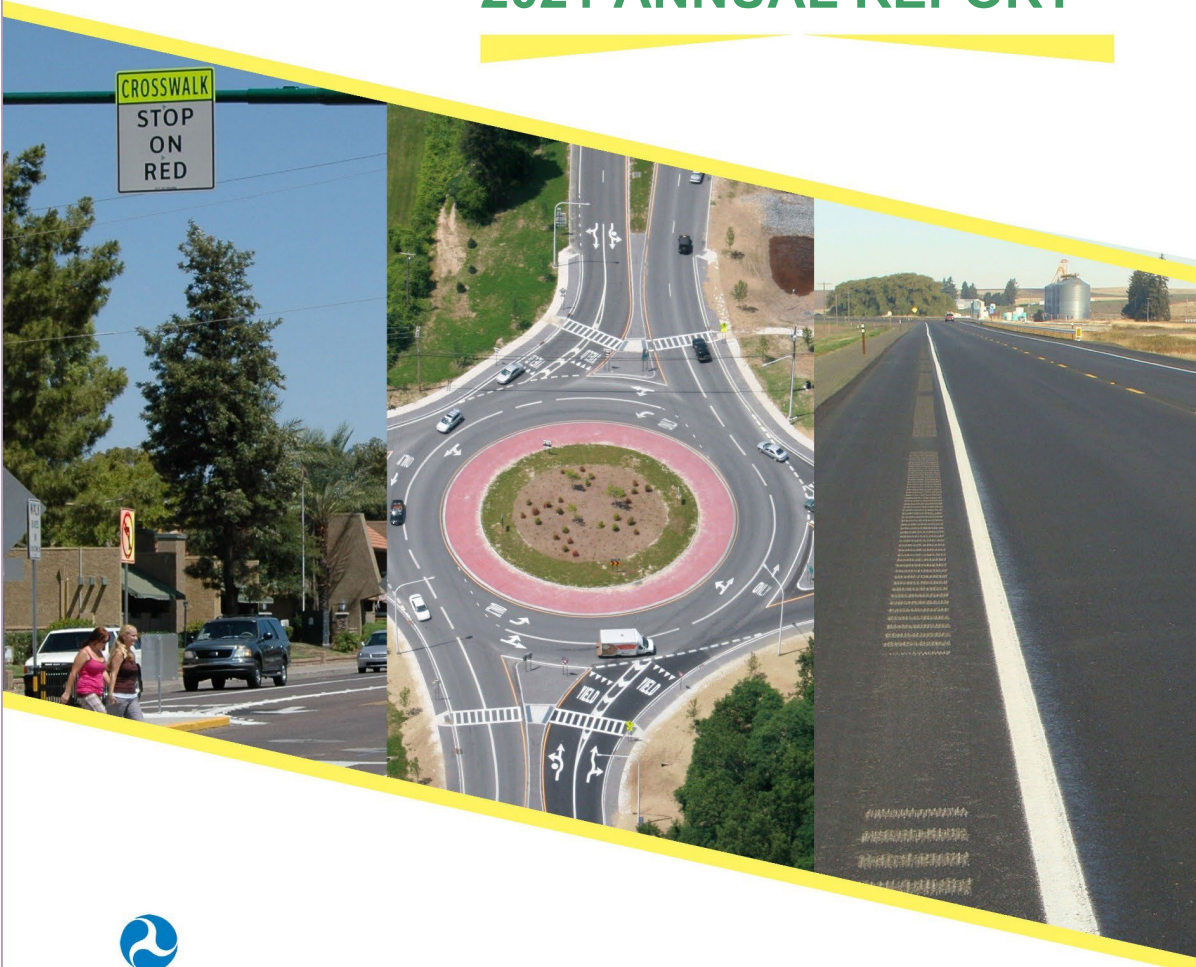




CALIFORNIA

# HIGHWAY SAFETY IMPROVEMENT PROGRAM 2021 ANNUAL REPORT



U.S. Department of Transportation  
Federal Highway Administration

Photo source: Federal Highway Administration

Table of Contents

Disclaimer ..... 3  
    Protection of Data from Discovery Admission into Evidence ..... 3  
Executive Summary ..... 4  
Introduction ..... 8  
Program Structure..... 8  
    Program Administration ..... 8  
    Program Methodology ..... 10  
Project Implementation ..... 23  
    Funds Programmed..... 23  
    General Listing of Projects ..... 26  
Safety Performance ..... 31  
    General Highway Safety Trends..... 31  
    Safety Performance Targets..... 37  
    Applicability of Special Rules..... 39  
Evaluation ..... 40  
    Program Effectiveness ..... 40  
    Effectiveness of Groupings or Similar Types of Improvements ..... 40  
    Project Effectiveness ..... 45  
Compliance Assessment ..... 46  
Optional Attachments..... 50  
Glossary..... 51

## **Disclaimer**

### ***Protection of Data from Discovery Admission into Evidence***

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. 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. 409 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

The Moving Ahead for Progress in the 21st Century Act or “MAP-21” (Pub. L. 112-141, 126 Stat. 405), was signed into law July 6, 2012, and continued the Highway Safety Improvement Program (HSIP) as a core program under title 23 United States Code section 148 to reduce fatalities and injuries on all public roadways. Title 23 United States Code section 148(h) requires each state to submit an annual report to the Federal Highway Administration (FHWA) regarding its HSIP implementation and effectiveness and title 23 Code of Federal Regulations sections 924.15(a)(1) and 924.15(a)(2) specify that the report be submitted no later than August 31 of each year. This annual report describes the progress being made to implement projects and the status of program evaluations for the HSIP as described in Title 23 United States Code section 148, and for High-Risk Rural Roads (HR3) (23 U.S.C. § 148(g)). The Railway-Highway Crossings (23 U.S.C. § 130(g)) report is submitted to FHWA directly by the California Public Utility Commission as a separate report. Under the “MAP-21” (Pub. L. 112-141, July 6, 2012; 126 Stat. 405), the High-Risk Rural Roads program was merged into the HSIP for safety improvements on public rural roadways that meet the functional classification requirements of title 23 United States Code section 148(a)(1). In addition to the above, in accordance with title 23 United States Code section 164 repeat intoxicated transfer funds, approximately \$60.79 million was obligated for alcohol impaired driving countermeasures. Caltrans' Division of Safety Programs provided information on the State Highway System (SHS) for this report, and Caltrans' Division of Local Assistance (DLA) for local roads. The Fixing America's Surface Transportation (FAST) Act was signed into law on December 4, 2015 and continued the Highway Safety Improvement Program (HSIP) with only minor changes. The FAST Act confirmed the overall purpose of this program is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads through the implementation of infrastructure-related highway safety improvements.

