CALIFORNIA

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2023 ANNUAL REPORT

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Table of Contents

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23 U.S.C. 148(h)(4) states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for any purpose relating to this section[HSIP], shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location identified or addressed in the reports, surveys, schedules, lists, or other data.”

23 U.S.C. 407 states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.”

Executive Summary

Caltrans formed the Division of Safety Programs in 2020 to lead and champion the traffic safety paradigm shift throughout Caltrans. The historical processes and procedures of the State's HSIP are key components of implementing new safety strategies and Caltrans will use this HSIP Annual Report to identify opportunities to improve the HSIP process. The Office of Safe Systems Approach and Integration leads HSIP reporting under direction of the Chief Safety Officer and the Deputy Division Chief of Safety Programs for Road Safety.

Evolving the Safety Culture - Caltrans 2020-2024 Strategic Plan published including the Safe System Approach and a goal of zero fatalities and serious injuries. Embarked on a Road Safety Action Plan initiative to incorporate road safety into districts and divisions regular business processes.

The first Director's Policy on Road Safety (DP-36) commits Caltrans to achieving zero fatalities and serious injuries in California through adoption of the Safe System Approach (SSA). Division of Safety Programs (DOSP) worked with all 12 Caltrans districts and major headquarters divisions to establish a total of 26 Safe System Leads (SSLs) across the Department. DOSP partnered with the SSLs to collaboratively identify more than 150 actions to align the Department's policies, procedures, and practices with the SSA. Fourteen of these actions with statewide impact were included in the 2023-2024 Statewide Road Safety Action Plan (RSAP). More than 130 remaining actions are contained in the individual RSAPs for districts and headquarters divisions. The fourteen statewide actions are grouped into the following four categories:

Integration of Safety into Caltrans Policies

Best Practices Update

Data Collection and Database Management

Public Outreach

These actions lay the necessary foundation for Caltrans to facilitate successful implementation of the SSA throughout the department, and influence road safety outcomes throughout the state, to help California reach the goal of zero fatalities and serious injuries on state highways by 2050.

Caltrans Division of Safety Programs Strategic Plan 2023 – 2027 - This plan will guide transportation safety work across our division and all district safety programs for the next five years. The traditional expectation that roads should be designed to maximize vehicle throughput is increasingly challenged as we rethink the distinct needs of vulnerable road users, the exponential dangers of excessive speed, and the inequitable disparities in safety outcomes.

To address these challenges, we have adopted the Safe System approach, which emphasizes safety, responsibility, equity, and proactivity. The Safe System approach aims to eliminate fatal and serious injuries for all road users–people who drive, bike, walk, and use other modes. By focusing on creating forgiving roads that allow people to walk away from crashes, we are emboldened by the notion of no longer accepting fatalities and serious injuries as the price of mobility. The devastating impact of these tragedies extends far beyond the individuals directly impacted and includes their families, survivors, colleagues, and local communities.

A crucial part of our work is developing and managing the statewide transportation safety improvement and enhancement programs. We also serve as a center-of-excellence and provide leadership not only to all Caltrans divisions and districts, but also to other state and local agencies. We are committed to meaningful collaboration with these partners at every level. We recognize the enormity of our responsibility to lead the

charge towards safer roads in California. We look forward to working with our partners to help institutionalize the Safe System approach across California to reach the goal of zero deaths and serious injuries by 2050.

New Bicyclist Systemic Safety Improvement Program - Implemented a new, proactive traffic safety improvement program with the goal of substantially reducing bicyclist-related fatalities and serious injuries on the California State Highway System. The Program identifies and address's locations that may experience bicycle-related crashes based on specific roadway features that are associated with a particular crash type. The long-term goal of the Program is to substantially reduce bicyclist fatalities and serious injuries by providing blanket improvements that can be implemented at sites throughout the roadway network.

A Vulnerable Road User (VRU) Safety Assessment is being developed to identify safety improvement areas. The VRU Assessment will include a program of locations and strategies to improve VRU safety on state and local roads. This effort will support the objective of achieving zero fatalities on California's roads.

Equity - Formally incorporated Equity in the implementation of strategies and partnering across multiple divisions to develop an area-based Equity Index. The index will be used for equity considerations in safety needs and project identification and selection process.

Expanded methods to implement safety features quickly through Highway Maintenance projects –

Completed the two-year HM-4 Safety Pilot Program that utilizes the Highway Maintenance (HM) program to deliver pedestrian safety improvements, curve warning sign package installations, and wrong-way driver prevention PSCs (proven safety countermeasures) at 4,455 locations within FY 21/22 and FY 22/23. The outcome exceeded the performance target by 1207 locations. The program has been extended for another 4 years and expanded with $48.4M/year funding to include bicyclist safety, run-off-road, and**cross-over collision** prevention improvements.

Pivoted the California Strategic Highway Safety Plan - Published the SHSP 2020-2024 Update, which includes adopting the Safe System Approach and Equity as guiding principles. Moved to a more aggressive goal of "Zero Fatalities and Serious Injuries." Targeted 25 actions in five high priority challenge areas.

Increased access to crash data for traffic safety professionals and partners to support data-driven implementation of the SHSP. Crash Data Dashboard users can customize reports by location and other characteristics, including whether a fatal or serious injury crash occurred within five miles of a tribal boundary. The Dashboard also now features provisional, or unfinalized data, to provide stakeholders with more timely access to crash data. The provisional data is posted after 95 to 99 percent of the statewide data is reported for the Dashboard data categories. Developed/updated regional statewide fact sheets highlighting influential data findings related to each of the SHSP Challenge Areas that can be used to guide investments for safety improvements with the greatest potential to save lives and prevent serious injuries on all California roads.

The SHSP team greatly expanded stakeholder outreach to include hosting six fall Regional Virtual Workshops statewide, which culminated in holding the SHSP Transportation Safety Summit in Sacramento. Executive management from multiple agencies and disciplines engaged with federal, state, regional and local agencies to strengthen partnerships, share best practices and solicit input on implementing the SHSP. Input gathered from the workshops and Safety Summit will be used to improve SHSP planning processes and reach out to even more stakeholders from various organizations and industries.

Introduction

The Highway Safety Improvement Program (HSIP) is a core Federal-aid program with the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads. As per 23 U.S.C. 148(h) and 23 CFR 924.15, States are required to report annually on the progress being made to advance HSIP implementation and evaluation efforts. The format of this report is consistent with the HSIP Reporting Guidance dated December 29, 2016 and consists of five sections: program structure, progress in implementing highway safety improvement projects, progress in achieving safety outcomes and performance targets, effectiveness of the improvements and compliance assessment.

Program Structure

Program Administration

Describe the general structure of the HSIP in the State.

Caltrans' Division of Safety Programs administers the Highway Safety Improvement Program (HSIP) for the State Highway System (SHS) and the Division of Local Assistance administers the HSIP funds for local and tribal roads.

Where is HSIP staff located within the State DOT?

Other-Headquarters and District Division of Safety Programs and Division of Local Assistance

How are HSIP funds allocated in a State?

- Central Office via Statewide Competitive Application Process
- SHSP Emphasis Area Data
- Other-Funds Set Aside

Describe how local and tribal roads are addressed as part of HSIP.

The Caltrans Division of Local Assistance (DLA) uses an in-house HSIP application benefit-cost tool, called HSIP Analyzer, to provide a consistent, data-driven methodology for ranking local roadway (non-State owned and operated) project applications on a statewide basis. DLA also provides the Local Roadway Safety Manual for California local road owners and directly incorporates information from UC Berkeley's Transportation Injury Mapping System web site to assist applicants applying for local HSIP funds. These tools and resources encourage local agencies to proactively analyze their roadway networks for the highest crash locations to develop and submit applications with the greatest chance of reducing fatalities and serious injuries using low cost proven systemic countermeasures. The DLA HSIP application process is also open and available to the tribes that would like to submit an application for HSIP funds. DLA also provides set aside funding for low-cost systemic countermeasures where collisions are not required as part of the application. Funding is limited for each set aside and one application for each set aside per agency. For Cycle 11, the set aside countermeasures were, installing edge lines, guardrail upgrades, pedestrian crossing enhancements and bicycle safety improvements and tribal governments had their own funding set aside. For the tribal government set aside, they were able to select any of the set asides to install on their tribal roads.

To encourage the Local Public Agencies (LPAs) analyze their roadway network, take a proactive approach to addressing safety needs and demonstrate agency responsiveness to safety challenges, DLA requires the applicants have completed a Local Roadway Safety Plan (LRSP) or its equivalent in order to submit applications starting from HSIP Cycle 11.

Identify which internal partners (e.g., State departments of transportation (DOTs) Bureaus, Divisions) are involved with HSIP planning.

- Design
- Districts/Regions
- Maintenance
- Operations
- Planning
- Traffic Engineering/Safety
- Other-Division of Research, Innovation, and System Performance

Describe coordination with internal partners.

We continually coordinate with our internal partners continually prioritizing safety, reflecting the pivot in safety culture with the adoption of the 4 Pillars of Traffic Safety. This coordination and 4 Pillars of Traffic Safety is a new approach to traffic safety and aims to reduce risk by accommodating predictable human error, rather than focusing on improving driver behavior. Through strong internal coordination, Caltrans looks to accomplish zero fatalities and serious injuries by 2050 using the guiding principles of the 4 Pillars of Traffic Safety.

The HSIP team aligns with the 2020-2024 Caltrans Strategic Plan, through supporting activities for the 4 Pillars of Traffic Safety. By leveraging proven practices, accelerating advanced technology, leading safety culture change, and advancing delivery of safety enhancements, the plans have a common goal to reduce fatalities and serious injuries.

Caltrans Division of Local Assistance also reports on HSIP improvement projects with standardized Proven Safety Countermeasures (PSC) used by local agencies.

Caltrans Headquarters analyzes collision data and produces annual reports for multiple collision monitoring programs along the SHS. These monitoring programs screen the network to identify locations to be investigated by the districts.

Identify which external partners are involved with HSIP planning.

- FHWA
- Local Government Agency
- Local Technical Assistance Program
- Regional Planning Organizations (e.g. MPOs, RPOs, COGs)
- Tribal Agency
- Other-Emergency Response Team

Describe coordination with external partners.

Meeting over the summer of 2023, State transportation leaders decided that achieving zero deaths and serious injuries on public roadways required a bold pivot with more focused efforts. The group agreed to institutionalize the following guiding principles into a revised SHSP to make the SHSP more reflective of new thought and safety strategies: Integrate Equity, Implement Safe System Approach, Double Down on What Works, and Accelerate Advanced Technology. Following the “Integrate Equity” principle, the SHSP increased participation from persons or agencies that represent traditionally underserved populations or stakeholders to ensure input and outreach is more inclusive.

