scientific fact or medical "urban legend"? Acad Emerg Med. 2001 Jul;8(7):758-60. doi: 10.1111/j.1553-2712.2001.tb00201.x. PMID: 11435197.*



Safer Land Use (SL)

SL.1: Use models in the planning process that predict the impact of land use options on transportation accessibility and safety with allowance for local agencies to preemptively address those impacts.

+ Safety is Proactive and Reactive

SL.2: Involve stakeholders in the planning process that represent all community needs to align their goals in support of safe transportation.

+ Responsibility is Shared

SL.3: Prioritize the needs of the VRU community in the planning process.

+ Humans are Vulnerable

SL.4: Verify accessibility to emergency services and medical facilities in the planning process.

+ Humans Make Mistakes

3.7 Safe System Pyramid

The Safe System Pyramid, depicted in **Figure 10**, offers a hierarchical framework crucial for shaping the development of actions within the SHSP. The base of the Safe System Pyramid prioritizes system-wide interventions at policy and organizational levels, addressing systemic inequalities rather than focusing on individual efforts. By emphasizing equitable investments in infrastructure, neighborhood improvements, and data-driven resource allocation, these interventions create safer environments in all communities, including those most at risk. These proactive changes built through policy changes at all levels will foster a positive traffic safety culture, promoting accessibility, inclusivity, and sustainability. Ultimately, the approach benefits society by reducing disparities in road safety outcomes and cultivating healthier, more livable communities.

The integration of vehicle technology and passive safety features play a significant role in minimizing crash severity and enhancing overall road safety. Advanced automotive innovations like automatic emergency braking, lane departure warning systems, and airbag designs are essential. These features protect vehicle occupants during crashes and contribute to increased safety, with little demand on individual road users to actively engage with these technologies.

At the top of the pyramid, education and active safety behaviors are emphasized. While these interventions require more direct individual action and have a narrower reach, they are vital for fostering a pro-social traffic safety culture. Education campaigns target specific behaviors such as distracted driving, impaired driving, and pedestrian safety through public awareness efforts and training programs. Encouraging proactive behaviors, such as consistent seatbelt use and adherence to speed limits, contributes to long-term cultural shifts towards safer road use.

Figure 10: Safe System Pyramid



The Safe System Pyramid (referenced above) was adapted from the Health Impact Pyramid (Vision Zero Network) and the Safe Systems Pyramid (Ederer et al. 2023) to more fully address road safety needs.

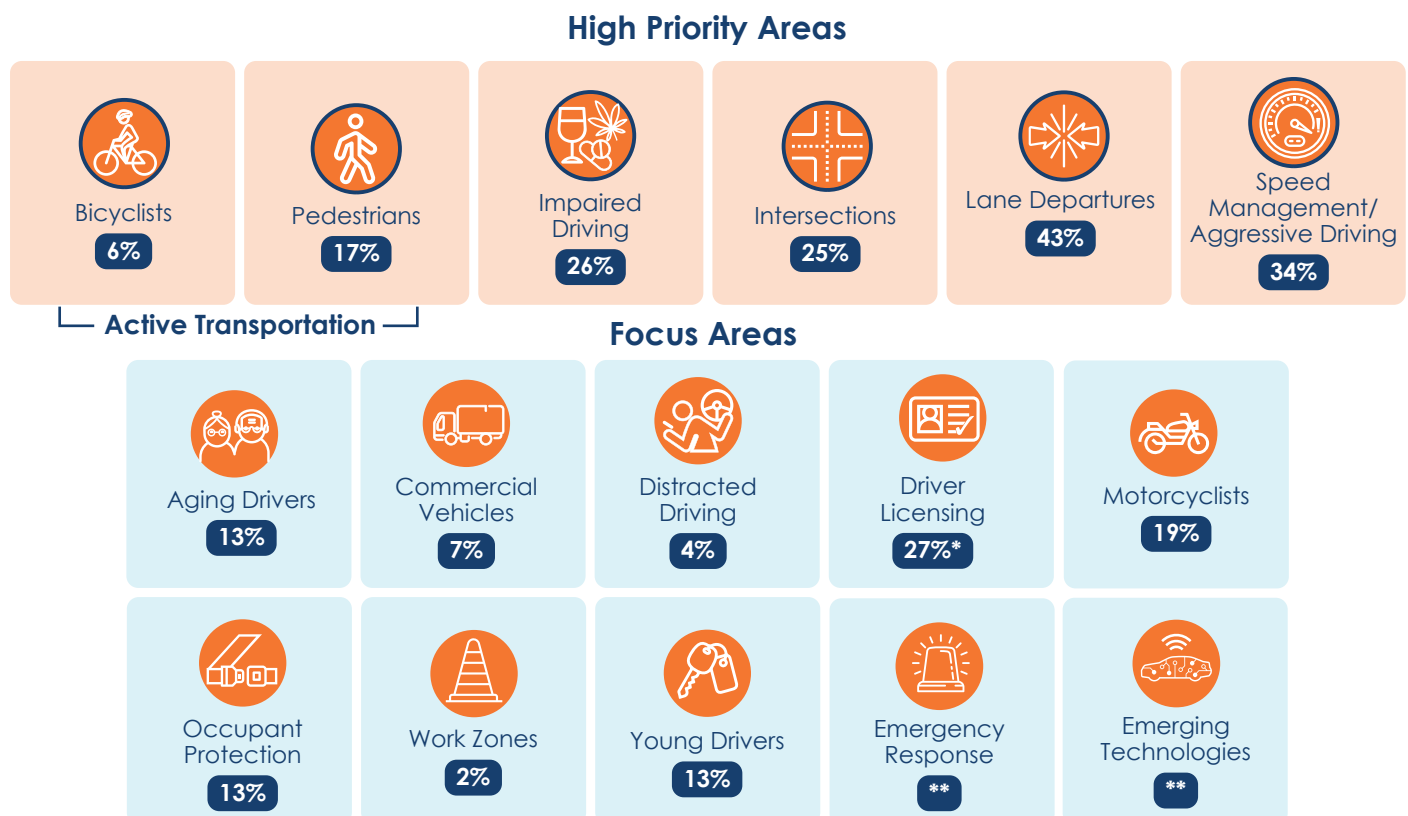
By leveraging the Safe System Pyramid approach, in alignment with the SSA principles and elements, the SHSP can implement action in a systematic manner. This methodology creates a balanced focus on broad-impact policies and infrastructure, integrated vehicle technologies, and targeted educational efforts, collectively enhancing population safety impact and reducing road traffic injuries and fatalities to be specific to the California 2025–2029 SHSP.

4. STRATEGIC HIGHWAY SAFETY PLAN CHALLENGE AREAS

The 2025–2029 SHSP includes the same 16 Challenge Areas that were part of the 2020–2024 SHSP. These areas aim to focus resources and efforts based on data analysis and stakeholder input, and have been categorized into High Priority Areas and Focus Areas to assist in establishing guidance for implementation. High Priority Areas will have more detailed and frequent updates to support action development. Of the 16 Challenge Areas, the High Priority Areas represent the six Challenge Areas most often involved in FSI crashes in California and have the greatest potential to significantly decrease statewide fatalities and serious injuries. The remaining 10 Challenge Areas are Focus Areas, which are also recognized as being important to road safety in California but are associated with fewer fatalities and serious injuries.

Figure 11 below indicates the number of fatalities and serious injuries that relate to each Challenge Area based on 2014–2023 SWITRS data. The data definitions for each Challenge Area can be found in Appendix C of the 2025–2029 SHSP. Several factors are often associated with a single crash, meaning that multiple Challenge Areas may be represented in one event. For example, an intersection crash may also involve an aging driver and occupant protection issue in a single event.

Figure 11: Challenge Area Share of 2014–2023 FSI Victims



* Represents only fatalities data from FARS

** Limited data regarding fatalities and serious injuries

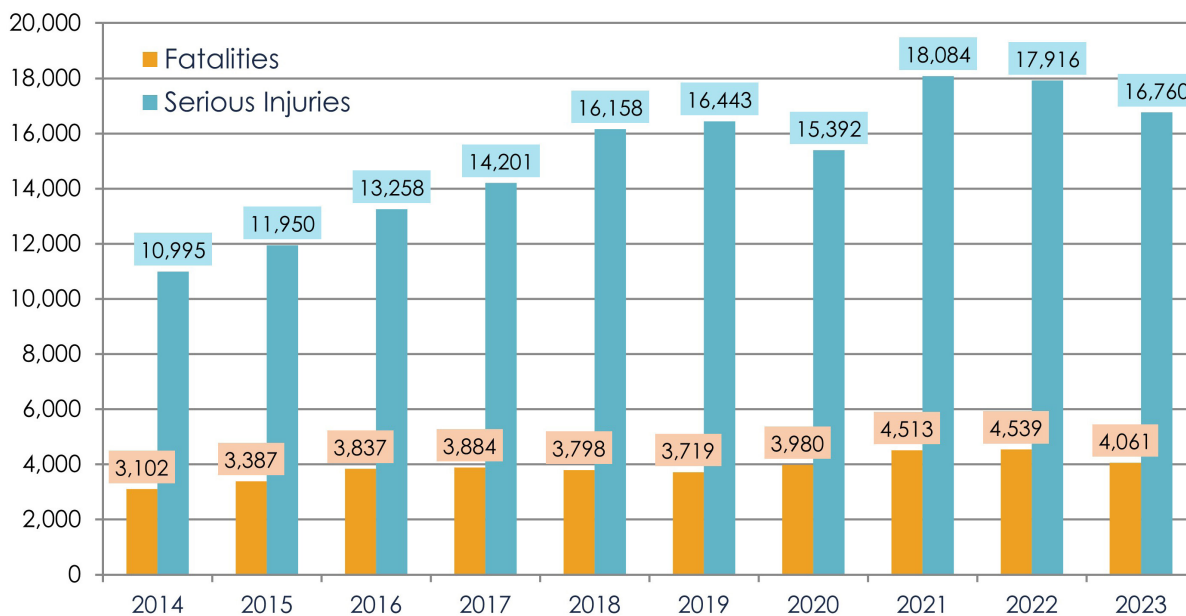
Source: FARS 2014–2023, SWITRS 2014–2023

4.1 Current Trends

Statewide fatalities and serious injuries have increased by 48% from 2014–2023, which constitutes the most recent 10 years of finalized crash data. During the pandemic years (identified as 2020, 2021, and 2022 in the SHSP), FSI increased substantially. In 2022, California reported one of the highest number of annual fatal crashes resulting in 4,539 fatalities, per FARS.