### STRATEGIC DIRECTION:

In May 2020, Caltrans formed a new Safety Programs Division to lead and champion the new traffic safety paradigm throughout Caltrans. The historical processes and procedures of the State's HSIP are a key component of implementing new safety strategies and Caltrans will use this HSIP annual report to identify opportunities to continuously improve the HSIP process.

The Office of Safety Programs is now under the Direction of the Chief Safety Officer and the Division of Safety Programs. Caltrans' 2021 Strategic Management Plan incorporated a Safe System Approach and adopted several new strategies to achieve the first goal of Safety. The Division of Safety Programs worked with stakeholders to incorporate the safe System approach into the California Strategic Highway Safety Plan (SHSP) and Implementation plan and continues to support implementation. Additional commitments and action are tied to the California State Transportation Agency 2019 Zero Traffic Fatalities Task Force recommendations.

HSIP projects are the Department's highest priority. A pilot program is underway to deliver safety projects in the shortest timeframe possible by expediting the programming and delivery of safety improvement projects. To continue the goal of protecting the safety of all road users, particularly our most vulnerable road users such as bicyclists and pedestrians, we are incorporating equity as we work towards zero deaths.

Caltrans has embarked on developing a holistic safety program that will focus on the "4 Pillars of Traffic Safety

1. Doubling down on what works.
2. Accelerating advanced technology
3. Implementing a Safe System approach
4. Institutionalizing equity.

## 2021 California Highway Safety Improvement Program

### SAFETY IMPACT GUIDANCE:

On December 18, 2020, The Division of Safety Programs Adopted Interim Local Development Intergovernmental Review (LDIGR) Safety Review Practitioners Guidance is to provide instructions to district staff and other California Department of Transportation (Caltrans) personnel, lead agencies, developers, and consultants conducting safety reviews for proposed land use projects and plan affecting the State Highway System. This guidance

- Address how to increase State Highway System vehicular, pedestrian and bicycle safety through documented, appropriate and targeted improvements.
- Establishes the safety impact review expectations for Caltrans and lead agencies during processes to comply with the California Environmental Quality Act (CEQA).
- Can be used by lead agencies, developers, and consultants as a model for analyzing the safety impacts of proposed land use projects and plans on local roadways.
- Prioritizes vulnerable users and communities; enhances safety for pedestrians, bicycle, transit and vehicular modes; and applies both reactive and systemic perspectives. Supports the shift away from using Level of Service (LOS) as a metric of analysis under CEQA, in accordance with implementing Senate Assembly Bill 743 (SB 743, Steinberg: Chaptered by Secretary of State, Chapter 386, Statutes of 2013), and complements the "Vehicle Miles Traveled-Focused Transportation Impact Study Guide" (dated May 20, 2020).

### CRASH TERMINOLOGY:

On June 30th, 2021 The Division of Safety Programs issued a recommendation that all California Department of Transportation (Caltrans) personnel officially adopt the terms "crash," "collision," and "incident" in lieu of the term "accident" when discussing traffic crashes. This deliberate change in terminology will support Caltrans' safety initiatives and will align Caltrans with other state and federal entities, who have already adopted this change in support of greater accuracy and consistency.

The HSIP and Asset Management units are working together to identify, collect and manage datasets. Integrating safety datasets are integral to developing a robust safety program and fundamental to making informed decisions about safety strategies and investments. It is necessary to develop a program to integrate proactive safety (systemic) into asset management and meet the goals of the California Department of Transportation (Caltrans) and Federal HSIP requirements.

### PROVEN SAFETY COUNTERMEASURES:

The California Department of Transportation (Caltrans) is dedicated to public and employee safety. This year, Caltrans has issued specific policies to implement three Proven Safety Countermeasures:

#### Rumble Strips

- Rumble strips are a Proven Safety Countermeasure for Reducing Rural Roadway Departures in the Federal Highway Administration (FHWA) and alert inattentive or drowsy drivers that their vehicle is drifting out of their lane onto the shoulder or into the opposing lane. This reduces severe fatal and injury roadway departure crashes, including cross centerline collisions.

#### Retroreflective Backplates

## 2021 California Highway Safety Improvement Program

- Studies by the Federal Highway Administration (FHWA) indicate a resulting significant reduction in collisions occurring late at night or during early morning hours. This treatment will also be valuable during the Public Safety Power Shutoff (PSPS) events where traffic signals at intersections in areas of power outages become inactive and dark, posing safety risk to motorists. During these instances, motorists may not be aware of their approach to a signalized intersection with cross-traffic that has become dark, and therefore may not stop as is required by the California Vehicle Code 21800. As part of an effort to reduce the risk of collisions at signalized intersections that become dark during PSPS, and increase the visibility of signals overall, Caltrans will implement the installation of retroreflective bordered backplates on all traffic signals that can accommodate these backplates. The installation entails placing a new backplate containing a two-inch yellow retroreflective border with Type XI sheeting around the perimeter of the face of traffic signal backplates owned and maintained by Caltrans.

### Leading Pedestrian Interval (scheduled for September 2021)

- Leading Pedestrian Interval (LPI) specifically addresses Strategic Highway Safety Plan's "Intersections" and "Pedestrian" Challenge Areas by providing an easy and inexpensive countermeasure that can be incorporated into pedestrian safety projects and become routine practice. Implementing LPI is an excellent strategy to realize the multi-modal vision and achieve goals of enhancing pedestrian safety throughout California with a goal to reduce traffic fatalities and serious injuries to zero, as outlined in these supporting policy documents:
  - California Transportation Plan 2050
  - Caltrans Strategic Plan 2020-2024
  - Strategic Highway Safety Plan (SHSP) 2020-2024
  - Climate Action Plan for Transportation Infrastructure Toward an Active California-State Bicycle and Pedestrian Plan

DATA: Caltrans uses collision data from California Highway Patrol's Statewide Integrated Traffic Record System (SWITRS) database. Collision data for the state highway system is imported into the Transportation System Network (TSN) Caltrans database, which includes volume and inventory data.