As part of developing HSIP Implementation Plans for 2022 and 2023, the State has identified an opportunity to develop a strategic stakeholder engagement and communications strategy for the implementation of the SHSP, HSIP, and target setting to increase local and regional collaboration and participation in the process. This strategy will be developed through the collaborative process of the oversight structure of the SHSP and will be used to ensure that local and regional input is received at key decision points in the process related to target setting, HSIP and SHSP implementation.

In May 2023, the California Strategic Highway Safety Plan (SHSP) team hosted the 2023 Transportation Safety Summit in Sacramento, Calif. The summit achieved the following objectives:

Built off the momentum from the fall 2022 statewide six Virtual Regional Workshops discussing transportation challenges and opportunities for improving traffic safety.

Engaged with local/regional partner executive management to brainstorm ways to strengthen ties between the statewide Strategic Highway Safety Plan (SHSP) and local efforts.

Solicited input and encouraged participation in the SHSP.

Shared best practices and lessons learned.

Eighty-one people participated in the summit or about 77 percent of those who registered to attend. Most participants were from public agencies and local jurisdictions with some smaller groups from law enforcement, academic institutions, and advocacy and community-based organizations.

Some recommendations from the summit include the following:

Lack of funding

Modify or remove the local match requirement for safety-related efforts.

Provide flexible funding opportunities to implement proactive safety countermeasures.

Consider modifying funding requirements regarding cost-benefit analysis that allow for implementing proactive safety countermeasures.

Develop targets for funding allocations to ensure equitable distribution between rural and urban areas and by roadway type (State Highway System versus non-State Highway System).

Restrictive and/or Competitive Fund Sources

Consider changes to funding application process, including streamlining to make it easier for agencies to apply, incentivizing multi-agency collaboration and relaxing FHWA’s requirements regarding implementing proven safety countermeasures.

Provide education and support to agencies to assist with identifying funding for multimodal safety projects.

Consider non-competitive funding sources promoting more equitable distribution to smaller and historically underserved areas.

Lack of staff resources and expertise

Develop a pool of safety experts (consultants, state agency staff, etc.) available to local agencies for assistance.

Develop training programs that help bridge the gap when staff turnover occurs and educated staff on recent policy changes and technical developments.

Find ways to secure additional resources for staff doing safety-related work.

Lack of Timely and Detailed Data

Automate data collection and reporting processes.

Consider legislative change to require more timely reporting of crash data.

Provide additional resources for timely data collection and reporting.

Enhance data collection efforts, including using technology for near-miss data, demographic and socioeconomic data overlays and infrastructure-related safety data.

Lack of Buy-in (cultural change needed within organization)

Provide additional local and regional education/technical assistance on the Safe System Approach, proven safety countermeasures (most effective), and safety cameras.

Require regular safety training and testing for practitioners.

Lack of Collaboration/Partnerships (particularly with local agencies, CBOs, and Tribes)

More proactive collaborative planning for safety strategies that integrate with other local and regional plans.

Develop multi-agency, multi-jurisdictional, multimodal teams/committees to help streamline communication and coordination regarding safety strategies.

Identify roles/resources to support CBO and Tribal engagement.

Lack of Policy Implementation Support Recognizing Different Geographic Contexts and Needs (particularly for rural areas)

Enhance collaboration and provide additional support to rural areas relating to SB 743 implementation, multimodal facility planning, and development of systemic safety projects and associated funding applications.

Lack of Public Education to Help Encourage Mode Shift and Promote a Safety Culture

Provide additional public education regarding the following:

Challenge Areas with the highest fatalities and serious injuries along with the most effective safety strategies or countermeasures.

Implementation of new roadway features and technologies plus safety effectiveness and how to navigate them.

Promote the need for and safety benefits of automated enforcement (safety cameras).

Consider targeted public education that focuses on early education to younger people, considers differences in geographic context (rural vs. urban), and taps into other local multimodal planning efforts.

In September 2023, the SHSP Executive Leadership will review and consider these recommendations (and others) from the Safety Summit and provide input/direction on next steps for the California SHSP.

Describe HSIP program administration practices that have changed since the last reporting period.

High Risk Rural Roads (HRRR) and Vulnerable Road User (VRU) Special Rules were triggered in California in FFY 2022-23. Caltrans has scheduled regular meetings to coordinate the funding allocation between local roads and state highways under these two Special Rules. California was able to obligate all Special Rule funding in FFY 2022-23.

Program Methodology

Does the State have an HSIP manual or similar that clearly describes HSIP planning, implementation and evaluation processes?

Yes

Caltrans HSIP Guidelines 2022 are uploaded

Select the programs that are administered under the HSIP.

- Bicycle Safety
- HSIP (no subprograms)
- Local Safety
- Roadway Departure
- Wrong Way Driving
- Other-Crossover Collision Monitoring Program
- Other-Systemic Pedestrian State Highway System
- Other-Pedestrian HCCL State Highway System
- Other-Bicyclist Systemic Safety Improvement Program
- Other-Systemic Wrong Way

Program: Bicycle Safety

Date of Program Methodology:4/20/2018

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- FHWA focused approach to safety
- Other-High Collision Concentration Location

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes	Exposure	Roadway
• Other-Fatal and injury crashes only	• Volume • Lane miles	• Functional classification

What project identification methodology was used for this program?

- Crash frequency
- Crash rate

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-Bicyclist Safety Improvement Monitoring Report

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Other-meet minimum criteria:100

Program: HSIP (no subprograms)

Date of Program Methodology:9/20/2022

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- FHWA focused approach to safety

What is the funding approach for this program?

Funding set-aside

What data types were used in the program methodology?

Crashes	Exposure	Roadway
• All crashes	• Volume • Lane miles	

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Excess proportions of specific crash types
- Probability of specific crash types

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-Meets HSIP Data and Criteria

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Ranking based on B/C:100

Program: Local Safety

Date of Program Methodology:1/1/2015

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- FHWA focused approach to safety

What is the funding approach for this program?

Other-Competes with all other safety projects and set-aside funding

What data types were used in the program methodology?

Crashes	Exposure	Roadway
• All crashes		

What project identification methodology was used for this program?

- Crash frequency

- Other-Systemic approach

Are local roads (non-state owned and operated) included or addressed in this program?

Yes

Are local road projects identified using the same methodology as state roads?

No

Describe the methodology used to identify local road projects as part of this program.

Local Agencies take the lead in identifying projects within their own jurisdictions based on Local HSIP guidance

How are projects under this program advanced for implementation?

- Competitive application process

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Ranking based on B/C:1
Available funding:2
Other-set aside:1

Program: Roadway Departure

Date of Program Methodology:12/21/2022

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- FHWA focused approach to safety

What is the funding approach for this program?

Other-Funding set aside within HSIP funds

What data types were used in the program methodology?

Crashes

- Fatal and serious injury crashes only
- Other-Wet fatal and serious injury crashes only

Exposure

- Volume
- Lane miles

Roadway

- Functional classification
- Roadside features

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Other-Run Off Road Crash Monitoring Program Report

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-Run Off Road Crash Monitoring Program Report

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Relative Weight in Scoring

Other-see below:100
Total Relative Weight:100

PROGRAM CRITERIA
The statewide list of locations identified in the ROR Crash Monitoring Program is generated using the following TSAR criteria:
• Five Calendar Years of Data (01/01/2017-12/31/2021);
• File Type is Highway (H) (Facility Type);
• Severity only includes Fatal (F) and Serious Injury (SI);
• Solo Vehicle Crashes Only;
• Movement Proceeding the Collision is Ran Off Road (C);
• Primary Object Struck Median Barrier (16) is Not Included

Program: Wrong Way Driving

Date of Program Methodology:1/15/1985

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Other-Funding set-aside within HSIP funds

What data types were used in the program methodology?

Crashes

- All crashes

Exposure

- Volume
- Lane miles

Roadway

- Functional classification

What project identification methodology was used for this program?

- Crash frequency
- Crash rate

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-Wrong way Safety Improvement Monitoring Report

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Relative Weight in Scoring

Other-crash frequency and crash rate:100
Total Relative Weight:100

Program: Other-Crossover Collision Monitoring Program

Date of Program Methodology:1/15/2019

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Other-Funding set-aside within HSIP funds

What data types were used in the program methodology?

Crashes

- Fatal crashes only

Exposure

- Volume

Roadway

- Functional classification

- Lane miles

What project identification methodology was used for this program?

- Crash frequency
- Crash rate

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-All projects meeting established criteria can be programmed

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Other-All Projects meeting established criteria:100

The requested statewide TASAS Selective Accident Retrieval (TSAR) report for 2- and 3-lane cross centerline collisions includes the following criteria:
 The access control is conventional or expressway;
 A minimum of one vehicle from each opposing direction involved in a collision;
 Severity is fatal;
 Five calendar years of data; and
 Left-turn and U-turn collisions are excluded.
The requested statewide TSAR report for cross median collisions on facilities with greater than or equal to four lanes includes the following criteria:
 A minimum of two vehicles from opposing directions involved in a collision;
 Primary collision location is beyond median;
 Absence of a median barrier;
 Five calendar years of data; and
 Wrong Way collisions are excluded.

Program: Other-Systemic Pedestrian State Highway System

Date of Program Methodology:9/11/2020

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- FHWA focused approach to safety

What is the funding approach for this program?

Other-Funding set aside within HSIP funds

What data types were used in the program methodology?

Crashes

- Other-Fatal and Injury crashes only

Exposure

- Volume
- Population
- Other-Disadvantaged Community
- Other-Employment Data

Roadway

- Other-Intersections on the State Highway System
- Other-Number of Lanes on Mainline and Cross Street
- Other-Control Features

What project identification methodology was used for this program?