However, according to 2023 FARS data, which is prepared by the National Highway Traffic Safety Administration (NHTSA), the number of annual fatalities in California decreased by more than 10% between 2022 and 2023—from 4,539 fatalities in 2022 to 4,061 fatalities in 2023. In other words, 478 fewer people died in a crash on California public roadways in 2023 compared to 2022. Similarly, serious injuries decreased by 6% between 2022 and 2023, per SWITRS data. It should be noted that single-year data may not be indicative of a sustained pattern or larger trends, and therefore longer-trend analysis is important. This was especially true with the volatility experienced during pandemic years.

Figure 12: California 2014–2023 FSI



Source: FARS 2017–2023, SWITRS 2017–2023

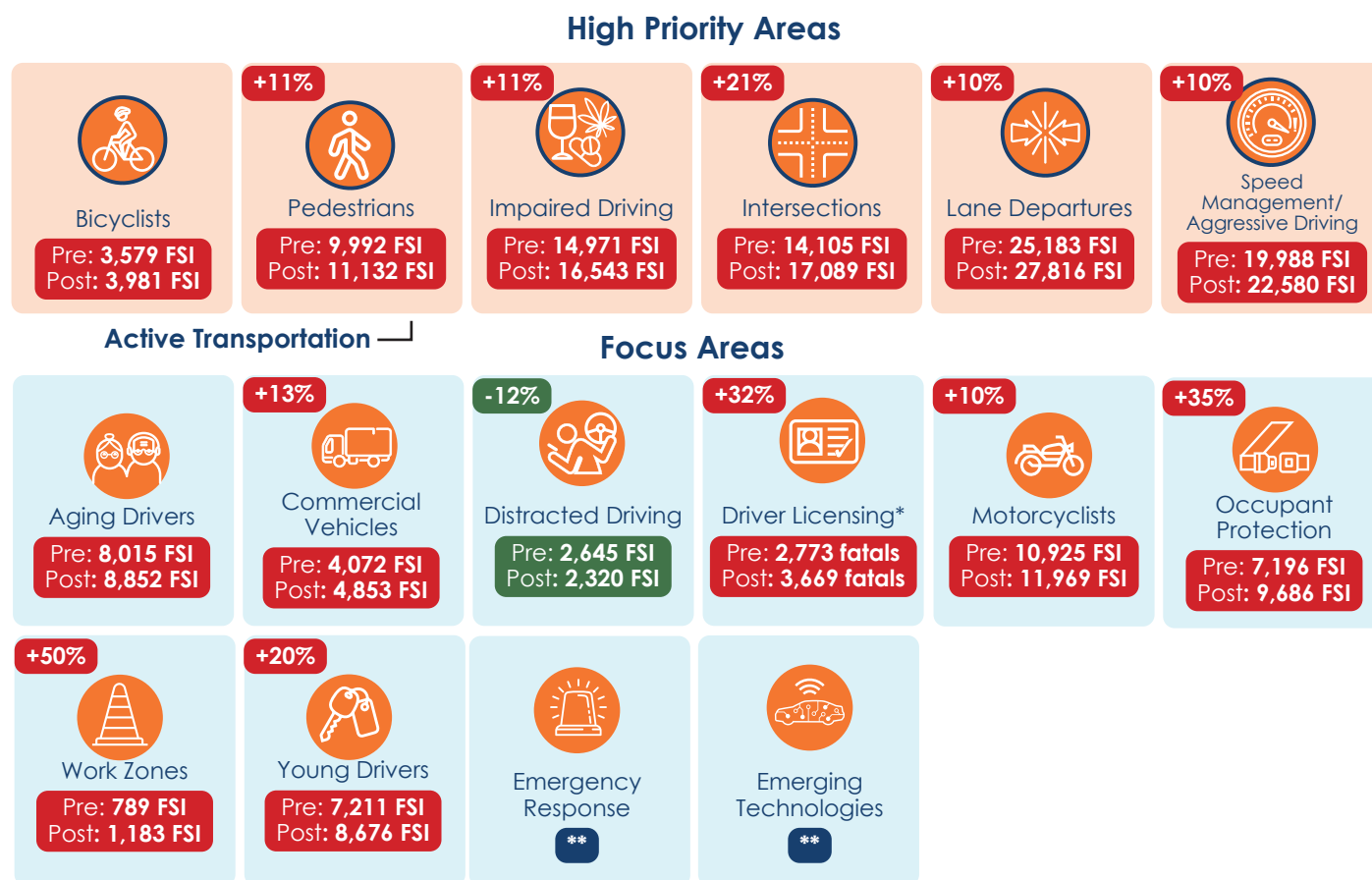
To more closely study the volatility experienced during pandemic years, a comparison of FSI crash trends between the most recent three-year period (2021–2023, labelled “Post-Pandemic”) and the previous three-year period (2017–2019, labelled “Pre-Pandemic”) by Challenge Area is provided in **Figure 13**. The primary year of the pandemic, 2020, was intentionally excluded from this comparison due to the significant decrease in VMT during this year, which resulted in outlier FSI totals.

As shown in **Figure 13**, FSI for 13 of the Challenge Areas increased between 2021–2023 and 2017–2019. In addition, nine Challenge Areas increased at a higher rate than the statewide increase (10%) between 2021–2023 and 2017–2019. These Challenge Areas include Work Zones (50% increase), Occupant Protection (35% increase), Driver Licensing (32% increase¹), Intersections (21% increase), and Young Drivers (20%).

1. Driver Licensing percent change is for fatalities only, as Driver Licensing data is sourced from FARS.

These Challenge Areas performed considerably worse than the statewide FSI percent change. A comprehensive perspective allows for the Implementation Plan to address emerging challenges without diminishing the seriousness of existing issues. This highlights the principle that safety is both proactive and reactive and future action development should reflect that.

Figure 13: Challenge Area Total FSI, Pre-Pandemic (2017–2019) and Post-Pandemic (2021–2023) Comparison



* Represents only fatalities data from FARS

** Limited data regarding fatalities and serious injuries

Source: FARS 2017–2023, SWITRS 2017–2023

Note: Total FSI crashes increased 10% for the three-year comparison (2017–2019 vs. 2021–2023), per SWITRS.

By analyzing these trends, the SHSP can more effectively allocate resources and refine strategies to advance the goal of zero fatalities and serious injuries on all of California's public roadways. These data-driven insights are critical for guiding the SHSP's next steps, enabling targeted interventions and informed decision-making to continue positive trajectories and address specific areas of concern.

4.2 Challenge Area Collaboration

The SHSP recognizes the benefit of identifying overlaps in crash factors that impact multiple Challenge Areas. Additional Challenge Area collaboration was specifically requested by many Challenge Area Co-Leads and committee members during development of the 2020–2024 SHSP. Implementation of collaborative activities will be designed to encourage partnerships and resource-sharing between Challenge Areas with significant overlaps, resulting in more impactful actions. Notable overlaps (greater than 25%) for High Priority Challenge Areas include:

- **Active Transportation**
 - **Bicyclists:** Intersections (35%), Speed Management/Aggressive Driving (32%)
 - **Pedestrians:** Intersections (26%)
- **Impaired Driving:** Lane Departures (59%), Speed Management/Aggressive Driving (33%), Driver Licensing (32%)
- **Intersections:** Speed Management/Aggressive Driving (40%), Driver Licensing (28%)
- **Lane Departures:** Impaired Driving (34%), Driver Licensing (31%), Speed Management/Aggressive Driving (28%)
- **Speed Management/Aggressive Driving:** Lane Departures (35%), Driver Licensing (34%), Intersections (30%), Motorcyclists (26%)

Some key findings from the Challenge Area overlap analysis:

- Speed Management/Aggressive Driving are significant underlying crash factors.
- Impaired Driving and Occupant Protection crashes occur primarily with Lane Departures.
- Risky driver behavior is a major safety issue, with significant overlaps between Driver Licensing, Impaired Driving, and Occupant Protection.
- Bicyclists and Pedestrians (VRU) are particularly impacted at Intersections.
- Motorcyclists are especially impacted in Work Zones and Speed Management/Aggressive Driving areas.

Table 1 provides a summary of this information, which can be useful to identify beneficial partnerships between Challenge Areas. Significant overlaps (greater than 25%) are highlighted in green.

Note: Table 1 shows what percentage of Challenge Area listed horizontally (by row) also involved Challenge Areas listed in corresponding columns. For example, in the first cell to the right of Intersections (IN)—Challenge Area column—the information indicates that 10% of Intersections FSI crashes also involved Bicyclists (B).