SHSP: Caltrans has been working with 400 stakeholders from 170 public & private agencies including tribes, the local technical assistance program, and universities to develop the CA-SHSP. Projects developed are consistent with SHSP strategies. Caltrans' DLA with local agencies are involved in planning projects on local roads. SB137 allows local agencies to expedite the delivery of safety projects on local roads by exchanging federal dollars for state dollar on a one for one ratio. The mission is to deliver safety projects in the shortest timeframe possible by expediting the program and delivery of safety improvement projects on local roads. The overall goal is to achieve significant reduction in traffic fatalities and serious injuries by reducing the time it takes to plan and implement safety projects to the next phase of project development.

The current California Strategic Highway Safety Plan (SHSP) was approved and became effective March 2021. The current SHSP spans the years 2020-2024, with the next update scheduled for 2025. A SHSP Dashboard was developed to provide SHSP implementers with direct access to crash data to support data-driven implementation of the SHSP. The dashboard currently uses finalized crash data from the Fatality Analysis Reporting System (FARS) and the Statewide Integrated Traffic Records System (SWITRS). The Dashboard allows for filtering of the number and characteristics of fatal and serious injury crashes over the last 10 years. Some filtering options include:

- SHSP Challenge Area
- Crash Severity
- Location: District, County, Metropolitan Planning Organization (MPO), and City
- Crash Cause

## 2021 California Highway Safety Improvement Program

- Crash Time
- Crash Party and Victim Demographics

Additional stakeholders and agencies will be asked to participate, which in turn will make for better HSIP projects and help to reduce fatal and serious injuries on all roads.

California did not meet or make significant progress on four out of the five 2019 safety performance targets. Therefore, it was required to develop a HSIP Implementation Plan to be delivered to FHWA on October 1, 2021. During the development of the HSIP Implementation Plan, the State engaged both internal and external stakeholders to determine program needs and potential solutions. The stakeholder outreach contained two different components: internal interviews of Caltrans staff associated with implementation of the HSIP and an internal/external online stakeholder survey. The HSIP Implementation Plan 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.

The Executive Leadership agreed to institutionalize the following four guiding principles into the Implementation Plan 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. Under the Integrate Equity principle, Caltrans proposes to increase participation from people and agencies that represent traditionally underserved populations to ensure outreach activities include or target those populations.

Caltrans continues with its efforts to meet MIRE FDE requirements by September 30, 2026. Caltrans has executed a contract that will aid in getting MIRE FDE on all non-state public roads.

## **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.**

The Division of Safety Programs administers the Highway Safety Improvement Program (HSIP) for the state highway system 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 Divisions of Safety Programs and Division of Local Assistance

In May 2020, a new Safety Programs Division was created under Director's Office. State HSIP staff were relocated from Traffic Operations Division to the Division of Safety Programs.

#### **How are HSIP funds allocated in a State?**

- Central Office via Statewide Competitive Application Process
- SHSP Emphasis Area Data

Approval provided by the HQ Divisions of Safety Programs and Local Assistance via Statewide Competitive Application Process.

Projects are prioritized based on SHSP Focus Areas, crash data, and crash reduction factors.

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

The Caltrans Division of Local Assistance (DLA) uses an HSIP application benefit-cost tool to provide a consistent, data-driven methodology for ranking local roadway (non-State owned and operated) project applications on a statewide basis. This tool, known as HSIP Analyzer, was developed by DLA. DLA also provides the Local Roadway Safety Manual for California local road owners and directly incorporates UC Berkeley's Transportation Injury Mapping System website 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.



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

- Design
- Districts/Regions
- Local Aid Programs Office/Division
- Operations
- Planning
- Traffic Engineering/Safety
- Other-Research Innovation and system performance

**Describe coordination with internal partners.**

Due to the Traffic Collisions Record (TCR) backlog reduction efforts, Caltrans switched the network screening from quarterly to annually to allow the districts to investigate more recent collisions in a more timely manner. This change did not omit any collisions from this network screening process.

**Identify which external partners are involved with HSIP planning.**

- Academia/University
- FHWA
- Governors Highway Safety Office
- Law Enforcement Agency
- 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 2021, state transportation leaders decided that achieving zero deaths and serious injuries on public roadways required a pivot to be even bolder and have 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 the HSIP Implementation Plan 2021& 2022, the State engaged both internal and external stakeholders to determine program needs and potential solutions. The stakeholder outreach contained two different components: internal interviews of Caltrans staff associated with implementation of the HSIP and an internal/external online stakeholder survey. Also, HSIP Implementation plan 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.

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

In May, 2020, a new Safety Programs Division has been created under Director's Office. State HSIP staff were relocated under the Division of Safety Programs, and began to establish policies and procedures that prioritize the reduction of fatal and serious injuries over all crashes and will have a revised HSIP Guidelines in 2021/22 fiscal year.

***Program Methodology***

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

Yes  
<https://dot.ca.gov/-/media/dot-media/programs/safety-programs/documents/hsip/f0017926-ca-hsip-2017.pdf>

**Select the programs that are administered under the HSIP.**

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

The Median Barrier is combined with the 2 and 3 lane cross Centerline collisions monitoring program to form the newly created -Crossover Collision Monitoring Program.

**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
- Other-integrate equity, Implement Safe System Approach, Double down on what works

***What is the funding approach for this program?***

Funding set-aside

***What data types were used in the program methodology?***

Crashes

Exposure

Roadway

## 2021 California Highway Safety Improvement Program

- All crashes
- 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?***

- Competitive application process
- Other-compete with all projects and funding is set aside.
- Other-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**

Other-meet minimum criteria:100

Integrate Equity, Accelerating Advance Technology, Implement Safe System Approach, Double Down on What Works

#### **Program: HSIP (no subprograms)**

***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
- Other-integrate equity, Implement Safe System Approach, Double down on what works

### ***What is the funding approach for this program?***

Funding set-aside

**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?**

- Competitive application process
- Other-compete with all projects and funding is set aside.
- Other-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**

Other-meet minimum criteria :100

Integrate Equity, Accelerating Advance Technology, Implement Safe System Approach, Double Down on What Works

HSIP Projects are evaluated to meet a minimum Safety Index of 230, which is a benefit cost ratio of 2:1

**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?**

## 2021 California Highway Safety Improvement 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 asides:1

This program is dedicated for local roads, however funding can be for state highways but needs approval from Caltrans.