- Crash frequency
- Probability of specific crash types

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-Systemic Locations to be incorporated into existing SHOPP projects

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Relative Weight in Scoring

Other-See Below:100
Total Relative Weight:100

This report uses a proactive strategy to account for locations that may not have experienced any collisions. The systemic analysis was performed on intersection locations only, thus highway segments were not included. The systemic approach identifies locations that have been analyzed based on their statistical characteristic similarities of other roadway intersections that have experienced collisions. Locations that met certain factors as listed below were then selected and prioritized to review and implement countermeasures relevant to the location type.
University of California (UC), Berkeley Safe Transportation Research and Education Center (SafeTREC)

researchers created a script to integrate pedestrian-involved collisions with the current inventory of intersections on the SHS. The script provided an intersection matrix that summarized the number of pedestrian-involved collisions for intersections with similar roadway characteristics:

• Control Type: Signalized
• greater than 3 lanes on the mainline
• = 3 lanes on the cross street
• Average daily traffic less than 50,000 on the mainline
• Average daily traffic less than 12,000 on the cross street

Using ArcGIS software, the identified systemic locations were then prioritized using a point scoring system with the following factors and weights:

• Number of collisions (fatalities plus injuries) (55%)
• Estimated pedestrian volume based on UC Berkeley SafeTREC study results and American Community Survey population and employment data (25%)
• Disadvantaged community status based on CalEnviroScreen 3.0 (10%)
• Vulnerable populations (10%) consisting of:
o Senior (age 65 and older) population density based on the American Community Survey (2.5%)
o Youth (under age 15) population density based on the American Community Survey (2.5%)
o School proximity from the California School Campus Database (5%)

The inventory of intersections was filtered based on the five roadway characteristics mentioned above. The filtered list of systemic locations was then compared to a list of projects already programmed in the Asset Management tool. There were instances where a systemic location coincided with multiple programmed projects, which increases the possibility of including a safety project with an already programmed project. The increased possibility prioritized these systemic intersections higher on the list. The intent is to expedite the improvements on existing SHOPP projects and safety projects and not have them as standalone projects.

Program: Other-Pedestrian HCCL State Highway System

Date of Program Methodology:7/31/2020

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- FHWA focused approach to safety

What is the funding approach for this program?

Other-Funding set aside within HSIP funds

What data types were used in the program methodology?

Crashes

- Other-Fatal and Injury crashes only

Exposure

- Population
- Other-Disadvantaged Community

Roadway

- Other-Pedestrian - Related High Collision Concentration Locations (HCCLs)

- Other-Employment Data

What project identification methodology was used for this program?

- Crash frequency
- Other-Pedestrian Related HCCL

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-Pedestrian Safety Improvement Monitoring Program

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Relative Weight in Scoring

Other-See Below:100
Total Relative Weight:100

In collaboration with the Division of Research, Innovation and System Information, the identified HCCLs were then prioritized using a point-scoring system with the following factors and weights:
 Number of collisions (fatalities plus injuries) (50%)
 Estimated pedestrian volume based on UC Berkeley SafeTREC study results and American Community Survey population and employment data (25%)
 Disadvantaged community status based on CalEnviroScreen 3.0 (10%)
 Vulnerable populations (10%) consisting of:
o Senior (age 65 and older) population density based on the American Community Survey (2.5%)
o Youth (under age 15) population density based on the American Community Survey (2.5%)
o School proximity from the California School Campus Database (5%)
 Repeated crash characteristics based on identical primary collision factor (5%

Program: Other-Bicyclist Systemic Safety Improvement Program

Date of Program Methodology:12/2/2022

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- FHWA focused approach to safety

What is the funding approach for this program?

Other-Funding set-aside within HSIP funds

What data types were used in the program methodology?

Crashes	Exposure	Roadway
• Fatal and serious injury crashes only	• Volume • Population • Other-Disadvantage Community	• Other-median presences, barrier type • Other-one travel lane in each direction

What project identification methodology was used for this program?

- Crash frequency
- Probability of specific crash types

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-Systemic locations to be incorporated into SHOPP projects

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Relative Weight in Scoring

Other-See below:100
Total Relative Weight:100

The bicycle systemic approach identifies locations that have been analyzed based on their statistical characteristic similarities of other roadway intersections/roadway segment that have experienced collisions. Locations that met certain factors were then selected and prioritized to review and implement countermeasures relevant to the location type.

Program: Other-Systemic Wrong Way

Date of Program Methodology:3/16/2021

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Other-Funding set-aside within HSIP funds

What data types were used in the program methodology?

Crashes

- All crashes

Exposure

- Volume
- Lane miles

Roadway

- Functional classification

What project identification methodology was used for this program?

- Other-Wrong Way Notification

Are local roads (non-state owned and operated) included or addressed in this program?

No

Are local road projects identified using the same methodology as state roads?

How are projects under this program advanced for implementation?

- Other-All projects meeting established criteria can be programmed

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Relative Weight in Scoring

Other-All projects meeting established criteria :100
Total Relative Weight:100

What percentage of HSIP funds address systemic improvements?

60

HSIP funds are used to address which of the following systemic improvements?

- Add/Upgrade/Modify/Remove Traffic Signal
- Cable Median Barriers
- Clear Zone Improvements

- High friction surface treatment
- Horizontal curve signs
- Install/Improve Lighting
- Install/Improve Pavement Marking and/or Delineation
- Install/Improve Signing
- Other-Bicyclist Systemic Safety Improvement Program
- Pavement/Shoulder Widening
- Rumble Strips
- Safety Edge
- Upgrade Guard Rails
- Wrong way driving treatments

What process is used to identify potential countermeasures?

- Crash data analysis
- Data-driven safety analysis tools (HSM, CMF Clearinghouse, SafetyAnalyst, usRAP)
- Engineering Study
- Road Safety Assessment
- SHSP/Local road safety plan
- Stakeholder input
- Other-Benefit Cost Ratio

Does the State HSIP consider connected vehicles and ITS technologies?

Yes

Describe how the State HSIP considers connected vehicles and ITS technologies.

Caltrans is currently researching and reviewing connected vehicles and ITS technologies This includes existing studies at Caltrans as well as participating in the SHSP Emerging Technologies Challenge Area team, which is a new challenge area in the 2020-2024 California SHSP, for which Caltrans has designated a challenge area co-lead. Some examples of Caltrans' ongoing efforts are the establishment of a Smart Infrastructure Office to work on the Caltrans Statewide Connected and Automated Vehicle Implementation Plan, research on using near-miss technology to collect and evaluate traffic safety and research on the use of LIDAR to assess sight distance on highways. When the State HSIP has data on the application of emerging technologies, the state will incorporate these technologies into the HSIP.

Caltrans is also working with UC-Davis on an additional SHSP action item for Emerging Technologies. This action item is to demonstrate the effectiveness and reliability of Bosch Mobile Device App for Wrong Way Driver Detection and Warning with a pilot test under way by researchers in California.

Does the State use the Highway Safety Manual to support HSIP efforts?

Yes

Please describe how the State uses the HSM to support HSIP efforts.

The HSM guidance goal is to support the integration of predicted roadway safety performance considerations throughout the highway transportation planning and project development process. The HSM guidance is intended to supplement the information on which project decisions are currently based and is not intended to act as the only factor driving project decisions nor does it include every situation.

Describe program methodology practices that have changed since the last reporting period.

High Risk Rural Roads (HRRR) and Vulnerable Road User (VRU) Special Rules were triggered in California in FFY 2022-23. Caltrans has scheduled regular meetings to coordinate the funding allocation between local roads and state highways under these two Special Rules. California was able to obligate all Special Rule funding in FFY 2022-23.

Describe other aspects of the HSIP methodology on which the State would like to elaborate.

Local HSIP and State highway HSIP use the cost/benefit methodology as a qualifying criterion for HSIP funds with some differences. For State highway HSIP, the benefit/cost tool is called the traffic safety index. It is used for projects at spot locations. Local HSIP utilizes the benefit/cost methodology for both spot and systemic type of projects. The Local HSIP also utilizes set-asides for low-cost countermeasures. These set-asides do not require crash data to receive HSIP funding but are limited to a maximum dollar amount per agency and are limited to specific low-cost countermeasures. For cycle 11, which is the current call for Local HSIP projects, pedestrian crossing enhancements at non-signalized locations, bicycle safety improvements, edge line striping, guardrail upgrades, and tribal roads are set-aside categories that local agencies can select from.

Project Implementation

Funds Programmed

Reporting period for HSIP funding.

State Fiscal Year

Enter the programmed and obligated funding for each applicable funding category.

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED
HSIP (23 U.S.C. 148)	$395,683,000	$520,703,860	131.6%
HRRR Special Rule (23 U.S.C. 148(g)(1))	$17,563,128	$17,563,128	100%
VRU Safety Special Rule (23 U.S.C. 148(g)(3))	$40,221,412	$40,221,412	100%
Penalty Funds (23 U.S.C. 154)	$0	$0	0%
Penalty Funds (23 U.S.C. 164)	$0	$56,560,230	0%
RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))	$0	$0	0%
Other Federal-aid Funds (i.e. STBG, NHPP)	$0	$11,508,231	0%
State and Local Funds	$0	$0	0%
HSIP Local (23 U.S.C.148)	$82,616,286	$44,206,018	53.51%
Totals	$536,083,826	$690,762,879	128.85%

The Programmed amount $478,299,286 (State $395,683,000; Local $82,616,286) is the money made available for both the State and Local HSIP.

The Obligated amount $564,909,878 (State $520,703,860; Local $44,206,018) is the money made available for both the State and Local HSIP.

How much funding is programmed to local (non-state owned and operated) or tribal safety projects?

$82,616,286

How much funding is obligated to local or tribal safety projects?

$44,206,018

How much funding is programmed to non-infrastructure safety projects?

$0

How much funding is obligated to non-infrastructure safety projects?

$0

How much funding was transferred in to the HSIP from other core program areas during the reporting period under 23 U.S.C. 126?

$0

How much funding was transferred out of the HSIP to other core program areas during the reporting period under 23 U.S.C. 126?

$0

Discuss impediments to obligating HSIP funds and plans to overcome this challenge in the future.

No impediments to discuss. In previous annual reports, strategies were noted to improve delivery for Local HSIP and continue to be the standard practice to keep the on-time delivery at greater than 90%.

General Listing of Projects

List the projects obligated using HSIP funds for the reporting period.