Table 1: Challenge Area Overlaps

Challenge Area	B	P	ID	IN	LD	SM	AG	CV	DD	DL*	M	OP	WZ	YD
Bicyclists (B)	x	0%	5%	35%	20%	32%	9%	3%	5%	13%	0%	4%	1%	5%
Pedestrians (P)	0%	x	9%	26%	6%	14%	11%	4%	6%	12%	0%	2%	1%	7%
Impaired Driving (ID)	1%	7%	x	20%	59%	33%	8%	5%	3%	32%	14%	24%	2%	11%
Intersections (IN)	10%	20%	19%	x	19%	40%	17%	5%	5%	28%	20%	10%	1%	14%
Lane Departures (LD)	3%	3%	34%	11%	x	28%	10%	4%	3%	31%	22%	21%	1%	13%
Speed Management/ Aggressive Driving (SM)	7%	8%	24%	30%	35%	x	13%	8%	5%	34%	26%	14%	2%	14%
Aging Drivers (AG)	5%	15%	14%	32%	34%	32%	x	7%	4%	18%	20%	10%	2%	7%
Commercial Vehicles (CV)	3%	12%	19%	20%	25%	43%	14%	x	5%	24%	10%	16%	4%	9%
Distracted Driving (DD)	9%	29%	17%	28%	31%	37%	13%	8%	x	22%	9%	13%	2%	13%
Driver Licensing (DL)*	2%	13%	43%	32%	40%	40%	10%	10%	3%	x	24%	44%	13%	16%
Motorcyclists (M)	0%	0%	16%	24%	44%	42%	13%	3%	2%	41%	x	4%	2%	10%
Occupant Protection (OP)	2%	2%	42%	19%	64%	34%	10%	8%	4%	38%	6%	x	2%	15%
Work Zones (WZ)	4%	12%	27%	9%	38%	46%	14%	18%	5%	26%	22%	15%	x	10%
Young Drivers (YD)	3%	10%	22%	29%	44%	40%	7%	5%	5%	36%	18%	17%	1%	x

Source: SWITRS 2014–2023, *FARS 2014–2023

4.3 SHSP Traffic Safety Fact Sheets

The [SHSP Traffic Safety Fact Sheets](#) are developed on an annual basis to summarize the latest statewide and Challenge Area crash data. The Fact Sheets identify key issues for each of the 14 data-supported Challenge Areas based on existing crash data and analyses of demographic-related data. The remaining two Challenge Areas do not have quantitative data-sources.

4.4 Additional Challenge Areas

In addition to the 14 Challenge Areas discussed in the previous section, the following two Challenge Areas do not have quantitative data sources to inform the development of actions for the SHSP at this time:

- Emergency Response
- Emerging Technologies

4.4.1 Emergency Response

The Emergency Response Challenge Area focuses on post-crash care efforts to reduce FSI. Aspects of crash detection, verification, response, investigation, and victim treatment and transport are key areas of focus. All first responders, including law enforcement, fire services, emergency medical services, public health, public works, trauma care, and coroners are considered as part of this Challenge Area.

Timely emergency medical care is crucial for reducing injury severity and ultimately saving lives after roadway crashes. Proximity to high-level trauma centers is key to post-crash survivability. Level I and II centers, the most advanced trauma centers, are within 60 miles of 91% of reported FSI crashes, while Level III and IV centers, those offering more limited services, are within 60 miles of 41% of reported FSI crashes, per SWITRS 2013–2022 data. Trauma centers provide comprehensive, around-the-clock resources necessary for treating serious injuries.

A recent advancement in post-trauma care is pre-hospitalization blood transfusion. The California Emergency Medical Services Authority (EMSA) is currently enhancing data collection in the California Emergency Medical Services Information System (CEMSIS), per national guidance that is under development. CEMSIS, a statewide database, collects crucial information from emergency 911 calls, including data on emergency medical service requests, patients treated at hospitals, and Emergency Medical Service provider organizations. The integration of CEMSIS data into the SHSP will be crucial for providing a more comprehensive and quantitative understanding of emergency response needs in hopes of improving post-crash survivability.

4.4.2 Emerging Technologies

Technology plays a key role in improving safety on all roadways. Intelligent Transportation Systems (ITS) and Connected Vehicle technology can enhance traveler information and system performance to create an effective road safety network. An enhanced, robust data collection system can highlight and analyze high-crash locations, infrastructure conditions, or assets that commonly contribute to crashes.

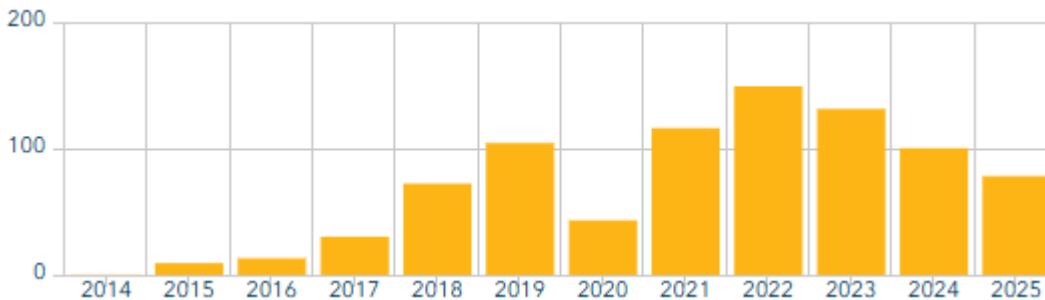
In response to these emerging technologies, the CDD is routinely updated with additional data sources, extending beyond crash data. In 2025, a telematics data source—Replica—was added to the dashboard, providing bicyclist and pedestrian trip estimates in half-mile areas statewide. Replica is a synthetic data source that combines a variety of data inputs, such as location-based services data, Census data, attractions, and surveys, to provide estimated VRU trip information.

Figure 14 provides an example of the telematics data found on the CDD. The purple grid areas represent estimated pedestrian and bicyclists trip volumes in downtown Fresno, with the darker purple areas featuring higher bicyclist and pedestrian activity. This data, combined with traditional crash data, provides key background information to inform action development.

In addition to telematics data, one of the most notable emerging technologies in California is Autonomous Vehicles (AV). Several AV companies have expanded deployment throughout California during recent years, with significant AV deployment in San Francisco County, Santa Clara County, and Los Angeles County, as of 2025. In response to this increasing deployment of AV, the University of California, Berkeley's (UC Berkeley's) Safe Transportation Research and Education Center (SafeTREC) developed an AV Safety Dashboard², which provides key information on AV crashes which occurred during AV testing.

According to the dashboard, AV crashes increased notably from 2014 to 2019 as AV testing increased, followed by a significant decrease in 2020, as shown in **Figure 15**. AV crashes then peaked in 2022, and decreased steadily in the following years of 2023, 2024, and 2025. While these crashes in **Figure 15** are only those occurring during AV testing permits, and not under commercial deployment, these are still important safety trends to note.

Figure 15: AV Crashes - Time Series

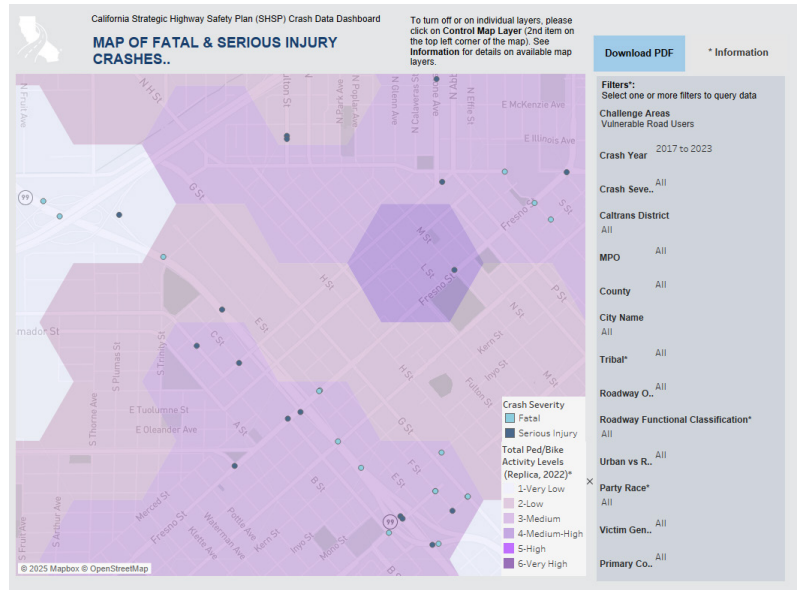


Source: UC Berkeley SafeTREC, Autonomous Vehicles Safety Dashboard, <https://experience.arcgis.com/experience/1b9086155cda48d697bf40ec67962196/page/AV-Crash-Data>

Note that **Figure 15** only represents AV crashes that occurred during AV testing permits, not commercial deployment.