### **Program: Pedestrian Safety**

***Date of Program Methodology:7/20/2016***

### ***What is the justification for this program?***

- Addresses SHSP priority or emphasis area

2021 California Highway Safety Improvement Program

- Other-High Collision Concentration Location

**What is the funding approach for this program?**

Other-State is set-aside. DLA both competes with all projects and set-aside.

**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?**

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.**

Division of Local Assistance identifies and reorts

**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**

Other-meet minimum criteria:100

Integrate Equity, Accelerating Advance Technology, Implement Safe System Approach, Double Down on What Works

**Program: Roadway Departure**

**Date of Program Methodology:11/15/2004**

**What is the justification for this program?**

2021 California Highway Safety Improvement Program

- Addresses SHSP priority or emphasis area

**What is the funding approach for this program?**

Funding set-aside

**What data types were used in the program methodology?**

**Crashes**

- Other-see the optional description

**Exposure**

- Volume
- Lane miles
- Other-Fatal and injury crashes on Wet Pavement

**Roadway**

- Functional classification
- Roadside features
- Other-Fatal and injury crashes resulting in Overturned Vehicle

**What project identification methodology was used for this program?**

- Crash frequency
- Crash rate
- Other-see the optional description for this question

**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-see the optional description for this question

**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-100% top 25% of run-off-road concentration locations with higher scores +100% of identified long segments selected based on collision frequency, roadway type, geometric characteristics and traffic volume. :100

Total Relative Weight:100

Integrate Equity, Accelerating Advance Technology, Implement Safe System Approach, Double Down on What Works

**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?**

Funding set-aside

**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?**

- 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).**

**Relative Weight in Scoring**

Other-crash frequency and crash rate:100

Total Relative Weight:100

Integrate Equity, Accelerating Advance Technology, Implement Safe System Approach, Double Down on What Works

**Program: Other-Systemic Wrong Way**

**Date of Program Methodology:3/16/2021**

**What is the justification for this program?**



2021 California Highway Safety Improvement Program

- Addresses SHSP priority or emphasis area

**What is the funding approach for this program?**

Funding set-aside

**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).**

**Rank of Priority Consideration**

Other-All Projects meeting established criteria:100

Integrate Equity, Accelerating Advance Technology, Implement Safe System Approach, Double Down on What Works

**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?**

Funding set-aside

**What data types were used in the program methodology?**

**Crashes**

- Fatal crashes only

**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-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

Integrate Equity, Accelerating Advance Technology, Implement Safe System Approach, Double Down on What Works

The Median Barrier is combined with the 2 and 3 lane cross Centerline collisions monitoring program to form the newly created -Crossover Collision Monitoring Program

**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
- Other-Part of the 4 Pillars of the Division of Safety Programs

**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

**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

Integrate Equity, Accelerating Advance Technology, Implement Safe System Approach, Double Down on What Works

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:
  - Senior (age 65 and older) population density based on the American Community Survey (2.5%)
  - Youth (under age 15) population density based on the American Community Survey (2.5%)
  - School proximity from the California School Campus Database (5%)

**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
- Other-Part of the 4 Pillars of the Division of Safety Program

***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

**Exposure**

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

**Roadway**

- Other-pedestria-related High Collision Concentration Locations (HCCLs)

***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

Integrate Equity, Accelerate Advanced Technology, Implement Safe System Approach, Double Down on What Works

## 2021 California Highway Safety Improvement Program

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:
  - Senior (age 65 and older) population density based on the American Community Survey (2.5%)
  - Youth (under age 15) population density based on the American Community Survey (2.5%)
  - School proximity from the California School Campus Database (5%)
- Repeated crash characteristics based on identical primary collision factor (5%)

### **What percentage of HSIP funds address systemic improvements?**

40

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

- Clear Zone Improvements
- Horizontal curve signs
- Install/Improve Pavement Marking and/or Delineation
- Install/Improve Signing
- Rumble Strips
- 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

We are in the process of implementing Data-driven safety analysis tools (HSM, CMF) to identify potential countermeasures.

### **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 connective 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 SHSP 2020 – 2024 for which Caltrans has designated a challenge area co-lead. Some examples of the ongoing efforts are the development of a Caltrans Statewide Connected and Automated Vehicle Implementation Plan, research on using near-miss technology to collect and evaluate traffic

## 2021 California Highway Safety Improvement Program

safety, and researching 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.

### **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.**

Integrating HSM methodology into the network screening and cost/benefit processes with a 2023 goal. Incorporating HSM methods into project alternative analysis

### **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 criteria for HSIP funds with some differences. For State highway HSIP, the benefit / cost tool, called the safety index, is used for projects at spot locations whereas Local HSIP utilizes the benefit / cost methodology for both spot and systemic type of projects. The Local HSIP utilizes set asides for low cost countermeasures. For cycle 10 which is the current call for Local HSIP projects, pedestrian crossing enhancements at non-signalized locations, edge line striping, guardrail upgrades and tribal roads are ones that local agencies can select from. These set asides do not require crash data to receive HSIP funding but is limited to a maximum dollar amount per agency and only specific low cost countermeasures can be selected.

## Project Implementation

### Funds Programmed

#### Reporting period for HSIP funding.

State Fiscal Year

This is based on State fiscal year calendar - July 1, 2020 - June 30, 2021.

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

| FUNDING CATEGORY                               | PROGRAMMED           | OBLIGATED            | % OBLIGATED/PROGRAMMED |
|--|----------------------|----------------------|------------------------|
| HSIP (23 U.S.C. 148)                           | \$394,794,000        | \$501,671,481        | 127.07%                |
| HRRR Special Rule (23 U.S.C. 148(g)(1))        | \$0                  | \$1,780,792          | 0%                     |
| Penalty Funds (23 U.S.C. 154)                  | \$0                  | \$0                  | 0%                     |
| Penalty Funds (23 U.S.C. 164)                  | \$78,158,140         | \$38,834,673         | 49.69%                 |
| RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2)) | \$0                  | \$0                  | 0%                     |
| Other Federal-aid Funds (i.e. STBG, NHPP)      | \$0                  | \$39,235,969         | 0%                     |
| State and Local Funds                          | \$9,658,140          | \$9,658,140          | 100%                   |
| Local HSIP (23 U.S.C 148)                      | \$110,000,673        | \$92,873,816         | 84.43%                 |
| <b>Totals</b>                                  | <b>\$592,610,953</b> | <b>\$684,054,871</b> | <b>115.43%</b>         |

HRRR Special Rule (23 U.S.C 148(g)(1)) and Penalty Funds(23 U.S.C. 154) has ended, currently there is no programmed amount, the \$1,780,792 shown under HRRR obligated is funds left over from previous programmed projects.