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
01 MEN 001 PM 41.8/42.30	Shoulder treatments	Widen shoulder – paved or other (includes add shoulder)	1.5	Miles	$5806000	$5806000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	3,200	55	State Highway Agency	Spot	Lane Departure	

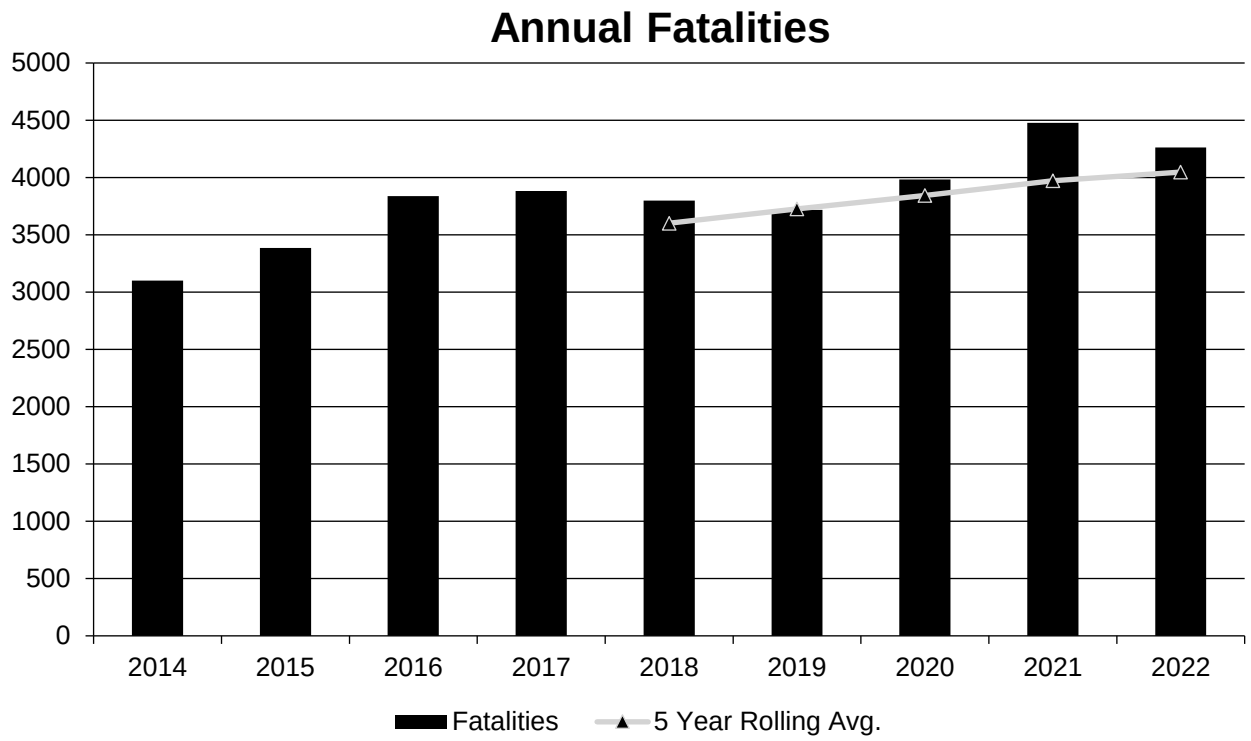
A full listing of HSIP state and local projects are included as attachments.

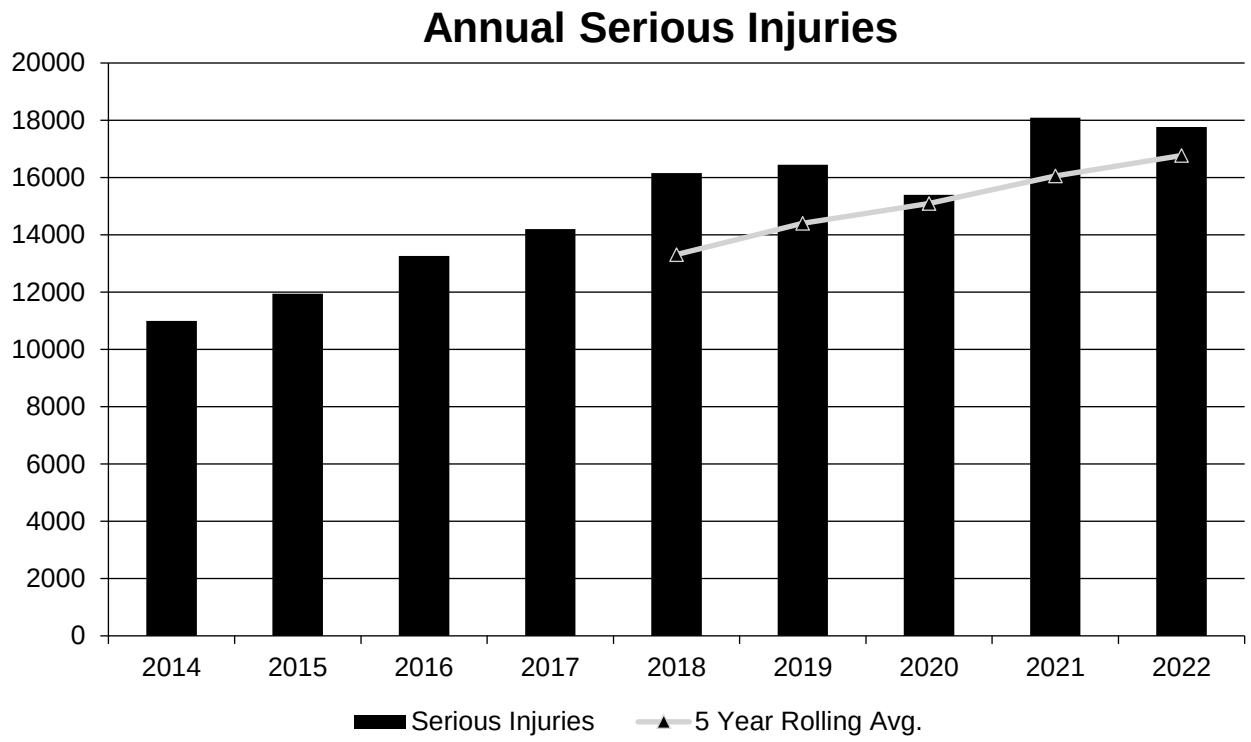
Safety Performance

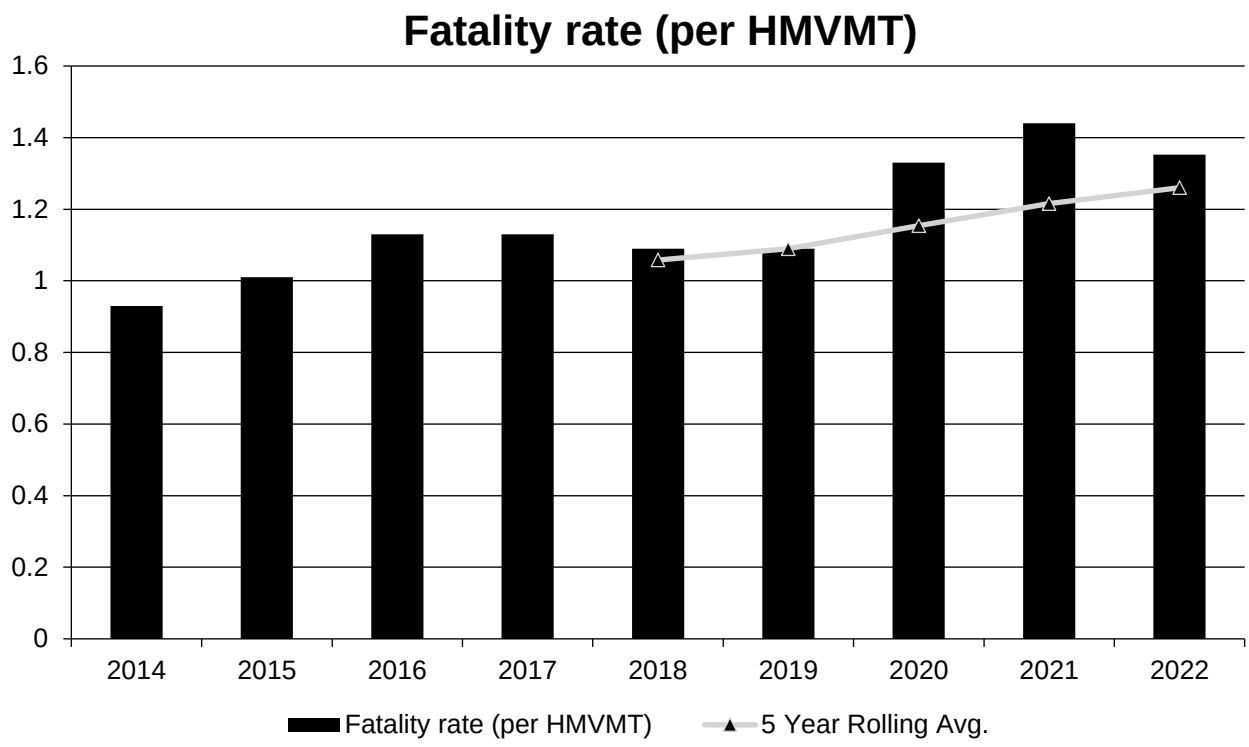
General Highway Safety Trends

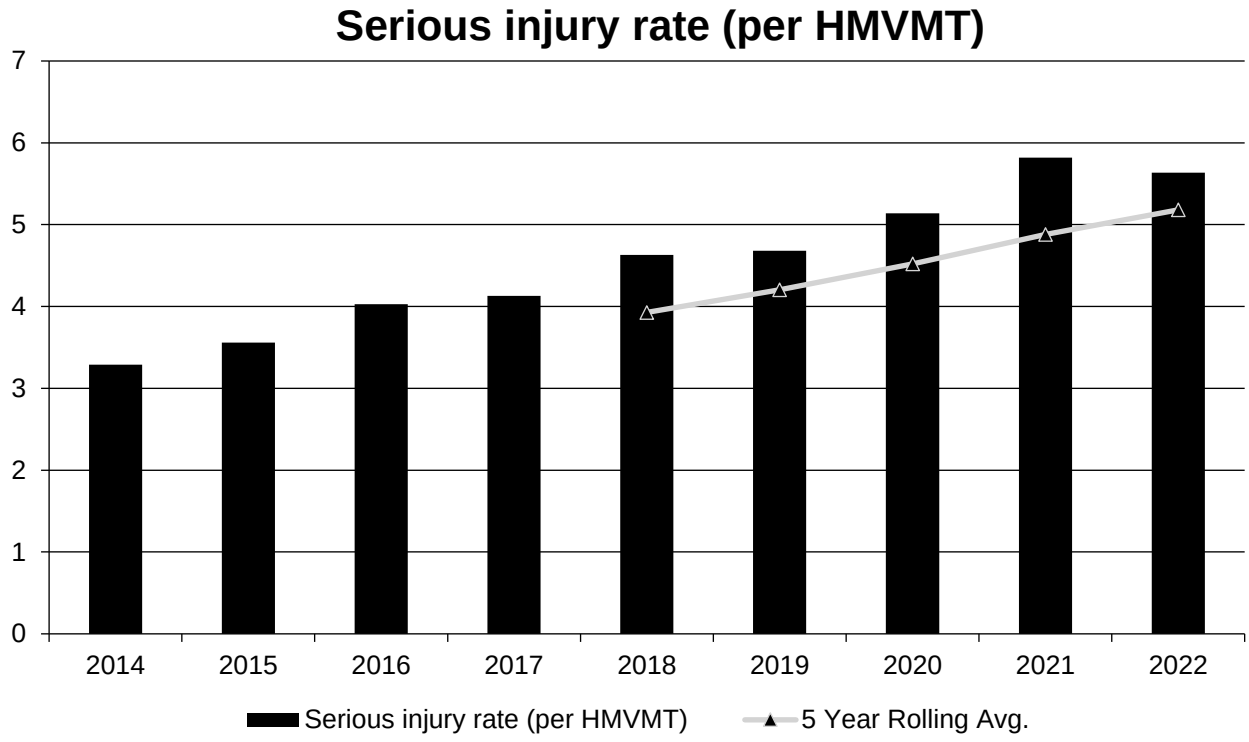
Present data showing the general highway safety trends in the State for the past five years.