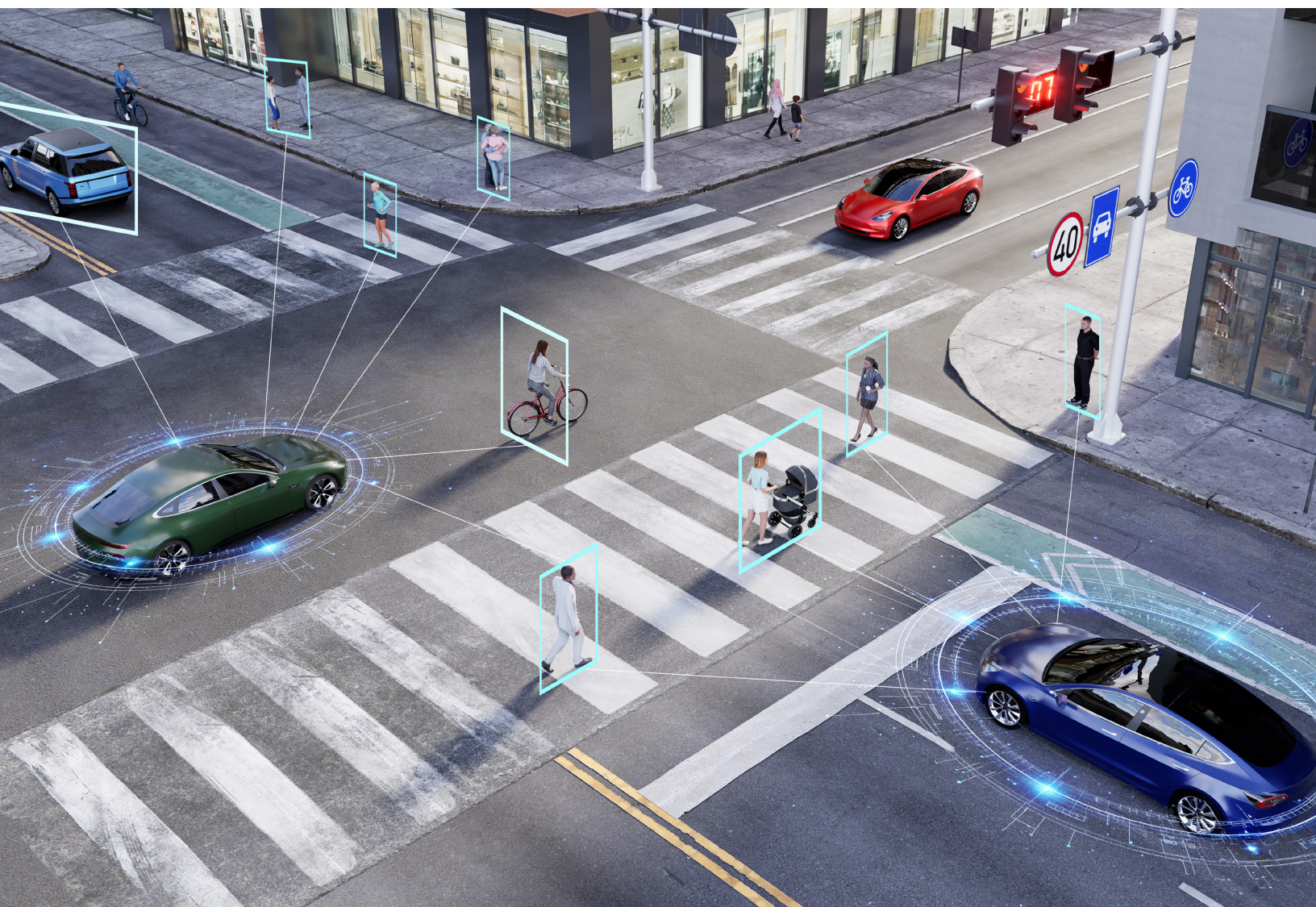
2. UC Berkeley SafeTREC, Autonomous Vehicles Safety Dashboard, <https://experience.arcgis.com/experience/1b9086155cda48d697bf40ec67962196/page/AV-Crash-Data>

Figure 14: CDD - Telematics Data



Source: Replica (2022), SWITRS (2017–2023)

The safety impact of AV is a major topic of discussion. In their mature state, AV driving systems have the potential to reduce crashes, prevent injuries, and ultimately save lives. Automated technologies can usually detect crash threats and react faster than human drivers, thus supporting drivers, reducing human mistakes, and reducing the likelihood of resulting crashes. At the national level, NHTSA released an AV Framework³ in April 2025, which highlighted the “prioritization of safety” as one of three key principles for accelerating AV deployment as well as adoption of driver assistance systems in vehicles.



3. United States Department of Transportation, <https://www.transportation.gov/briefing-room/trumps-transportation-secretary-sean-p-duffy-unveils-new-automated-vehicle-framework>

5. HIGH-IMPACT COUNTERMEASURES

Investing in well-researched tactics, which can be applied systemically, is one of the most cost-effective ways to improve road safety statewide. To provide a resource in guiding these decisions, a countermeasure matrix (**Table 2**) was developed. Though this matrix is not comprehensive, it can act as a tool to support SHSP-aligned investments. It matches proven high-impact policy, behavioral, and infrastructure countermeasures to Challenge Areas; applicable functional roadway classes; and primary crash types. Each countermeasure includes a documented CRF for FSI crashes, effectiveness rating, relative cost, typical implementation timeframe, and a flag for systemic deployment opportunities.

Countermeasures with low-to-medium costs (\$–\$\$), combined with four- or five-star effectiveness ratings or strong CRF, are ideal for systemic implementation network-wide and statewide.

Infrastructure countermeasures that deliver 25–80% crash reductions¹ while remaining cost-effective and systemically deployable include:

- Separated bicycle facilities (45%)
- Leading pedestrian intervals (LPI) (60%)
- Sidewalks (up to 80%)
- Wider edge lines (25%)
- Retroreflective chevron signage (40%)

Non-infrastructure countermeasures, such as education, enforcement, and policy changes, can also be ideal candidates for systemic implementation, as they have the potential to impact road networks at large and promote pro-social traffic safety culture. Non-infrastructure countermeasures with a four- or five-star effectiveness rating² are proven safety countermeasures suitable for systemic implementation. These include:

- Alcohol ignition interlock device legislation (five-star)
- Primary enforcement of seat belt use laws (five-star)
- Enhanced graduated driver licensing (GDL) programs and restrictions (five-star)
- Lower speed limits (five-star)
- High-visibility cell phone use enforcement (four-star)

By prioritizing these evidence-based, scalable countermeasures over lower-performing options, agencies can maximize lifesaving returns on every safety dollar spent and accelerate progress toward California's goal of zero traffic fatalities and serious injuries on all of California's public roadways.

The matrix can be used for:

1. Rapid identification of the highest-impact, evidence-based solutions to address FSI crash patterns identified through robust data analyses
2. Match observed FSI crash patterns to countermeasures with the strongest documented safety benefit
3. Prioritize actions based on effectiveness, cost, and delivery timeline
4. Scale systemic treatments across similar facility types where recurring risks are present

The matrix content under the Other Attributes heading is based on general NHTSA estimates and does not reflect any analysis of California specific policy, cost, and implementation considerations.

1. CRF sourced from Caltrans Local Road Safety Manual, 2024: <https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/hsp/2024/lrsm2024-v2.pdf>

2. NHTSA Countermeasures That Work: <https://www.nhtsa.gov/book/countermeasures-that-work>

Table 2: Countermeasures Matrix

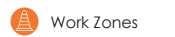
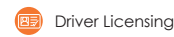
High Priority Areas		Bicyclists	Pedestrians	Impaired Driving	Intersections	Lane Departures	Speed Management/Aggressive Driving	Focus Areas		Aging Drivers	Commercial Vehicles	Distracted Driving	Driver Licensing	Emerging Technologies	Motorcyclists	Occupant Protection	Young Drivers	Work Zones								
Countermeasure	High Priority Areas						Focus Areas									Functional Class				Other Attributes ^{1 2}						
																Interstate/ Freeway	Arterials	Collector	Local	Crash Type	CRF	Effectiveness	Cost*	Implementation Time	Systemic Opp	
POLICY	Safe Routes to School Program Promotion	X	X		X		X								X			X	X	X	All	Varies	3	\$	Medium	N/A
	Open Container Laws			X														X	X	X	All	Varies	5	\$\$\$	Short	N/A
	Ignition Interlock Device Legislation			X													X	X	X	X	All	Varies	5	\$\$	Medium	N/A
	Vehicle and License Plate Sanctions			X			X										X	X	X	X	All	Varies	4	Varies	Short	N/A
	Graduated Driver Licensing Intermediate License Nighttime Restrictions					X				X					X		X	X	X	X	Night	Varies	5	\$	Medium	N/A
	Administrative License Revocation or Suspension			X						X							X	X	X	X	All	Varies	5	\$\$\$	Medium	N/A
	Driver's License Suspensions (and Increasing Penalties) for Repeat Offenders						X			X							X	X	X	X	All	Varies	4	Varies	Varies	N/A
	Driver License Screening and Testing							X			X						X	X	X	X	All	Varies	4	\$\$	Medium	N/A
	License Restrictions for Aging Drivers							X			X						X	X	X	X	All	Varies	4	\$	Medium	N/A
	Graduated Driver Licensing Passenger Limits for Young Drivers									X	X				X		X	X	X	X	All	Varies	5	\$	Medium	N/A
	Enhanced Graduated Diver Licensing Programs and Restrictions										X				X		X	X	X	X	All	Varies	5	\$	Medium	N/A
	Universal Motorcyclist Helmet Use Laws												X				X	X	X	X	All	Varies	5	\$	Short	N/A
	Strong Child Passenger Safety Laws													X			X	X	X	X	All	Varies	5	\$	Short	N/A
	Increased Fines for Seat Belt Law Violations														X		X	X	X	X	All	Varies	4	\$	Short	N/A

1. For Policy and Behavioral countermeasures, Effectiveness, Cost, and Implementation Time sourced from NHTSA Countermeasures That Work: <https://www.nhtsa.gov/book/countermeasures/countermeasures-that-work>
2. For Infrastructure countermeasures, Crash Type, CRF, Cost, and Systemic Opp sourced from Caltrans Local Road Safety Manual, 2024: <https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/hsip/2024/lrsm2024-v2.pdf>
* NHTSA estimates not evaluated in a CA specific context.