Other Federal-aid Funds such as ( i.e. STBG, NSPP) have no programmed amount. The obligated amount of \$39,235,969 shown under other Federal-aid Funds Obligated was received from the Office of Federal Resources.

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

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

\$110,000,673:

Note: this number is noted in the table above to distinguish between state HSIP and Local HSIP. HSIP funds are split 50/50 between state and local roads and administered separately.

**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.**

As noted in previous annual reports, local HSIP continues to improve project delivery by enforcing our project delivery policies by providing (1) monthly update of delivery status reports posted on the DLA website, (2) HSIP manager's phone calls and emails to district focal-point contacts responsible for monitoring project delivery, (3) setting deadlines for late projects in various previous project cycles, (4) requesting local agencies to send HSIP program an official delivery commitment letter for project delay request, and (5) efforts made by various Local HSIP Advisory Committee members. Because of these ongoing efforts, over 90% of the Local HSIP projects have been delivered on time.

**Describe any other aspects of the State's progress in implementing HSIP projects on which the State would like to elaborate.**

In FFY 20/21, Local HSIP utilized the option of transferring federal HSIP funds back to the state HSIP in return for state highway funds on a dollar for dollar bases as described under California Senate Bill 137. The funds exchanged will not change the purpose for which the funds were for under federal legislation requirements. A total of \$40M was exchanged and will be used to fund preliminary engineering. This change will help local agencies deliver their safety projects more efficiently, less support costs and improved project delivery. Only a portion of the Obligated Amount (OA) was exchanged since there are other projects within the project delivery pipeline that will need the remaining federal funds for construction and closeout.

Local HSIP is moving ahead with requiring local agencies to have an approved Local Road Safety Plans (LRSP) or equivalent in order to be eligible to receive HSIP grant funds starting in 2022 which is Cycle 11. Approximately 370 agencies have either a plan that is completed or is in progress.

The State HSIP is now part of the newly formed Division of Safety Programs where HSIP is elevating the focus and approach to the Strategic Highway Safety Plan Toward Zero Deaths goal.

To expedite the programming of Safety projects they are funded under the State Highway Operations and Protection Program (SHOPP) reservation resources entitling eligible projects for continuous programming at every California Transportation Commission (CTC) meeting that are held approximately every other month.

To avoid delays when developing a Project Initiation Document for Safety Improvement projects, every effort must be made to focus on addressing the Safety need only, to avoid scope creep which can delay or disqualify the improvement as a Safety project.



## 2021 California Highway Safety Improvement Program

This pilot will reduce the time from when a Safety project is conceptually approved to when it is programmed. The Conceptual Report includes substantial project information currently reported at the Project Initiation Document phase. By simply transferring this information from the Conceptual Report to the Project Initiation Document, significant rework is avoided reducing the amount of time and resources to develop the Project Initiation Document . The proposed process is anticipated to reduce the time it takes from the beginning of the conceptual approval process to the completion of the Project Initiation Document by four (4) to six (6) months.

**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-HUM-036<br>PM10.5/10.8    | Alignment                    | Horizontal curve realignment                            | .3      | Miles              | \$3068000             | \$6063000              | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Other Freeways & Expressways | 0    | 55    | State Highway Agency | Spot                      | Roadway Departure  |               |
| 01-MEN-001<br>PM 6.5/9.5     | Shoulder treatments          | Widen shoulder – paved or other (includes add shoulder) | 3.0     | Miles              | \$940000              | \$940000               | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Other Freeways & Expressways | 0    | 55    | State Highway Agency | Spot                      | Lane Departure   |               |
| 03-NEV-020<br>PM 29.7/30.9   | Roadside                     | Increase clear zone – outside of curve                  | 1       | Miles              | \$8914000             | \$12499000             | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Other Freeways & Expressways | 0    | 55    | State Highway Agency | Spot                      | Roadway Departure  |               |
| 03-NEV-020<br>PM 37.1/39.8   | Roadside                     | Increase clear zone – outside of curve                  | 2.7     | Miles              | \$28890000            | \$39480000             | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Other Freeways & Expressways | 0    | 55    | State Highway Agency | Spot                      | Roadway Departure  |               |
| 03-SAC-VAR<br>PM VAR         | Roadway                      | Pavement surface – high friction surface                |         | Var Ramp Locations | \$3380000             | \$3945000              | HSIP (23 U.S.C. 148) | Multiple/Varies    | Principal Arterial-Other Freeways & Expressways | 0    | 55    | State Highway Agency | Spot                      | Roadway Departure  |               |
| 04-ALA-580<br>PM R1.3/R6.0   | Lighting                     | Lighting - other  | 4.7     | Miles              | \$3203000             | \$3945000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Other Freeways & Expressways | 0    | 55    | State Highway Agency | Environmental             | Environmental mitigation for lighting impacts on species habitat |               |
| 05-MON-001<br>PM 74.8/R102.0 | Roadway                      | Rumble strips – edge or shoulder                        | 27.2    | Miles              | \$1643000             | \$2529000              | HSIP (23 U.S.C. 148) | Multiple/Varies    | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | Spot                      | Roadway Departure  |               |
| 05-SBT-025<br>PM 54.0        | Intersection traffic control | Modify control – Modern Roundabout                      |         | Intersections      | \$3380000             | \$3945000              | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Other Freeways & Expressways | 0    | 55    | State Highway Agency | Spot                      | Intersections  |               |
| 05-SLO-101<br>PM 38.5/39.4   | Roadway                      | Roadway - other   | 0.9     | Miles              | \$2851000             | \$5368000              | HSIP (23 U.S.C. 148) | Multiple/Varies    | Principal Arterial-Interstate                   | 0    | 55    | State Highway Agency | Spot                      | Lane Departure   |               |
| 05-SLO-101<br>PM 27.9        | Roadway                      | Superelevation / cross slope                            | 0.9     | Lanes              | \$402000              | \$2161000              | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Interstate                   | 0    | 65    | State Highway Agency | Spot                      | Roadway Departure  |               |
| 03-SAC-050<br>PM VAR         | Pedestrians and bicyclists   | ADA curb ramps  | 27.2    | Access points      | \$1643000             | \$2529000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Interstate                   | 0    | 65    | State Highway Agency | Spot                      | Pedestrians  |               |
| 05-SLO-001<br>PM VAR         | Roadway                      | Rumble strips – other                                   | 3.0     | VAR centerline     | \$2466000             | \$3801000              | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Interstate                   | 0    | 55    | State Highway Agency | Spot                      | Roadway Departure  |               |