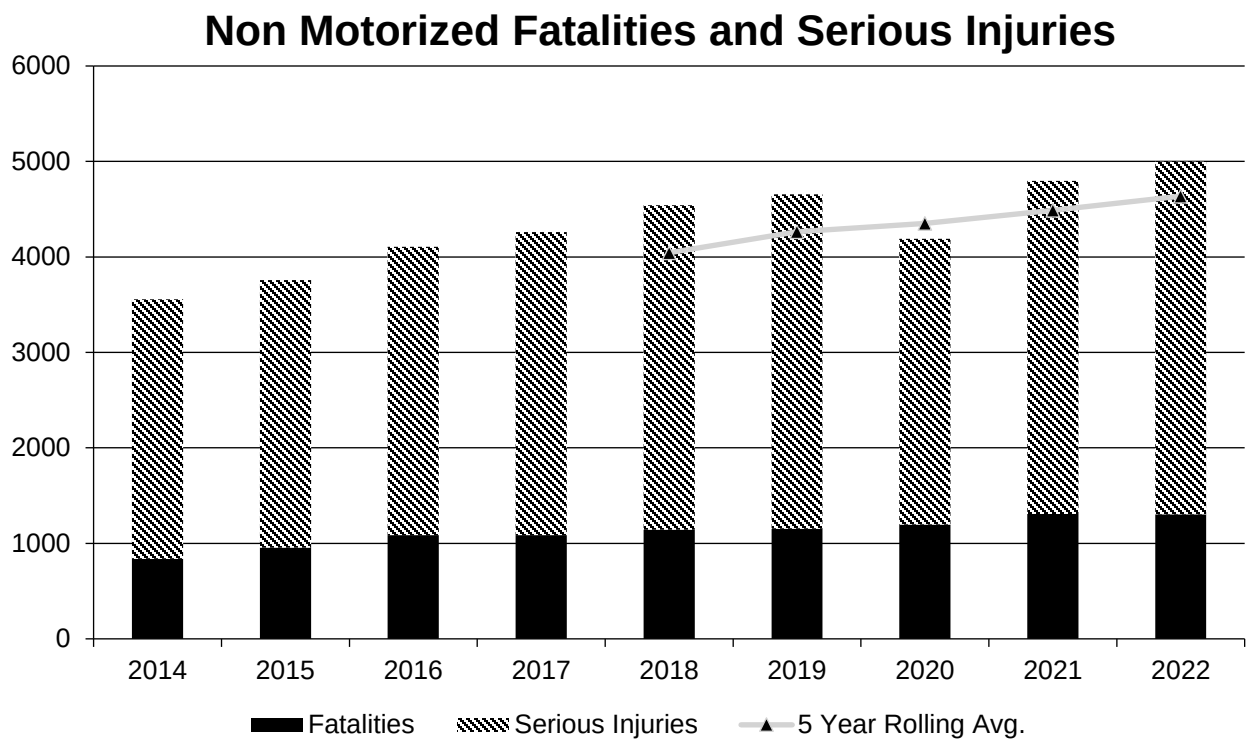
PERFORMANCE MEASURES	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fatalities	3,102	3,387	3,837	3,884	3,798	3,719	3,982	4,477	4,263
Serious Injuries	10,995	11,950	13,258	14,201	16,158	16,443	15,392	18,084	17,770
Fatality rate (per HMVMT)	0.930	1.010	1.130	1.130	1.090	1.090	1.330	1.440	1.352
Serious injury rate (per HMVMT)	3.290	3.560	4.030	4.130	4.630	4.680	5.140	5.818	5.637
Number non-motorized fatalities	838	955	1,088	1,085	1,143	1,154	1,196	1,309	1,305
Number of non-motorized serious injuries	2,717	2,803	3,017	3,175	3,399	3,503	2,995	3,487	3,693


Annual Fatalities
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
2014
2015
2016
2017
2018
2019
2020
2021
2022
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
2014
2015
2016
2017
2018
2019
2020
2021
2022
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2014
2015
2016
2017
2018
2019
2020
2021
2022
Fatality rate (per HMVMT)
5 Year Rolling Avg.


Serious injury rate (per HMVMT)
7
6
5
4
3
2
1
0
2014
2015
2016
2017
2018
2019
2020
2021
2022
Serious injury rate (per HMVMT)
5 Year Rolling Avg.



Fatality, Serious Injury, and VMT for 2022 numbers are preliminary.

Describe fatality data source.

FARS

The National Highway Traffic Safety Administration's Fatality Analysis Reporting System (FARS) is the fatality data source for years 2014-2021. The California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS) is the preliminary fatality data source for 2022. FARS will not report 2022 fatality data until the first quarter of 2024.

To the maximum extent possible, present this data by functional classification and ownership.

Year 2018

Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Principal Arterial (RPA) - Interstate				
Rural Principal Arterial (RPA) - Other Freeways and Expressways				

Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Principal Arterial (RPA) - Other				
Rural Minor Arterial				
Rural Minor Collector				
Rural Major Collector				
Rural Local Road or Street				
Urban Principal Arterial (UPA) - Interstate				
Urban Principal Arterial (UPA) - Other Freeways and Expressways				
Urban Principal Arterial (UPA) - Other				
Urban Minor Arterial				
Urban Minor Collector				
Urban Major Collector				
Urban Local Road or Street	0	0	0	0

Year 2021

Roadways	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
State Highway Agency	4,477	17,770	1.44	5.82
County Highway Agency				
Town or Township Highway Agency				
City or Municipal Highway Agency				
State Park, Forest, or Reservation Agency				
Local Park, Forest or Reservation Agency				
Other State Agency				
Other Local Agency				
Private (Other than Railroad)				
Railroad				
State Toll Authority				
Local Toll Authority				
Other Public Instrumentality (e.g. Airport, School, University)				
Indian Tribe Nation				

Data is not available at this time through Caltrans or California Highway Patrol. Looking to discuss with partnerships to be able to have data in the future.

Provide additional discussion related to general highway safety trends.

The annual trend in fatalities and serious injuries in 2021 is increasing. With the annual trend moving in the wrong direction, Caltrans continues to shift our safety paradigm by changing the organization, conversation, and the way we work. Safety is a shared responsibility, and we look to reverse the trend and move toward the long-term goal of zero fatalities and serious injuries by 2050.

Caltrans is working to implement the Safe System Approach (SSA) through implementing a new Director's Policy on Road Safety. The SSA to road safety is a fundamental shift in how we define the safety challenges, implement safety interventions, and evaluate progress. These include reframing core principles of our traditional safety approach in several ways. The SSA aims to eliminate fatal and serious injuries for all road users through a holistic view of the roadway system by affirming that fatal and serious injuries on the roadways can be prevented when safety is prioritized across all components of the road system. Caltrans' Division of Safety Programs has undertaken several initiatives to address several components of SSA: safe roads, safe speeds, and safe road use. For example, the ongoing Proactive Safety programs (Pedestrian Safety, Bicyclist Safety, and Wrong Way Driver) have embraced and implemented the principles of SSA.

Safety Performance Targets

Safety Performance Targets

Calendar Year 2024 Targets *

Number of Fatalities:4080.6

Describe the basis for established target, including how it supports SHSP goals.

NHTSA required the target setting methodology to show either a constant or an improved target in the Highway Safety Plan's triennial report. With the new triennial report requirement, OTS had to set a target for calendar year 2026. As the number of fatalities continued to trend in the upward direction, it would've been a challenge to use past data trends to show a constant or an improved 2026 target. It was decided to set the 2026 target as constant based on the five-year rolling average for calendar year 2021, which was the last reported year in FARS.

The FARS data points for calendar years 2017-2021 were used to determine the five-year rolling average for 2021, which was then used as the five-year rolling average for 2026 to align with OTS. The annual count for calendar years 2022, 2023, 2024, 2025, and 2026 were mathematically determined, so the 2026 target would be constant from calendar year 2021. The annual decrease of 2.84% was then determined based on the annual count for the number of fatalities. The 2024 target is based on the five-year rolling average of the annual counts for calendar years 2020, 2021, 2022, 2023, and 2024.

The annual decrease in the number of fatalities aligns with the goal of the California Strategic Highway Safety Plan (SHSP) to move toward zero fatalities and serious injuries. In March of 2021, the Federal Highway Administration apportioned $205 million dollars to California to fund safety projects that focus on reducing fatalities and serious injuries on California's roads under the Highway Safety Improvement Program. If the Vision Zero by 2050 was used as the projected trend, the 2024 target based on the five-year rolling average of the annual counts would have been 4038.2.

Number of Serious Injuries:16628.1

Describe the basis for established target, including how it supports SHSP goals.

NHTSA required the target setting methodology to show either a constant or an improved target in the Highway Safety Plan's triennial report. With the new triennial report requirement, OTS had to set a target for calendar year 2026. As the number of serious injuries continued to trend in the upward direction, it would've been a challenge to use past data trends to show a constant or an improved 2026 target. It was decided to set the 2026 target as constant based on the five-year rolling average for calendar year 2021, which was the last reported year in SWITRS.

The SWITRS data points for calendar years 2017-2021 were used to determine the five-year rolling average for 2021, which was then used as the five-year rolling average for 2026 to align with OTS. The annual count for calendar years 2022, 2023, 2024, 2025, and 2026 were mathematically determined, so the 2026 target would be constant from calendar year 2021. The annual decrease of 3.69% was then determined based on the annual count for the number of serious injuries. The 2024 target is based on the five-year rolling average of the annual counts for calendar years 2020, 2021, 2022, 2023, and 2024.