High Priority Areas



Focus Areas



Countermeasure		High Priority Areas						Focus Areas									Functional Class				Other Attributes ^{1 2}					
																	Interstate/ Freeway	Arterials	Collector	Local	Crash Type	CRF	Effectiveness	Cost*	Implementation Time	Systemic Opp
BEHAVIORAL	Training & Education for Local Agency Decision-Makers on Selecting Appropriate Speed Limits	X	X				X											X	X	X	All	Varies	N/A	N/A	N/A	N/A
	High-Visibility Enforcement of DUI Laws			X		X		X									X	X	X	X	All	Varies	4	\$\$	Short	N/A
	Publicized Sobriety Checkpoints			X		X											X	X	X	X	All	Varies	5	\$\$\$	Short	N/A
	Alcohol Problem Assessment and Treatment			X													X	X	X	X	All	Varies	5	Varies	Varies	N/A
	All-Offender Screening and Intervention			X													X	X	X	X	All	Varies	5	\$\$	Short	N/A
	Traffic Law Enforcement Near and At Intersections and Rail Crossings				X																Intersections	Varies	N/A	N/A	N/A	N/A
	Communications and Outreach on Drowsy Driving					X															All	Varies	N/A	N/A	N/A	N/A
	High-Visibility Speeding Enforcement						X										X	X	X	X	All	Varies	5	\$\$\$	Medium	N/A
	Formal Courses for Older Drivers (Classroom and On-Road Feedback)							X									X	X	X	X	All	Varies	4	\$\$	Medium	N/A
	Roadside Inspections								X												All	Varies	N/A	\$\$\$	Medium	N/A
	"Strike Force" Enforcement at High-Risk Corridors and Work Zones								X												Work Zones	Varies	N/A	\$\$\$	Medium	N/A
	High-Visibility Cell Phone Use Enforcement									X							X	X	X	X	All	Varies	4	\$\$\$	Medium	N/A
	Employee Programs on Distracted Driving (Training, Outreach, Policies)									X							X	X	X	X	All	Varies	4	\$\$\$	Medium	N/A
	Enhanced Driver Education										X						X	X	X	X	All	Varies	N/A	N/A	N/A	N/A
	Enhanced Motorcyclists Education and Training												X				X	X	X	X	All	Varies	2	\$\$	Varies	N/A
Promote the Use of All Protective Riding Equipment												X				X	X	X	X	All	Varies	N/A	\$-\$\$	N/A	N/A	

1. For Policy and Behavioral countermeasures, Effectiveness, Cost, and Implementation Time sourced from NHTSA Countermeasures That Work: <https://www.nhtsa.gov/book/countermeasures/countermeasures-that-work>

2. For Infrastructure countermeasures, Crash Type, CRF, Cost, and Systemic Opp sourced from Caltrans Local Road Safety Manual, 2024: <https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/hsip/2024/lrsm2024-v2.pdf>

* NHTSA estimates not evaluated in a CA specific context.

High Priority Areas		Bicyclists	Pedestrians	Impaired Driving	Intersections	Lane Departures	Speed Management/Aggressive Driving	Focus Areas		Aging Drivers	Commercial Vehicles	Distracted Driving	Driver Licensing	Emerging Technologies	Motorcyclists	Occupant Protection	Young Drivers	Work Zones								
Countermeasure		High Priority Areas						Focus Areas									Functional Class				Other Attributes ^{1 2}					
																	Interstate/ Freeway	Arterials	Collector	Local	Crash Type	CRF	Effectiveness	Cost*	Implementation Time	Systemic Opp
BEHAVIORAL	Alcohol-Impaired Motorcyclists: Detection, Enforcement, and Sanctions											X					X	X	X	X	All	Varies	3	Varies	Varies	N/A
	High-Visibility Seat Belt Law and Child Passenger Safety Enforcement Programs												X				X	X	X	X	All	Varies	5	\$\$\$	Medium	N/A
	Education and Outreach Programs with Low Seat Belt Use Demographic Groups												X				X	X	X	X	All	Varies	4	Varies	Varies	N/A
	Primary Enforcement of Seat Belt Use Laws												X				X	X	X	X	All	Varies	5	\$	Short	N/A
	High-Visibility Speeding Enforcement (in Work Zones)						X									X	X	X	X	X	All	Varies	4	\$\$\$	Medium	N/A
	Education and Outreach Programs for Parents and Guardians of Young Drivers													X			X	X	X	X	All	Varies	2	\$\$	Short	N/A
	Electronic Monitoring Tool Use for Parents and Guardians of Young Drivers														X		X	X	X	X	All	Varies	3	\$	Short	N/A
INFRASTRUCTURE	Bicycle Lanes	X					X														Pedestrians/ Bicyclists	35%	N/A	\$\$	N/A	High
	Separated Bicycle Lanes	X					X														Pedestrians/ Bicyclists	45%	N/A	\$\$	N/A	High
	Improved Lighting	X	X		X	X		X										X	X	X	Night	35-40%	N/A	\$\$	N/A	Medium
	Road Reconfiguration (Road Diet)	X	X				X														All	35%	N/A	\$\$\$	N/A	Medium
	Install Sidewalks	X	X															X	X	X	Pedestrians/ Bicyclists	80%	N/A	\$\$	N/A	High
	Medians and Pedestrian Refuge Islands	X	X															X	X		Pedestrians/ Bicyclists	45%	N/A	\$\$	N/A	Medium
	Rectangular Rapid Flashing Beacons (RRFB)	X	X															X	X		Pedestrians/ Bicyclists	35%	N/A	\$\$	N/A	Medium
	Pedestrian Hybrid Beacons	X	X															X			Pedestrians/ Bicyclists	55%	N/A	\$\$\$	N/A	Low
	Improved Signage and Striping at Stop-Controlled Intersections				X														X	X	All	15-25%	N/A	\$	N/A	Very High

1. For Policy and Behavioral countermeasures, Effectiveness, Cost, and Implementation Time sourced from NHTSA Countermeasures That Work: <https://www.nhtsa.gov/book/countermeasures/countermeasures-that-work>
2. For Infrastructure countermeasures, Crash Type, CRF, Cost, and Systemic Opp sourced from Caltrans Local Road Safety Manual, 2024: <https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/hsip/2024/lrsm2024-v2.pdf>
* NHTSA estimates not evaluated in a CA specific context.

High Priority Areas

Bicyclists

Pedestrians

Impaired Driving

Intersections

Lane Departures

Speed Management/Aggressive Driving

Focus Areas

Aging Drivers

Commercial Vehicles

Distracted Driving

Driver Licensing

Emerging Technologies

Motorcyclists

Occupant Protection

Young Drivers

Work Zones

Countermeasure		High Priority Areas						Focus Areas									Functional Class				Other Attributes ^{1 2}							
																			Interstate/ Freeway	Arterials	Collector	Local	Crash Type	CRF	Effectiveness	Cost*	Implementation Time	Systemic Opp
INFRASTRUCTURE	Signal Hardware Improvements				X		X													X	X		All	15%	N/A	\$\$	N/A	Very High
	Roundabouts	X	X		X		X													X	X	X	All	Varies	N/A	\$\$\$	N/A	Low
	Protected Left-Turn Phasing at Signalized Intersections				X															X	X		All	30%	N/A	\$\$	N/A	High
	Dedicated Left-Turn Lanes at Intersections				X															X	X		All	55%	N/A	\$\$\$	N/A	Low
	Install or Rehabilitate Marked Crosswalks	X	X		X															X	X		Pedestrians/ Bicyclists	25-35%	N/A	\$\$	N/A	Medium-High
	Leading Pedestrian Interval (LPI)	X	X		X															X	X		Pedestrians/ Bicyclists	60%	N/A	\$\$	N/A	Very High
	Rumble Strips					X														X	X		All	15-20%	N/A	\$	N/A	High
	Wider Edge Lines					X														X	X		All	25%	N/A	\$\$	N/A	Very High
	Median Barriers					X														X	X		All	25%	N/A	\$\$\$	N/A	Medium
	Curve Advance Warning Signage					X														X	X		All	25%	N/A	\$	N/A	Very High
	Retroreflective Chevron Signs at Curves					X														X	X		All	40%	N/A	\$	N/A	Very High
	Guardrails and Impact Attenuators at Curves					X														X	X		All	25%	N/A	\$	N/A	High
	Flatten Side Slopes (SafetyEdge)					X														X	X		All	30%	N/A	\$\$	N/A	Medium
	Dynamic Speed Feedback Signs	X	X				X													X	X	X	All	30%	N/A	\$	N/A	High
	Speed Safety Cameras (Dependent on Legislation)	X	X				X													X	X	X	All	20%	N/A	\$\$	N/A	High
	Variable Speed Limits						X												X	X	X		All	30-65%	N/A	\$\$	N/A	High
	Install/Upgrade Signs with Fluorescent Sheeting					X		X											X	X	X	X	All	15%	N/A	\$	N/A	Very High
	Speed Safety Cameras in Work Zones (Dependent on Legislation)	X	X				X											X	X	X			All	10-50%	N/A	\$\$	N/A	High
	Install Emergency Vehicle Pre-emption Systems											X							X	X			Emergency Vehicles	70%	N/A	\$	N/A	High

1. For Policy and Behavioral countermeasures, Effectiveness, Cost, and Implementation Time sourced from NHTSA Countermeasures That Work: <https://www.nhtsa.gov/book/countermeasures/countermeasures-that-work>

2. For Infrastructure countermeasures, Crash Type, CRF, Cost, and Systemic Opp sourced from Caltrans Local Road Safety Manual, 2024: <https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/hsp/2024/lrsm2024-v2.pdf>

* NHTSA estimates not evaluated in a CA specific context.