2021 California Highway Safety Improvement Program

| 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 |
|---------------------------|------------------------------|-------------------------------------|---------|----------------------------|-----------------------|------------------------|----------------------|--------------------|---|------|-------|----------------------|---------------------------|--|---------------|
|                           |                              |                                     |         | and edgeline rumble strips |                       |                        |                      |                    |   |      |       |                      |                           |  |               |
| 05-SB-135 PM 17.3/17.6    | Pedestrians and bicyclists   | Pedestrians and bicyclists – other  | 0.3     | Miles                      | \$1716000             | \$3782000              | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Other Freeways & Expressways | 0    | 55    | State Highway Agency | Spot                      | Pedestrians  |               |
| 05-SB-166 PM 8.1          | Intersection traffic control | Modify control – new traffic signal | 1       | Intersections              | \$785000              | \$1758000              | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Other Freeways & Expressways | 0    | 55    | State Highway Agency | Spot                      | Intersections  |               |
| 06-FRE-041 PM 6.0/ R20.8  | Roadway                      | Rumble strips – edge or shoulder    | 13.4    | Miles                      | \$981000              | \$2930000              | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | Spot                      | Roadway Departure  |               |
| 06-KER-178 PM 10.4/57.0   | Roadway                      | Rumble strips – other               | 47.4    | Miles                      | \$2728000             | \$6513000              | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | Spot                      | Roadway Departure  |               |
| 06-TUL-063 PM 12.1/ R30.1 | Shoulder treatments          | Shoulder treatments - other         | 18      | Miles                      | \$1339000             | \$3163000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Other                        | 0    | 55    | State Highway Agency | Spot                      | Lane Departure   |               |
| 06-TUL-065 PM 0.0/R 19.3  | Roadway                      | Rumble strips – other               | 19.3    | Miles                      | \$2118000             | \$3947000              | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | Spot                      | Lane Departure   |               |
| 07-LA-001 PM18.9/19.9     | Intersection traffic control | Modify traffic signal –other        | 1       | Numbers                    | \$3500000             | \$6406000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | Spot                      | Intersections  |               |
| 07-LA-005 PM 18.0         | Pedestrians and bicyclists   | ADA curb ramps                      | 1       | Numbers                    | \$1446000             | \$3687000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Interstate                   | 0    | 65    | State Highway Agency | Spot                      | Pedestrians  |               |
| 07-LA-110 PM25.8/30.6     | Advanced technology and ITS  | Dynamic message signs               | 1       | Numbers                    | \$0                   | \$2835000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Interstate                   | 0    | 65    | State Highway Agency | Spot                      | Convert outside lane to a dynamic lane/shoulder that canswitch between the two depending on prevaili |               |
| 08-SANB-259-PM 1.1/1.2    | Roadside                     | Barrier – concrete                  | .1      | Miles                      | \$527000              | \$1666000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Other                        | 0    | 55    | State Highway Agency | Spot                      | Lane Departure   |               |
| 10-MER-152 PM 21.0        | Intersection traffic control | Modify control – new traffic signal | 1       | Intersections              | \$1394000             | \$4041000              | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | Spot                      | Intersections  |               |

2021 California Highway Safety Improvement Program

| 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 |
|--------------------------|-----------------------------------|--|---------|---------------|-----------------------|------------------------|----------------------|--------------------|---|------|-------|----------------------|---------------------------|--|---------------|
| 11-SD-008 PM 5.6         | Roadway                           | Pavement surface – high friction surface           | 2       | Numbers       | \$2006000             | \$3188000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Interstate                   | 0    | 65    | State Highway Agency | Spot                      | Lane Departure   |               |
| 12-ORA-022 PM R1.2       | Intersection traffic control      | Modify traffic signal –other                       | 1       | Intersections | \$672000              | \$1835000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | Spot                      | modify existing traffic signal, add safety lighting, refresh pavement marking, ADA upgrade |               |
| 12-ORA-039 PM 9.7        | Intersection traffic control      | Modify control – other                             | 1       | Intersections | \$890000              | \$2234000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | Spot                      | Intersections  |               |
| 12-ORA-057 PM 15.6       | Roadway                           | Pavement surface – high friction surface           | 1       | Access points | \$554000              | \$1308000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | Spot                      | Intersections  |               |
| 12-ORA-0091 R1.8/R3.4    | Roadway signs and traffic control | Roadway signs and traffic control - other          | 1.6     | Miles         | \$3097000             | \$5513000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | Spot                      | Roadway Departure  |               |
| 02-TEH-005 PM 36.3/41.6  | Shoulder treatments               | Shoulder treatments - other                        | 5.3     | Miles         | \$5295000             | \$7800000              | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Interstate                   | 0    | 75    | State Highway Agency | proactive                 | Improve median clear recovery zone and wideninside shoulder                                |               |
| 03-NEV-080 PM R10.1/29.5 | Roadside                          | Barrier – concrete                                 | 21      | Access points | \$9444000             | \$9335000              | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Interstate                   | 0    | 65    | State Highway Agency | proactive                 | Replace guardrail with concrete barrier to reduce maintenance call outs                    |               |
| 03-PLA-080 PM 1.3/63.5   | Roadside                          | Barrier - other                                    | 62.2    | Miles         | \$3086000             | \$3750000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Interstate                   | 0    | 65    | State Highway Agency | proactive                 | upgrade guardrail  |               |
| 03-SAC-VAR               | Roadside                          | Barrier end treatments (crash cushions, terminals) |         | Locations     | \$1974000             | \$2750000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | proactive                 | Lane Departure   |               |
| 03-YOL-016 PM 27.5/28.3  | Pedestrians and bicyclists        | Modify existing crosswalk                          |         | Access points | \$3813000             | \$7167000              | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Other Freeways & Expressways | 0    | 55    | State Highway Agency | Systemic                  | Pedestrians  |               |