The annual decrease in the number of serious injuries aligns with the goal of the California Strategic Highway Safety Plan (SHSP) to move toward zero fatalities and serious injuries. In March of 2021, the Federal Highway Administration apportioned $205 million dollars to California to fund safety projects that focus on reducing fatalities and serious injuries on California's roads under the Highway Safety Improvement Program. If the Vision Zero by 2050 was used as the projected trend, the 2024 target based on the five-year rolling average of the annual counts would have been the same with 16628.1 based on a 3.70% annual decrease.

Fatality Rate:1.300

Describe the basis for established target, including how it supports SHSP goals.

NHTSA required the target setting methodology to show either a constant or an improved target in the Highway Safety Plan's triennial report. With the new triennial report requirement, OTS had to set a target for calendar year 2026. As the fatality rate continued to trend in the upward direction, it would've been a challenge to use past data trends to show a constant or an improved 2026 target. It was decided to set the 2026 target as constant based on the five-year rolling average for calendar year 2021, which was the last reported year in FARS.

The data points relating to the fatality rate for calendar years 2017-2021 were used to determine the five-year rolling average for 2021, which was then used as the five-year rolling average for 2026 to align with OTS. The annual count for calendar years 2022, 2023, 2024, 2025, and 2026 were mathematically determined, so the 2026 target would be constant from calendar year 2021. The annual decrease of 4.61% was then determined based on the annual count for the fatality rate. The 2024 target is based on the five-year rolling average of the annual counts for calendar years 2020, 2021, 2022, 2023, and 2024.

The annual decrease in the fatality rate aligns with the goal of the California Strategic Highway Safety Plan (SHSP) to move toward zero fatalities and serious injuries. In March of 2021, the Federal Highway Administration apportioned $205 million dollars to California to fund safety projects that focus on reducing fatalities and serious injuries on California's roads under the Highway Safety Improvement Program. If the Vision Zero by 2050 was used as the projected trend, the 2024 target based on the five-year rolling average of the annual counts would have been the same with 1.300 based on a 3.70% annual decrease.

Serious Injury Rate:4.918

Describe the basis for established target, including how it supports SHSP goals.

Since NHTSA required the target setting methodology to show either a constant or an improved target in the Highway Safety Plan's triennial report, we used the same 3.69% annual decrease as the performance measure for the number of serious injuries.

The annual decrease in the number of serious injuries aligns with the goal of the California Strategic Highway Safety Plan (SHSP) to move toward zero fatalities and serious injuries. In March of 2021, the Federal Highway Administration apportioned $205 million dollars to California to fund safety projects that focus on reducing fatalities and serious injuries on California's roads under the Highway Safety Improvement Program.

Total Number of Non-Motorized Fatalities and Serious Injuries:4380.5

Describe the basis for established target, including how it supports SHSP goals.

Since NHTSA required the target setting methodology to show either a constant or an improved target in the Highway Safety Plan's triennial report, we used the same 2.84% annual decrease as the performance measure for the number of fatalities and 3.69% annual decrease as the performance measure for the number of serious injuries.

The annual decrease in the number of serious injuries aligns with the goal of the California Strategic Highway Safety Plan (SHSP) to move toward zero fatalities and serious injuries. In March of 2021, the Federal Highway Administration apportioned $205 million dollars to California to fund safety projects that focus on reducing fatalities and serious injuries on California's roads under the Highway Safety Improvement Program.

Describe efforts to coordinate with other stakeholders (e.g. MPOs, SHSO) to establish safety performance targets.

Since safety targets are applicable to all public roads in the California, regional and local jurisdictions should be collaboratively involved in the safety target setting process. In line with this, on August 9, 2023, a virtual workshop was held to discuss the 2024 SPMTs with the MPOs and other vested stakeholders.

Caltrans and the Office of Traffic Safety (OTS) met on April 19, 2023 and May 12, 2023 to discuss target setting methodology options and then to agree on which methodology to use for target setting. The three core safety performance targets (C1 – C3) that Caltrans and OTS must agree upon are included in the HSIP and HSP respectively.

Does the State want to report additional optional targets?

No

Describe progress toward meeting the State's 2022 Safety Performance Targets (based on data available at the time of reporting). For each target, include a discussion of any reasons for differences in the actual outcomes and targets.

PERFORMANCE MEASURES	TARGETS	ACTUALS
Number of Fatalities	3491.8	4047.8
Number of Serious Injuries	16704.2	16769.4
Fatality Rate	1.042	1.260
Serious Injury Rate	4.879	5.181
Non-Motorized Fatalities and Serious Injuries	4684.4	4636.8

The 2022 targets were determined using a trend line approach, which projected the existing trend in fatalities and serious injuries into the future. The data-driven process estimated the impact of external factors and safety improvements based on crash history. These annual targets are progress indicators for reaching our long-term goal of zero fatalities and serious injuries by 2050. Based on the data available at the time of reporting,

Caltrans may meet one of the five targets set for 2022. Caltrans is committed to safety and an aggressive implementation effort is needed to improve performance, so we can meet our long-term goal.

Applicability of Special Rules

Does the VRU Safety Special Rule apply to the State for this reporting period?

Yes

California was notified that the VRU rule was triggered so California obligated $40,221,412 in FY 2022 -2023 on vulnerable road user projects for both state and local projects.

Does the HRRR special rule apply to the State for this reporting period?

Yes

The HRRR special rule applied to the State, and California was notified again in April that the HRRR rule was triggered for 23/24 FY so California obligated $17,563,128 in FY 2023 on high risk rural roads and are highlighted in this year's report. Another $17,563,128 will be required to be obligated for 23/24 on high risk rural roads and California is prepared to do that as well.

Provide the number of older driver and pedestrian fatalities and serious injuries 65 years of age and older for the past seven years.

PERFORMANCE MEASURES	2015	2016	2017	2018	2019	2020	2021
Number of Older Driver and Pedestrian Fatalities	434	540	487	517	522	454	520
Number of Older Driver and Pedestrian Serious Injuries	799	927	1,011	1,179	1,319	1,042	1,187

The 2020-2024 California SHSP has two of 16 Challenge Areas focusing on reducing fatalities and serious injuries in aging drivers and pedestrians.

Aging Drivers Challenge Area

The Aging Drivers Challenge Area includes instances where the driver of a motor vehicle is 65 years or older. Between 2008 and 2017, 15,468 fatal or serious injury crashes involved an aging driver in California. These crashes resulted in 4,613 fatalities and 13,319 serious injuries. Crashes related to aging drivers represent 12 percent of fatal or serious injury crashes, 14 percent of all traffic fatalities and 11 percent of all serious injuries over the same period.

The number of licensed drivers 65 years or older in California has increased from 12.5 percent of the total licensed drivers in 2008 to 16 percent in 2017. As drivers age and gain experience, they are also less often found at fault in crashes. However, after the age of 65, this trend reverses and older drivers are more often found at fault. By the age of 75, the proportion of at fault crashes returns to the similar level when drivers are age 25. Aging drivers also have increased vulnerability resulting in a higher likelihood of injury in a crash.

Crashes involving aging drivers occur more frequently on urban roads. The two most frequent primary crash factor for this Challenge Area are violating automobile right of way (18 percent) and improper turning (17 percent). The following three crash types most often involve aging drivers in fatal and serious injury crashes: broadside crashes (18 percent), head-on crashes (17 percent), and rear-end crashes (15 percent).

Pedestrians Challenge Area

The Pedestrians Challenge Area includes instances where a motor vehicle is involved in a crash with a pedestrian. Between 2008 and 2017, 24,773 crashes involved a fatally or serious injured pedestrian in California. These crashes resulted in 7,502 pedestrian fatalities 17,860 serious injuries. Crashes related to pedestrians represent 19 percent of fatal or serious injury crashes, 23 percent of all traffic fatalities, and 15 percent of all serious injuries over the same period.

In pedestrian-involved crashes, 37 percent of pedestrians are crossing a street with no crosswalk, 28 percent are crossing an intersection crosswalk, 26 percent are in the roadway (including the shoulder), six percent are not in the roadway, and two percent are crossing in a crosswalk not at an intersection.

Crashes involving pedestrians primarily occur on urban non-state highways where pedestrian activity is generally higher. Ten percent of pedestrian-related crash victims are ages 0 to 14. The two most frequent primary crash factors in this Challenge Area are pedestrian violation (50 percent) and pedestrian right of way (19 percent). The following three crash types most often involve pedestrians in fatal and serious injury crashes: Unsafe starting or backing (47 percent), hazardous parking (43 percent), and impeding traffic (37 percent).

Evaluation

Program Effectiveness

How does the State measure effectiveness of the HSIP?

- Benefit/Cost Ratio
- Change in fatalities and serious injuries
- Other-3 year before and after

Based on the measures of effectiveness selected previously, describe the results of the State's program level evaluations.

There are three levels of evaluation to determine the effectiveness of overall HSIP Program: (1) Evaluation of Approved Countermeasures, (2) Evaluation of Approved Projects, and (3) Evaluation of various Safety and Monitoring Programs within the HSIP Program. California State DOT, normally, performs at least one level of evaluations annually by comparing fatal and serious injury collision data for 3-year before and 3-year after study.

What other indicators of success does the State use to demonstrate effectiveness and success of the Highway Safety Improvement Program?