6. ACTION DEVELOPMENT

Each Challenge Area Team will work with their Challenge Area Consultant Team Liaisons and other Challenge Area Teams to collaboratively develop actions that provide opportunities to address their unique or overlapping critical safety problems. Challenge Area Teams will use crash data, subject matter expertise, and resources provided by the SHSP Support Team to guide action development. The SHSP focuses on cost-effective and systemic actions that can achieve the highest impact with limited resources and that align with the latest safety guidance.

Each SHSP action is reviewed by the SC and approved by the EL for inclusion in the Implementation Plan. To establish greater collaboration, each action is required to be led by two different organizations. Challenge Area Teams are also encouraged to collaborate on actions to foster broader perspectives on safety issues and a variety of solutions spanning different areas of expertise that have an overlapping interest in and impact on the actions. Though this may lead to fewer SHSP actions overall, each action may receive more implementation support and potentially have a greater impact on safety within California.

An evaluation of the 2020–2024 action development and implementation process was performed to identify key contributors to the success of some of the most impactful actions for integration into the current SHSP cycle. The following is a summary of the key takeaways for successful high-impact actions:

- **Problem identification:** Action Leads¹ clearly defined the roadway safety issue they were looking to address and how it contributed to FSI crashes using quantitative data.
- **SSA alignment:** Actions addressed multiple SSA principles and had a clear and direct tie to at least one SSA element.
- **Solution-focused:** Action Leads utilized a proven solution for the problem they identified or completed research to test innovative solutions.
- **Goal-driven:** Action Leads created quantitative goals and worked with leadership at their agencies to achieve them.
- **Committed resources:** Action Leads considered potential obstacles and worked with leadership at their agencies to verify that staff, funding, and other resources were available to complete the action.
- **Consistent reporting:** Action Leads frequently provided updates on action progress, including quantitative progress towards their stated goals and associated performance measures.

The SHSP has incorporated these factors into the updated action development process to build on these successes and further enhance safety for all modes of travel on California's public roadways.

6.1 Action Development Process

The action development process provides a systematic framework for creating data-driven safety initiatives that directly address identified road safety issues. Each action must align with at least one strategy from the SSA and prioritize the use of proven countermeasures documented in safety research publications or the evaluation of innovative solutions that advance road safety. The process requires clear performance measures and committed Co-Action Leads. These Co-Action Leads, who are supported by other Challenge Area members, have the authority and resources to implement solutions effectively. Representing their

¹. Action Leads are people identified to lead implementation of individual actions, with support from other Challenge Area members.

respective agencies, Co-Action Leads emphasize inclusivity and responsiveness to end-user needs, while fostering collaboration between Challenge Area partners to maximize safety improvements for all road users.

Figure 16 identifies the action development process and explains the steps involved.

Figure 16: Action Development Process Flow Chart



Identify Lead Challenge Area(s)

- The Co-Lead of the Challenge Area that submits draft proposed Actions will be responsible for submitting actions for consideration and include other Challenge Areas that may be involved in the development process.

Data Analysis/Identify Problem

- Actions should directly or indirectly address a data-backed roadway safety issue, or identify data gaps. Resources for problem identification include Challenge Area Fact Sheets, The Crash Data Dashboard, High Injury Networks (HIN) (regional or local), and related plans from partner agencies.

Choose a Strategy

- Strategies have been identified to assist in the development of data-driven Actions. Strategies reference specific elements and principles of the SSA. Each Action must be aligned with at least one strategy.

Identify a Proven or Innovative Solution

- **Proven solution:** To implement the SSA and reduce fatalities and serious injuries, it is imperative to maximize the use of countermeasures with proven effectiveness. Challenge Area Teams are strongly encouraged to consider Actions that are consistent with approaches documented in safety-related resources.
- **Innovative solution:** The SHSP also recognizes that research and technology play key roles in improving safety on all roadways. In some cases, that research and technology may highlight promising solutions that have not had the benefit of deep analysis and testing, but show potential in addressing challenges. Being future-focused will create an environment conducive to laying the groundwork for new safety technologies and solutions.

Develop Performance Measures

- Performance measures will provide key milestones of achievement to measure progress toward completion of the action. The identified performance measures will be reviewed regularly for progress and assessment.

Develop Action Statement and Identify Co-Action Leads

- Action statement should describe what the completed action will be once completed. The statement should be succinct and descriptive enough that it is clear in what it will deliver.
- Identified Co-Action Leads have organizational support, authority, and ability to commit resources to complete the action and collect data for performance measures. Relevant partners and impacted stakeholders should be considered for possible Co-Action Lead roles.
- Consider the cost, timeline, and geography of the action when identifying Co-Action Leads.

Identify Challenge Area Partners

- Challenge Area overlaps and primary crash factors have been identified through data analysis, which is available in the Challenge Area Fact Sheets. These identified overlaps may be helpful in bringing together other Challenge Areas that compliment actions naturally.

Refine Actions with Challenge Area Liaisons

- Throughout the action development process, Challenge Area Consultant Team Liaisons are available to support the Co-Leads and Co-Action Leads.

6.2 Action Development Forms

In order to verify that all steps of the action development process are considered before an action is incorporated into the Implementation Plan, actions will be submitted through online Action Development Forms that are reviewed by Challenge Area Co-Leads, Co-Action Leads, and Challenge Area Liaisons. There are two forms: The Action Initiation Form, and an Action Development Form.

The [Action Initiation](#) Form asks higher-level questions focused on the preliminary stages of action development. Challenge Area Co-Leads, Challenge Area Liaisons, and potential Co-Action Leads will collaborate to use the form responses from the Challenge Area team members to generate potential actions. This form is shorter in length and required detail compared to the Action Development Form. Those interested in suggesting an action can coordinate with the Challenge Area Liaisons to obtain access to the form.

The [Action Development](#) Form contains all the details required to submit an action for final consideration. The Action Development Form can be used without first submitting an Action Initiation Form if the Challenge Area Co-Leads are comfortable with the process and, through consultation with their Challenge Area, have addressed all parts of the form.

6.3 SMART Guidelines

To develop impactful Actions and prioritize effective countermeasures, Actions should be data-driven, foster collaboration, and clearly articulate importance and intended outcome. To increase the likelihood of effective implementation, all Actions should be “SMART,” as defined below.

Specific – clear Action statement

- Actions must address a data-driven FSI safety issue and identify a clear path to improvement.
- All Actions must align with an SSA strategy.

Measurable – identified performance measures

- Actions should have clear measures to indicate progress and completion.
- Performance measures should be updated quarterly.

Achievable – committed resources by responsible organization(s)

- Actions should include resource needs, responsibilities, and clearly defined potential obstacles.
- Resources include, but are not limited to, funding and availability of staff.
- Those responsible for Action implementation will be identified as Action Leads to document and resolve potential obstacles.

Relevant – data-driven issues with statewide significance and proven countermeasures

- Actions will utilize proven safety countermeasures to double down on what works or justify an innovative approach to accelerate advanced technology.

Time Constrained – achievable within the SHSP time frame

- Actions should be completed within the five-year lifespan of the SHSP update.
- Bold and innovative ideas that may extend beyond the 2025–2029 SHSP timeframe should be broken down into achievable steps that can be completed within the lifespan of the Implementation Plan.

6.4 Performance Measures

Investment in monitoring, performance tracking, and evaluation are vital to assessing the effectiveness of safety improvement efforts. Actions need to have clear and achievable performance measures that will be updated quarterly by Co-Action Lead organizations to establish quantifiable evaluation criteria. To facilitate this reporting, the SHSP developed an internal-facing Action Tracking Tool, where Challenge Area and Co-Action Leads can provide status updates and revise performance measures. Challenge Area Consultant Team Liaisons will follow up with responsible agencies as needed, and progress will be reported to the SC by the Challenge Area Team Co-Leads on a rotating basis. This enables action progress tracking and monitoring so that adjustments can be made to the action approach as needed to meet the defined deadlines.

The SHSP recognizes it is difficult to link individual measures with specific impacts on FSI, and seeks to develop ways to better evaluate the predicted crash reductions associated with strategic, policy, and planning-level actions. The impact of these high-level actions could be roughly approximated by gathering data related to the scope of the issue within the state. For example, since Transportation Injury Mapping System (TIMS) crash data shows 32% of FSI crashes involve Speed Management/Aggressive Driving as a crash factor, speed safety cameras could be an effective way to improve safety. Monitoring Speed Management/Aggressive Driving crash data in areas where those are implemented could provide more insight into potential safety benefits statewide.