2021 California Highway Safety Improvement Program

| 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 |
|----------------------------|-----------------------------------|--|---------|--|-----------------------|------------------------|----------------------|--------------------|---|------|-------|----------------------|---------------------------|--------------------------------------|---------------|
| 03-YOL-050 PM 0.0/3.0      | Roadside                          | Barrier - other                                    | 3       | Miles  | \$2439000             | \$3529000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Interstate                   | 0    | 65    | State Highway Agency | proactive                 | Upgrade guardrail                    |               |
| 04-ALA-580 PM VAR          | Roadside                          | Barrier - other                                    |         | Various locations upgrading guardrail  | \$0                   | \$5492000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | proactive                 | upgrade guardrail                    |               |
| 04-ALA-580 PM VAR          | Pedestrians and bicyclists        | Pedestrians and bicyclists – other                 |         | Accessible pedestrian signals, countdown timers and upgrade crosswalk markings               | \$0                   | \$9128000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | Systemic                  | Pedestrians                          |               |
| 05-SBA- Var-VAR            | Pedestrians and bicyclists        | Pedestrians and bicyclists – other                 |         | Install accessible pedestrian Signals (APS), push buttons, countdown ped signals(CPS), other | \$1190000             | \$4580000              | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Other Freeways & Expressways | 0    | 55    | State Highway Agency | Systemic                  | Pedestrians                          |               |
| 06-TUL-VAR-VAR             | Roadway signs and traffic control | Curve-related warning signs and flashers           |         | Signs  | \$2022000             | \$4682000              | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | proactive                 | Roadway Departure                    |               |
| 07-LA-002 PM26.4/79.5      | Roadside                          | Barrier - other                                    | 53.1    | Miles  | \$17809000            | \$24238000             | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | proactive                 | upgrade guardrail                    |               |
| 07-LA-039 PM 32.2/38.4     | Roadside                          | Barrier end treatments (crash cushions, terminals) | 6.2     | Miles  | \$4210000             | \$7883000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | proactive                 | upgrade guardrail and end treatments |               |
| 07-LA-091 PM 6.3/8.1       | Roadway                           | Rumble strips – edge or shoulder                   | 2       | Miles  | \$2310000             | \$3446000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | proactive                 | Roadway Departure                    |               |
| 07-LA-VAR-VAR              | Roadway signs and traffic control | Curve-related warning signs and flashers           |         | Signs  | \$2100000             | \$5155000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | proactive                 | Roadway Departure                    |               |
| 07-VEN-101-SB PM 0.0/R38.9 | Roadside                          | Roadside - other                                   | 38.9    | Miles  | \$11636000            | \$17669000             | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | proactive                 | Guardrail upgrade                    |               |

2021 California Highway Safety Improvement Program

| 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 |
|--------------------------------|----------------------|----------------------------------|---------|---|-----------------------|------------------------|----------------------|--------------------|---|------|-------|----------------------|---------------------------|--|---------------|
| 07-VEN-NB-101 PM<br>0.9/R39.2  | Roadside             | Roadside - other                 | 38.3    | Miles   | \$10252000            | \$14810000             | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | proactive                 | upgrade guardrails, end treatments, and bridge connections, and vegetation control |               |
| 08-SBD-040 PM<br>R100.0/R125.0 | Roadway              | Superelevation / cross slope     | 25.0    | Miles   | \$30506000            | \$40106000             | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | proactive                 | Roadway Departure  |               |
| 09-KER-178-VAR-VAR             | Roadway              | Roadway - other                  |         | upgrade guardrails, end treatments, and bridge trasnistion railings | \$2740000             | \$4562000              | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | proactive                 | upgrade guardrails, end treatments, and bridge trasnistion railings                |               |
| 09-MNO-395 PM<br>R6.9/T9.6     | Roadway              | Rumble strips – edge or shoulder | 3.0     | Miles   | \$14811000            | \$22451000             | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | proactive                 | Roadway Departure  |               |
| 10-AMA-088 PM<br>7.9/R65.8     | Roadway              | Roadway - other                  | 57.9    | Miles   | \$4130000             | \$6064000              | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | proactive                 | Roadway Departure  |               |
| 10-MER-152 PM<br>26.3/R40.7    | Roadway              | Roadway - other                  | 14.4    | Miles   | \$2767000             | \$4957000              | HSIP (23 U.S.C. 148) | Rural              | Principal Arterial-Other Freeways & Expressways | 0    | 65    | State Highway Agency | proactive                 | upgrade guardrail  |               |
| 11-SD-005 PM<br>R55.6/R70.0    | Roadside             | Barrier – cable                  | 14.4    | Miles   | \$5989000             | \$8493000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Interstate                   | 0    | 65    | State Highway Agency | Proactive                 | Roadway Departure  |               |
| 11-SD-008-VAR                  | Roadway              | Roadway - other                  |         | upgrade guardrail and end treatments                                | \$3823000             | \$6718000              | HSIP (23 U.S.C. 148) | Urban              | Principal Arterial-Interstate                   | 0    | 65    | State Highway Agency | proactive                 | Roadway Departure  |               |

The projects inputted above are state HSIP programmed projects You will find the state local HSIP programmed projects attached.