- HSIP Obligations
- Increased awareness of safety and data-driven process
- Increased focus on local road safety
- More systemic programs
- Other-SHSP Crash Data Dashboard

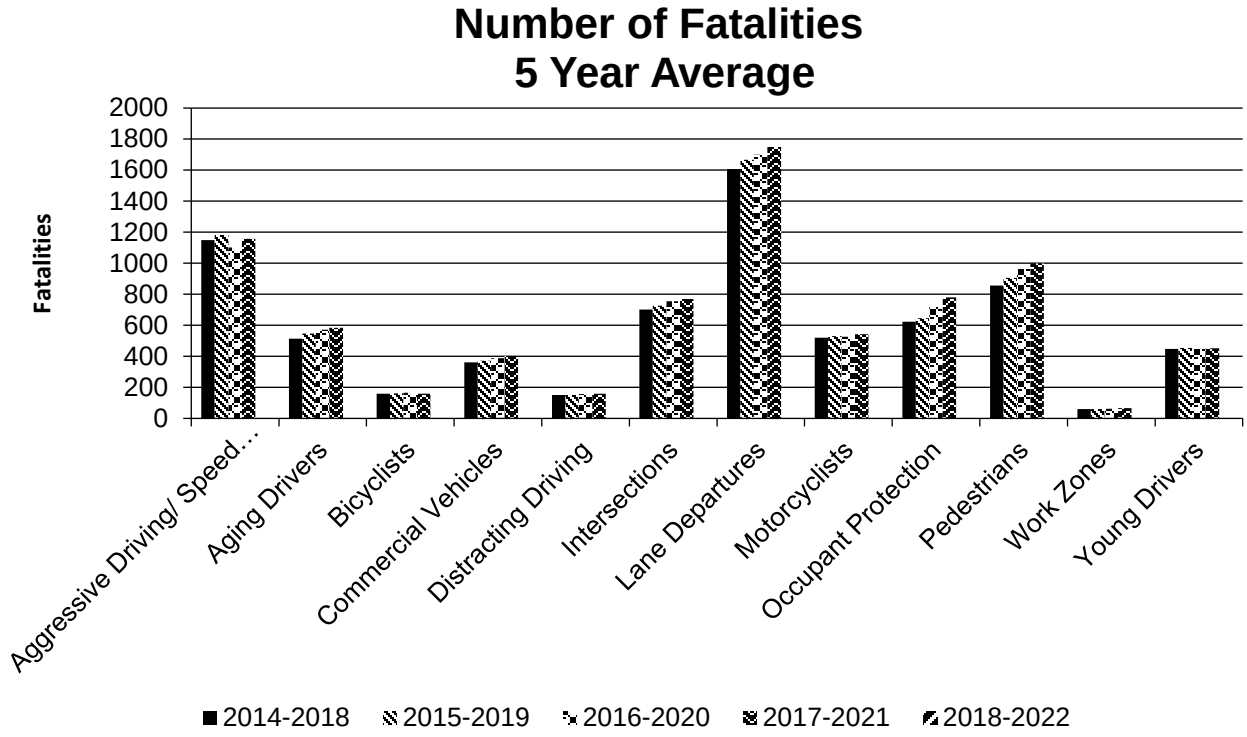
Effectiveness of Groupings or Similar Types of Improvements

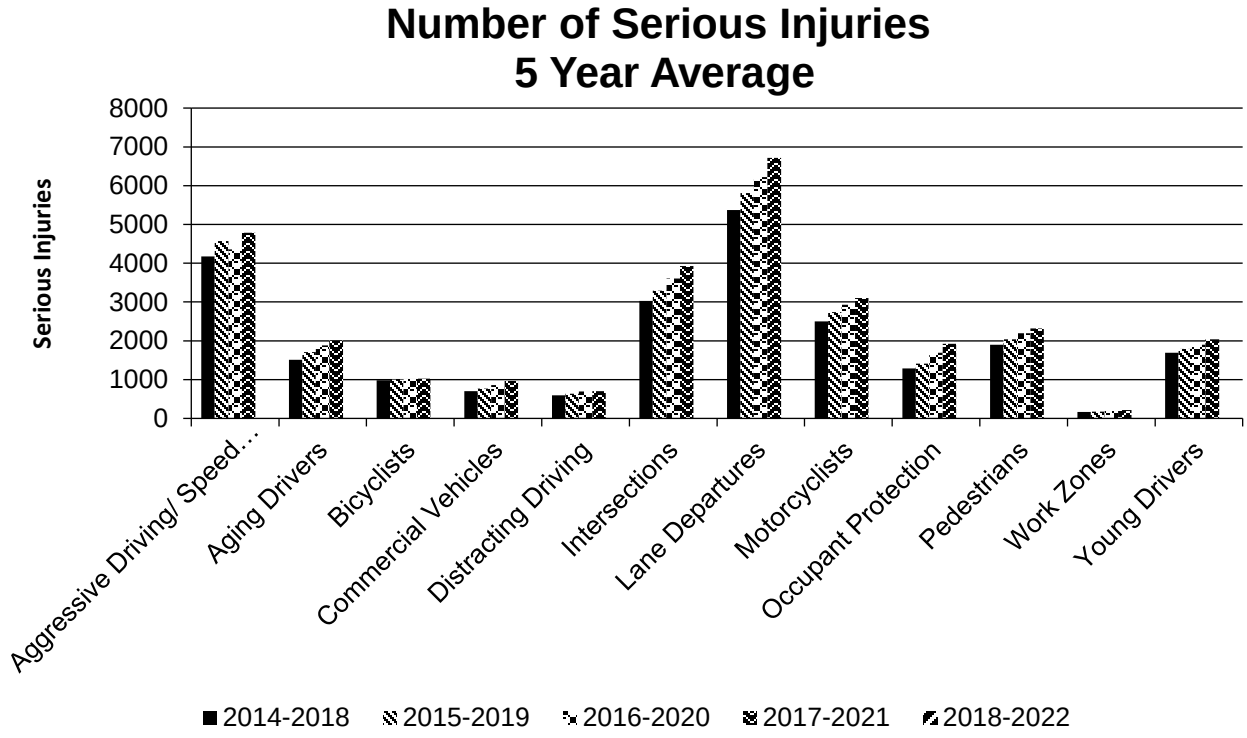
Present and describe trends in SHSP emphasis area performance measures.

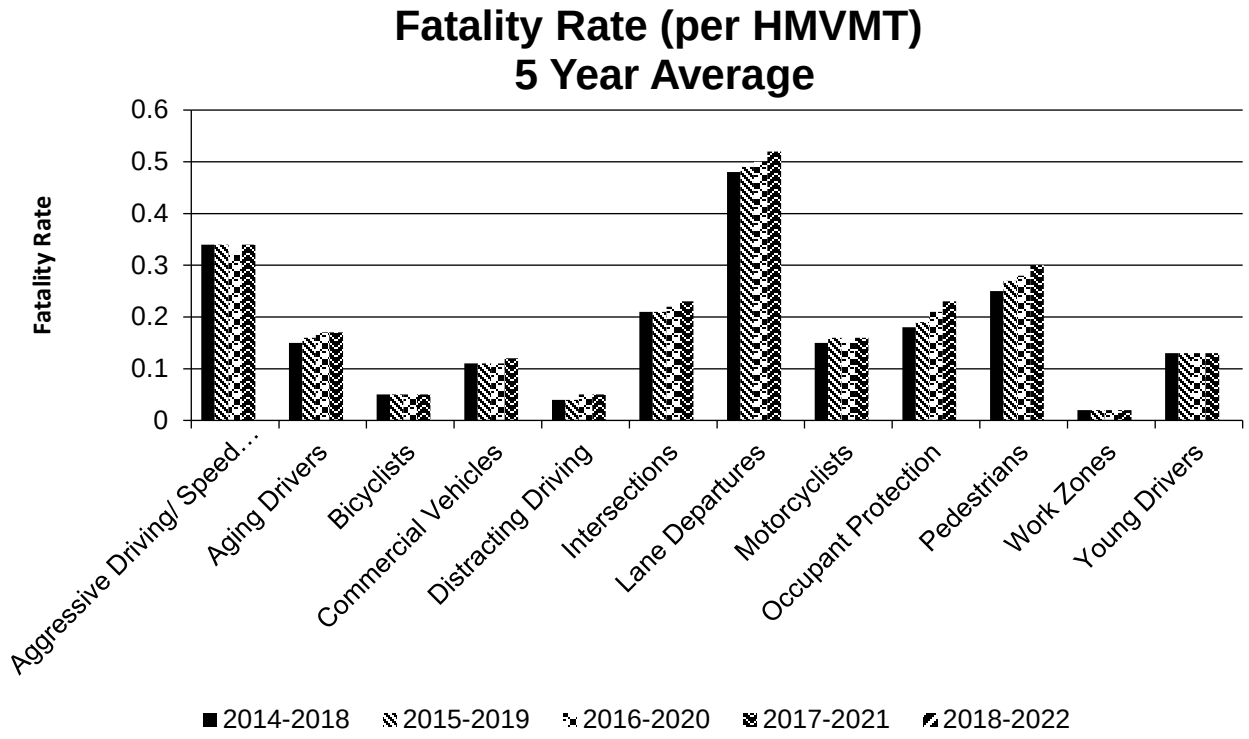
Year 2021

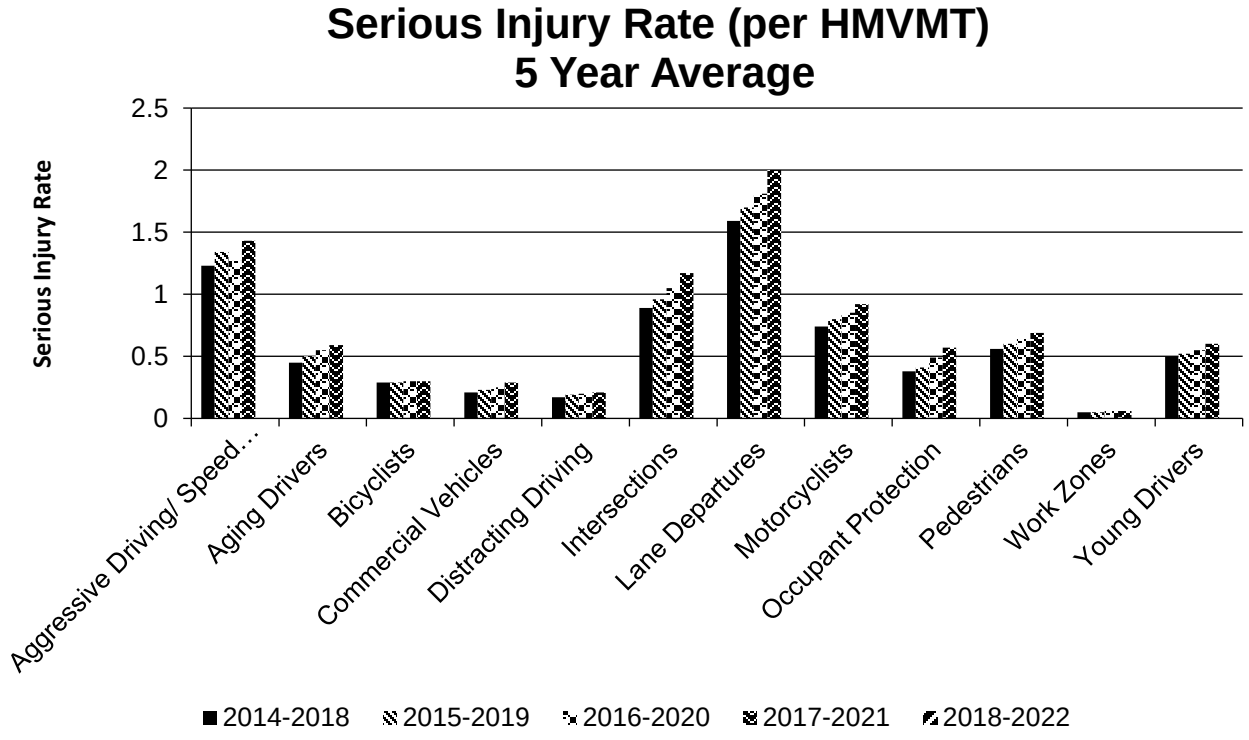
SHSP Emphasis Area	Targeted Crash Type	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Aggressive Driving/ Speed Management	All	1,156.6	4,785.2	0.34	1.43
Aging Drivers	All	584	2,005.6	0.17	0.59
Bicyclists	All	158.8	1,022	0.05	0.3
Commercial Vehicles	All	402.6	965.6	0.12	0.29
Distracting Driving	All	158.2	702.2	0.05	0.21
Intersections	All	769.4	3,928.4	0.23	1.17
Lane Departures	All	1,748.2	6,718.4	0.52	2