7. IMPLEMENTATION PROCESS

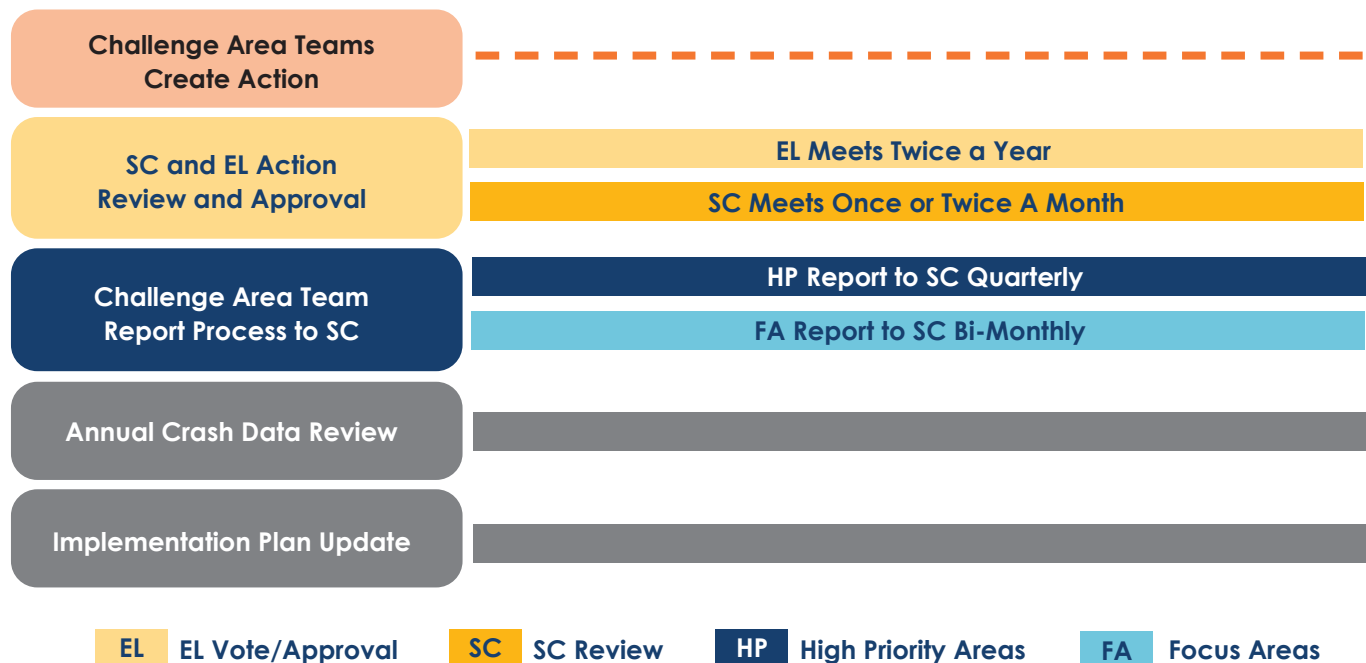
The development of the SHSP and Implementation Plan promotes a multidisciplinary and collaborative approach to improving roadway safety. The SHSP provides and promotes effective strategies and innovative efforts that facilitate partnerships with stakeholders and align with the SSA and SMART Guidelines to achieve its goal.

7.1 Ongoing Action Development

It is anticipated that each Action will require unique levels of involvement, assistance, and resources to reach completion. Implementation of some Actions may be completed within a year, while others may require a longer timeframe to make significant progress. Throughout the 2025–2029 SHSP period, Challenge Area Teams will work to implement Actions and provide regular progress updates to the SC. The implementation process is open to new Actions throughout the lifespan of the 2025–2029 SHSP Implementation Plan. As new data, emerging issues, and countermeasures arise, Challenge Area Teams will be provided with that information. If problem identification results in new Actions, they will be added to the Implementation Plan.

Additional Actions will be vetted through Steering Committee review at periodic intervals and approved by the EL at bi-annual meetings.

Figure 17: Ongoing SHSP Action Development and Implementation



7.2 Stakeholder Engagement

The SHSP includes extensive stakeholder engagement and outreach activities so that the Plan represents the diverse needs and interests across the entire state. There is a collaborative organizational structure in place that supports the development and implementation of the SHSP throughout the life of the Plan. SHSP development and implementation includes over 1,390 safety stakeholders from more than 530 federal, state, regional, local and tribal organizations as well as advocates and Community Based Organizations (CBOs).

7.2.1 Executive Leadership, Steering Committee, and Challenge Area Team Engagement

The SHSP governance structure includes the EL, SC, and Challenge Area Teams. There are currently just under 30 organizations that reside on the EL and SC, comprised of local, state, regional, and federal agencies along with non-governmental organizations (NGO) and CBOs.



The EL provides direction and final approval on all SHSP policies, procedures, and proposed actions, and engages support from multiple agency executives. The EL works collaboratively with the SC to identify strategies to implement the SHSP and identify Challenge Area best practices. EL members communicate directly with and provide direction to SC representatives. With the support of the SC, the EL makes informed policy decisions that improve safety for California. The SC establishes the strategies and processes to implement the SHSP and provides oversight for Challenge Area Teams as well as collaboration with them to discuss best practices, data trends, and data needs. The SC is required to regularly communicate, share updates with, and seek direction from the EL.

The Challenge Area Teams evaluate relevant data, track best practices related to their respective Challenge Area, and are responsible for the development and completion of actions in the Implementation Plan. California's 16 SHSP Challenge Area Teams are comprised of representatives from federal, state, regional, local, tribal, and advocacy organizations as well as subject matter experts. All Challenge Area Team representatives are responsible for leading the efforts to identify and implement safety actions at the state and local levels.

In addition to the actions identified by the SHSP Committees and Challenge Area Teams, other innovative approaches to stakeholder engagement and outreach will be considered throughout the implementation of the SHSP. Additional individual outreach will be conducted with public, private, and/or advocacy, non-profit, and community-based organizations to increase membership on Challenge Area Teams and participation in the SHSP process. Future stakeholder outreach activities may include, but are not limited to, the following:

SHSP Statewide Safety Summit

Purpose: To convene state leadership and SHSP partners to discuss emerging road safety issues and provide opportunities to foster relationships and innovative responses to evolving road safety challenges.

SHSP Regional Workshops

Purpose: To provide a collaborative workshop environment for safety practitioners and partners to work through region-specific technical topics. These regional events will provide the forum to share best practices and innovative approaches.

SHSP Tribal Government Summits and Workshops

Purpose: To supplement the regional workshops by engaging tribal governments, with a focus on safety related tribal issues, priorities, and countermeasures.

Partner Agency/ Organization Conferences and Meetings

Purpose: To meet people where they are, and enhance awareness of and increase participation in the SHSP implementation process.

Webinars and Other Training Opportunities

Purpose: To provide convenient, accessible, and cost-effective ways for stakeholders to enhance their knowledge and skills without the need for travel or physical attendance to support implementation of the SHSP.

Additional Individual Outreach

Purpose: To be conducted with public, private, and/or advocacy, non-profit, and community-based organizations to increase membership on Challenge Area Teams and participation in the SHSP process, in addition to the above outreach activities.

7.3 Integration

The greatest potential for success in reducing FSI requires integrating the SHSP with local, regional, and other statewide plans, safety initiatives, and activities. The Implementation Plan supports strategic efforts by partner organizations to develop safety plans and initiatives that align with SHSP strategies and actions.

Collaborative opportunities to implement effective safety countermeasures have been strongly encouraged through the involvement of federal, state, regional, local, tribal, and CBO partners in the development of the Implementation Plan. Through these stakeholders' involvement, opportunities for partnership, collaboration, and synergies for implementation have been identified and will continue to develop. A diverse group of agencies and professionals involved in each Challenge Area and in broader stakeholder outreach efforts will encourage ownership and the adoption of actions throughout the broader traffic safety community.

When safety organizations concur with the priorities outlined in the SHSP, these priorities should be reflected in the stakeholders' plans and activities. The SHSP priorities and strategies provide direction for development of safety plans in California, including HSIP, the OTS 3HSP, the OTS California Annual Report, the Commercial Vehicle Safety Plan (CVSP), Local Roadway Safety Plans (LRSP), the Regional Transportation Plan (RTP), and OTS Annual Grant Applications.



Photo Courtesy of the Southern California Association of Governments (SCAG)



Photo Courtesy of Kimley-Horn

7.4 Evaluation

Evaluation is critical to understanding which countermeasures are working and worthy of continued investment, and which are less effective and need to be modified or discontinued. As part of the SHSP effort, a review of process and action performance will be undertaken over the course of the five-year plan, including the following:

- **Conduct an annual process evaluation to examine roles, responsibilities, and process activities undertaken as a part of the SHSP.** The SSA should be considered as actions are identified to verify that the actions align. This includes evaluating the resources being allocated as well as the timeline for monitoring, evaluating, and communicating SHSP performance data to key leadership and the public. In this way, California will encourage safety resources that are focused on the strategies and actions that generate the best results.
- **The performance measures identified for each action are to be reviewed regularly for progress against their performance guidelines and targets.** An online tracking tool, accessible to SC members and Challenge Area Co-Leads, has been created to provide a centralized forum for updates and communication on the progress of all actions. Tracking implementation progress provides the EL and/or SC with feedback about current action status and outcomes, allowing those involved to determine whether modifications or new actions are needed.
- **Statewide and regional performance data for each Challenge Area are to be updated annually and compared with information from previous years to assess trends.** Reviewing state and regional data trends and annual safety performance targets on a regular basis will help leadership and Challenge Area Teams gauge progress toward California's goal of zero fatal and serious injuries. High Priority Challenge Areas will undergo more in-depth discussions on annual trends to closely monitor these critical issues.
- **The comprehensive Mid-Term Evaluation will include input from stakeholders and a review of potential action amendments/modifications for the Implementation Plan.** A portion of the evaluation will involve determining whether actions are contributing to meeting the interim targets.

Instilling a culture of ongoing evaluation will best help California safety leaders measure the state's progress toward eliminating FSI crashes. Through the process of collecting, reviewing, and evaluating relevant safety data, leadership and stakeholders will gain significant insight into the impacts of chosen actions on the overall traffic safety picture in California. With ongoing evaluation and feedback, the Implementation Plan can be modified and updated to better respond to emerging traffic safety issues and trends.