SHSP Emphasis Area	Targeted Crash Type	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Motorcyclists	All	542.8	3,106	0.16	0.92
Occupant Protection	All	780.8	1,922	0.23	0.57
Pedestrians	All	999	2,320.6	0.3	0.69
Work Zones	All	66	216.4	0.02	0.06
Young Drivers	All	452	2,036.4	0.13	0.6


Number of Fatalities
5 Year Average
Fatalities
2000
1800
1600
1400
1200
1000
800
600
400
200
0
Aggressive Driving/ Speed…
Aging Drivers
Bicyclists
Commercial Vehicles
Distracting Driving
Intersections
Lane Departures
Motorcyclists
Occupant Protection
Pedestrians
Work Zones
Young Drivers
2014-2018
2015-2019
2016-2020
2017-2021
2018-2022


Number of Serious Injuries
5 Year Average
Serious Injuries
8000
7000
6000
5000
4000
3000
2000
1000
0
Aggressive Driving/ Speed…
Aging Drivers
Bicyclists
Commercial Vehicles
Distracting Driving
Intersections
Lane Departures
Motorcyclists
Occupant Protection
Pedestrians
Work Zones
Young Drivers
2014-2018
2015-2019
2016-2020
2017-2021
2018-2022


Fatality Rate (per HMVMT)
5 Year Average
Fatality Rate
0.6
0.5
0.4
0.3
0.2
0.1
0
Aggressive Driving/ Speed…
Aging Drivers
Bicyclists
Commercial Vehicles
Distracting Driving
Intersections
Lane Departures
Motorcyclists
Occupant Protection
Pedestrians
Work Zones
Young Drivers
2014-2018
2015-2019
2016-2020
2017-2021
2018-2022


Serious Injury Rate (per HMVMT)
5 Year Average
Serious Injury Rate
2.5
2
1.5
1
0.5
0
Aggressive Driving/ Speed…
Aging Drivers
Bicyclists
Commercial Vehicles
Distracting Driving
Intersections
Lane Departures
Motorcyclists
Occupant Protection
Pedestrians
Work Zones
Young Drivers
2014-2018
2015-2019
2016-2020
2017-2021
2018-2022

Project Effectiveness

Provide the following information for previously implemented projects that the State evaluated this reporting period.

LOCATION	FUNCTIONAL CLASS	IMPROVEMENT CATEGORY	IMPROVEMENT TYPE	PDO BEFORE	PDO AFTER	FATALITY BEFORE	FATALITY AFTER	SERIOUS INJURY BEFORE	SERIOUS INJURY AFTER	ALL OTHER INJURY BEFORE	ALL OTHER INJURY AFTER	TOTAL BEFORE	TOTAL AFTER	EVALUATION RESULTS (BENEFIT/COST RATIO)
01-MEN-020 R37.84-R38.40	Rural Principal Arterial (RPA) - Other Freeways and Expressways	Roadside	Barrier- metal	4.00	7.00		1.00	2.00		3.00	2.00	9.00	10.00	

A complete list of HSIP previously implemented state and local projects are attached.

Compliance Assessment

What date was the State's current SHSP approved by the Governor or designated State representative?

03/15/2021

What are the years being covered by the current SHSP?

From: 2020 To: 2024

When does the State anticipate completing it's next SHSP update?

2028

The next SHSP cycle may start as early as November 2023 or in spring 2024 (hoping for the former). We await the execution of the new contract, which is currently being advertised.

The next California SHSP will cover the years of 2025 to 2029. The 2028 timeline is for completion of the next SHSP cycle. The 2025-2029 SHSP is scheduled for completion in Dec. 2028. That timeline is estimated as it will correspond with beginning the next cycle on schedule.

Provide the current status (percent complete) of MIRE fundamental data elements collection efforts using the table below.

*Based on Functional Classification (MIRE 1.0 Element Number) [MIRE 2.0 Element Number]

ROAD TYPE	*MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
ROADWAY SEGMENT	Segment Identifier (12) [12]	100									
	Route Number (8) [8]	100	100								
	Route/Street Name (9) [9]	100	100								
	Federal Aid/Route Type (21) [21]	100	100								
	Rural/Urban Designation (20) [20]	100	100						100		
	Surface Type (23) [24]	100	10								
	Begin Point Segment Descriptor (10) [10]	100	100						100		
	End Point Segment Descriptor (11) [11]	100	100						100		
	Segment Length (13) [13]	100	100								
	Direction of Inventory (18) [18]	100	100								

ROAD TYPE	*MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
	Functional Class (19) [19]	100	100						100		
	Median Type (54) [55]	100	30								
	Access Control (22) [23]	100	100								
	One/Two Way Operations (91) [93]	100	100								
	Number of Through Lanes (31) [32]	100	100						100		
	Average Annual Daily Traffic (79) [81]	100	100						100		
	AADT Year (80) [82]	100	100								
	Type of Governmental Ownership (4) [4]	100	100						100		
INTERSECTION	Unique Junction Identifier (120) [110]			100							
	Location Identifier for Road 1 Crossing Point (122) [112]			100							
	Location Identifier for Road 2 Crossing Point (123) [113]										
	Intersection/Junction Geometry (126) [116]			100							
	Intersection/Junction Traffic Control (131) [131]			100							
	AADT for Each Intersecting Road (79) [81]			100	100						
	AADT Year (80) [82]			100	100						
	Unique Approach Identifier (139) [129]										
INTERCHANGE/RAMP	Unique Interchange Identifier (178) [168]										

ROAD TYPE	*MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
	Location Identifier for Roadway at Beginning of Ramp Terminal (197) [187]										
	Location Identifier for Roadway at Ending Ramp Terminal (201) [191]										
	Ramp Length (187) [177]										
	Roadway Type at Beginning of Ramp Terminal (195) [185]					100					
	Roadway Type at End Ramp Terminal (199) [189]					100					
	Interchange Type (182) [172]					100					
	Ramp AADT (191) [181]					100					
	Year of Ramp AADT (192) [182]					100					
	Functional Class (19) [19]					100					
	Type of Governmental Ownership (4) [4]					100					
Totals (Average Percent Complete):		**100.00**	**85.56**	**75.00**	**25.00**	**63.64**	**0.00**	**0.00**	**77.78**	**0.00**	**0.00**

*Based on Functional Classification (MIRE 1.0 Element Number) [MIRE 2.0 Element Number]

Describe actions the State will take moving forward to meet the requirement to have complete access to the MIRE fundamental data elements on all public roads by September 30, 2026.

The Caltrans Transportation System Network Replacement (TSNR) project is being developed for a new statewide safety database that will not only include MIRE fundamental data element (FDE) but also accommodate other safety related data such as bicycle and pedestrian information.

Caltrans is developing an agreement to establish a collaborative framework between Caltrans and local agencies to share and integrate MIRE FDE data.

Caltrans will contract out with Geographical Information Center at California State University, Chico to develop statewide intersection dataset.

Caltrans will develop data integration methods to merge MIRE FDE data from various sources into MIRE dataset.

Optional Attachments

Program Structure:

hsip-guidelines-2022 (1).pdf
Project Implementation:

Local HSIP Programmed Projects FY 22-23.xlsx
#29 2022-2023 Progrmmed SHOPP Safety Projects.xlsx
Safety Performance:

CAHRRRObligation2022_23.xlsx
VRU CA All Active Projects Report (Final VRU FFY2023) .xlsx
Evaluation:

Local Roads HSIP_BCR_2023.xlsx
#46 2019 STATE BEFORE AFTER.xlsx
Compliance Assessment:

Glossary

5 year rolling average: means the average of five individuals, consecutive annual points of data (e.g. annual fatality rate).

Emphasis area: means a highway safety priority in a State's SHSP, identified through a data-driven, collaborative process.

Highway safety improvement project: means strategies, activities and projects on a public road that are consistent with a State strategic highway safety plan and corrects or improves a hazardous road location or feature or addresses a highway safety problem.

HMVMT: means hundred million vehicle miles traveled.

Non-infrastructure projects: are projects that do not result in construction. Examples of non-infrastructure projects include road safety audits, transportation safety planning activities, improvements in the collection and analysis of data, education and outreach, and enforcement activities.

Older driver special rule: applies if traffic fatalities and serious injuries per capita for drivers and pedestrians over the age of 65 in a State increases during the most recent 2-year period for which data are available, as defined in the Older Driver and Pedestrian Special Rule Interim Guidance dated February 13, 2013.

Performance measure: means indicators that enable decision-makers and other stakeholders to monitor changes in system condition and performance against established visions, goals, and objectives.

Programmed funds: mean those funds that have been programmed in the Statewide Transportation Improvement Program (STIP) to be expended on highway safety improvement projects.

Roadway Functional Classification: means the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide.

Strategic Highway Safety Plan (SHSP): means a comprehensive, multi-disciplinary plan, based on safety data developed by a State Department of Transportation in accordance with 23 U.S.C. 148.

Systematic: refers to an approach where an agency deploys countermeasures at all locations across a system.

Systemic safety improvement: means an improvement that is widely implemented based on high risk roadway features that are correlated with specific severe crash types.

Transfer: means, in accordance with provisions of 23 U.S.C. 126, a State may transfer from an apportionment under section 104(b) not to exceed 50 percent of the amount apportioned for the fiscal year to any other apportionment of the State under that section.