7.4.1 Stakeholder Roles and Responsibilities

SHSP stakeholders are comprised of three main entities, with varying roles and responsibilities. These stakeholders are responsible for the development of actions. Specific roles and responsibilities are outlined below:

EL		
Provides direction and approval on SHSP policies and procedures and engages support from multiple agency executives		
SC		
Establishes the strategies and processes to implement the SHSP and provides oversight for the Challenge Area Teams		
CHALLENGE AREA TEAMS		
Evaluate relevant data and track best practices related to their area and are responsible for the development and completion of Actions in the Implementation Plan		
CO-LEADS	CO-ACTION LEADS	MEMBERS
Guide Challenge Area Teams to assist in the development and implementation of their specific Actions	Lead implementation of the individual actions, with support from team members	Help coordinate, develop, and implement Actions with Challenge Area Team and Co-Leads

7.4.2 Executive Leadership Member Responsibilities

The EL members are leaders in California's traffic safety efforts and are critical to the guidance and collaborative process of the SHSP, reflecting the importance of road safety. Members are expected to execute the following responsibilities:

- **Provide input** into SHSP policies and procedures, review progress, offer advice and guidance, help leverage resources, address challenges, and remove barriers.
- **Establish opportunities** to improve safety on all public roadways.
- **Optimize safety implementation** by allocation, as feasible, of the personnel, revenue, and technical resources to safety initiatives.
- **Remove barriers** and overcome institutional boundaries within and between departments, agencies, and other organizations.
- **Serve as spokespeople** for the SHSP within their organization and in public forums.
- **Provide advance review, feedback, and approval** on actions prior to incorporating them into the Implementation Plan.
- **Incorporate, as appropriate**, the action items into each of their organization's strategic and/or other plans.

- **Recommend and designate** members for the SHSP SC.
- **Provide support and assistance** on SHSP strategies, as appropriate.
- **Provide leadership and partnership** in identification of future safety needs.
- **Oversee progress** on current and future SHSP policy initiatives.

7.4.3 Steering Committee Member Responsibilities

Members of the SC are critical to the oversight and organization of the SHSP process. The SC is expected to fully participate in the SHSP and provide suggestions and recommendations regarding the participation of their represented department, agency, or organization. SC members are expected to execute the following responsibilities:

- **Discuss action** implementation progress and coordinate next steps.
- **Provide assistance** to overcome barriers or solve problems.
- **Identify insurmountable problems or barriers** and report to the EL.
- **Attend regular SC meetings** that are monthly or bi-monthly (as needed).
- **Coordinate with and brief** their EL members prior to all EL meetings.
- **On an ongoing basis**, review the actions and determine if any should be approved, revised, or deleted; identify and adopt new actions where appropriate.
- **Provide oversight** to check that actions are completed and evaluate their effectiveness.
- **Vet related actions** through their organization management prior to their SHSP SC vote or present to the EL prior to being incorporated into the Implementation Plan.
- **Verify that actions** from their organization are resourced accordingly and proceeding on schedule and within scope.
- **Communicate changes** in staffing and verify that vacant SHSP positions from their organization are filled in a timely manner.
- **Develop recommendations** for decisions needed by the EL.
- **Verify that tribal considerations** are addressed within each Challenge Area.
- **Update other members** regarding related activities, including notifying them of any national, state, regional, or local news, as well as new research results, tools, or events.
- **Identify and discuss traffic safety data** needs and trends related to Challenge Areas and other road safety issues.
- **Verify that Challenge Area Teams** are effective in implementing actions.
- **Serve as a spokesperson** for the SHSP within their organization and in public forums.

7.4.4 Challenge Area Teams

Challenge Area Teams are a crucial element of road safety efforts in California. Each Challenge Area Team works with their Challenge Area Consultant Team Liaisons and other Challenge Area Teams to collaboratively develop actions that provide opportunities to address their unique or overlapping critical safety problems.

Challenge Area Teams include the following roles to keep progress moving forward:

7.4.4.1 Challenge Area Co-Leads

The Challenge Area Co-Leads are generally selected by management of the agencies most closely responsible for improving safety in that area. In some cases, Challenge Area Co-Leads may also be representatives of advocacy groups or associations with experience and an interest in improving safety in that area. Generally, there should be two Co-Leads for each Challenge Area Team: one from a state agency, and the other from a local agency. In some cases, a third Co-Lead from an advocacy group or other state/local agency can be identified. Co-Leads are responsible for informing the SC of any changes, barriers to accomplishing actions, or other items that would affect the individual Challenge Area or the SHSP.

Challenge Area Co-Leads are expected to execute the following responsibilities:

- **Attending quarterly Co-Lead meetings** in-person or via webinar/conference call.
- Coordinate with the Consultant Team Challenge Area Liaison to **schedule quarterly meetings** with the full Challenge Area Team to verify that SHSP actions are progressing and that the SHSP tracking tool is updated.
- **Check for representation** on their team from all aspects of the SSA.
- Coordinate with the Consultant Team Challenge Area Liaison to **communicate any issues** with action implementation to the SC. The SC will work with the Co-Lead(s) to take any necessary actions to address the issues.
- **Report progress** of SHSP actions to the SC, as scheduled.
- **Oversee completion of actions** specified in the Implementation Plan.
- **Verify that all SHSP tracking tool fields are updated** in a timely manner and with accurate detail. Specific actions may be delegated to Co-Action Leads so they can update the information in the tracking tool.
- Coordinate with the Consultant Team Challenge Area Liaison to **maintain the Challenge Area Team** contact list with updates for the SHSP tracking tool.
- **Respect the opinions** of all participants in the Challenge Area Team.

7.4.4.2 Challenge Area Co-Action Leads

The **Challenge Area Co-Action Leads** are responsible for pursuing the completion of specific actions and actively participating in the implementation of actions. Challenge Area Co-Action Leads are expected to execute the following responsibilities:

- **Coordinate and collaborate** with fellow Co-Action Lead(s) in the effort to progress the action.
- **Support and monitor** the progress and completion of the action as specified in the Implementation Plan under the direction of the Challenge Area Team Co-Lead(s).
- **Update all SHSP tracking tool fields** for the assigned action in an accurate and timely manner, if delegated by the Challenge Area Team Co-Lead(s).
- **Attend** Challenge Area Team meetings.
- **Report** on action progress to Challenge Area Team Co-Lead(s) quarterly.
- **Identify, invite, and promote** other Challenge Area Team Members to assist with actions when appropriate.
- **Respect the opinions** of all participants in the Challenge Area Team.

7.4.4.3 Challenge Area Team Members

The **Challenge Area Team Members** are responsible for helping coordinate and implement actions, as defined in the Implementation Plan. Challenge Area Team Members are expected to execute the following responsibilities:

- **Actively participate** in Challenge Area Team meetings.
- **Respect the opinions** of all participants in the Challenge Area Team.
- **Assist in the development** of strategies and actions that help eliminate FSI on all public roadways.

8. ACTIONS

The following pages provide a list of SHSP actions by Challenge Area. Actions must be approved by the SC and EL for inclusion in this Implementation Plan. Actions are tied to at least one strategy and associated with multiple Challenge Areas to foster collaboration. Each action addresses a data-backed safety issue and uses a proven or innovative safety countermeasure.

Lane Departures in Rural Tribal Areas (Approved by EL vote 05/07/2026)

Strategy – Safe Roads 4: Consider both the existing and future needs of all modes, including safety planning, design, operations, and maintenance programs for roadways.

Problem Identification: 56% of all FSI crashes that occur in tribal areas are attributed to Lane Departures, according to the SHSP Statewide Fact Sheet.

Action Description: Promote the installation of proven safety countermeasures that mitigate lane departure crashes (such as wider edge lines, rumble strips, curve signage, and guardrail) as well as address speed management issues in rural tribal areas.

✓ **Challenge Areas**

Impaired Driving, Lane Departures, Motorcyclists

✓ **Ability to Execute**

- **Co-Action Leads:** Shaila Chowdhury (Caltrans) and Misty Rickwalt (Tribal Representative)
- **Resources/Partners:** Caltrans/Tribes
- **Obstacles:** None expected
- **Planned completion:** 12/2028

FAST Referral Pilot Program

(Approved by EL vote 05/07/2026)

Strategy – Safe Speeds 3: Partners collaborate to ensure that speed limits are established according to the road's functional class and context, particularly considering vulnerable road user activity. Additionally, appropriate speed legislation, design, driver education, vehicle technology, and enforcement must support these limits.

Problem Identification: 56% of Speed Management/Aggressive Driving FSI crashes are primarily due to unsafe speed, according to data shared in the Challenge Area Fact Sheets.

Action Description: Support the FAST Pilot Program by measuring the program.

✓ **Challenge Areas**

Driver Licensing, Speed Management/Aggressive Driving

✓ **Ability to Execute**

- **Co-Action Leads:** Dr. Bayliss Camp (DMV) and Assistant Chief Eric Jones (CHP)
- **Resources/Partners:** DMV/CHP
- **Obstacles:** None expected
- **Planned completion:** 12/2027

DUI Task Force

(Approved by EL vote 05/07/2026)

Strategy – Safe Roads Users 2: Create and promote pro-social traffic safety culture whereby all road users recognize and accept responsibility to ensure the safety of others.

Problem Identification: 26% of all FSI crashes are attributed to Impaired Driving according to the Statewide Fact Sheet.

Action Description: Support the creation of a multi-agency, multi-jurisdictional DUI Task Force dedicated to enforcement through saturation patrols of DUI-related offenses along with other high-risk behaviors that have the most negative impact on road users and their safety.

✓ **Challenge Areas**

Impaired Driving, Intersections, Occupant Protection.

✓ **Ability to Execute**

- **Co-Action Leads:** Assistant Chief Eric Jones (CHP) and Chief Steven Shaw (Desert Hot Springs Police Department)
- **Resources/Partners:** CHP/DHSPD and others TBD
- **Obstacles:** None expected
- **Planned completion:** 12/2027