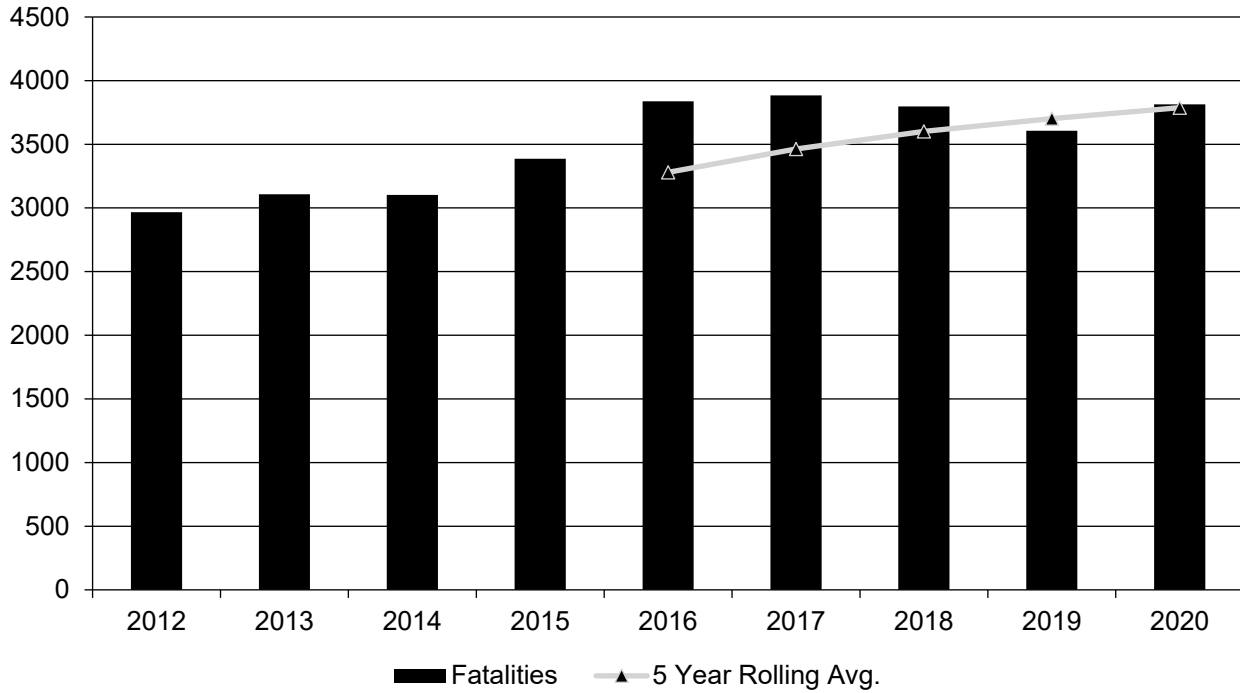
## Safety Performance

### General Highway Safety Trends

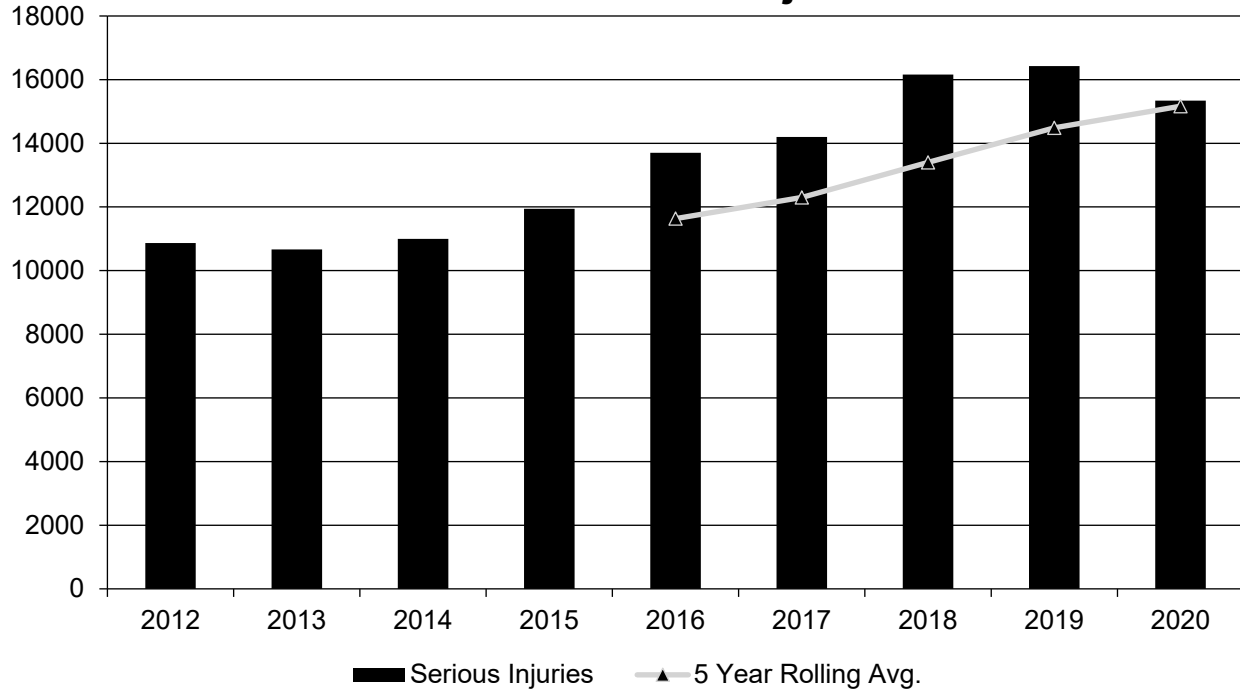
Present data showing the general highway safety trends in the State for the past five years.

| PERFORMANCE MEASURES                     | 2012   | 2013   | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   | 2020   |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Fatalities                               | 2,966  | 3,107  | 3,102  | 3,387  | 3,837  | 3,884  | 3,798  | 3,606  | 3,814  |
| Serious Injuries                         | 10,864 | 10,664 | 10,995 | 11,942 | 13,701 | 14,201 | 16,158 | 16,427 | 15,342 |
| Fatality rate (per HMVMT)                | 0.910  | 0.900  | 0.930  | 1.010  | 1.130  | 1.130  | 1.090  | 1.060  | 0.919  |
| Serious injury rate (per HMVMT)          | 3.320  | 3.240  | 3.290  | 3.560  | 4.030  | 4.130  | 4.630  | 4.820  | 4.379  |
| Number non-motorized fatalities          | 782    | 881    | 838    | 1,009  | 1,130  | 1,125  | 1,174  | 1,195  | 1,137  |
| Number of non-motorized serious injuries | 2,743  | 2,710  | 2,795  | 2,803  | 3,017  | 3,175  | 3,399  | 3,503  | 2,990  |

### Annual Fatalities

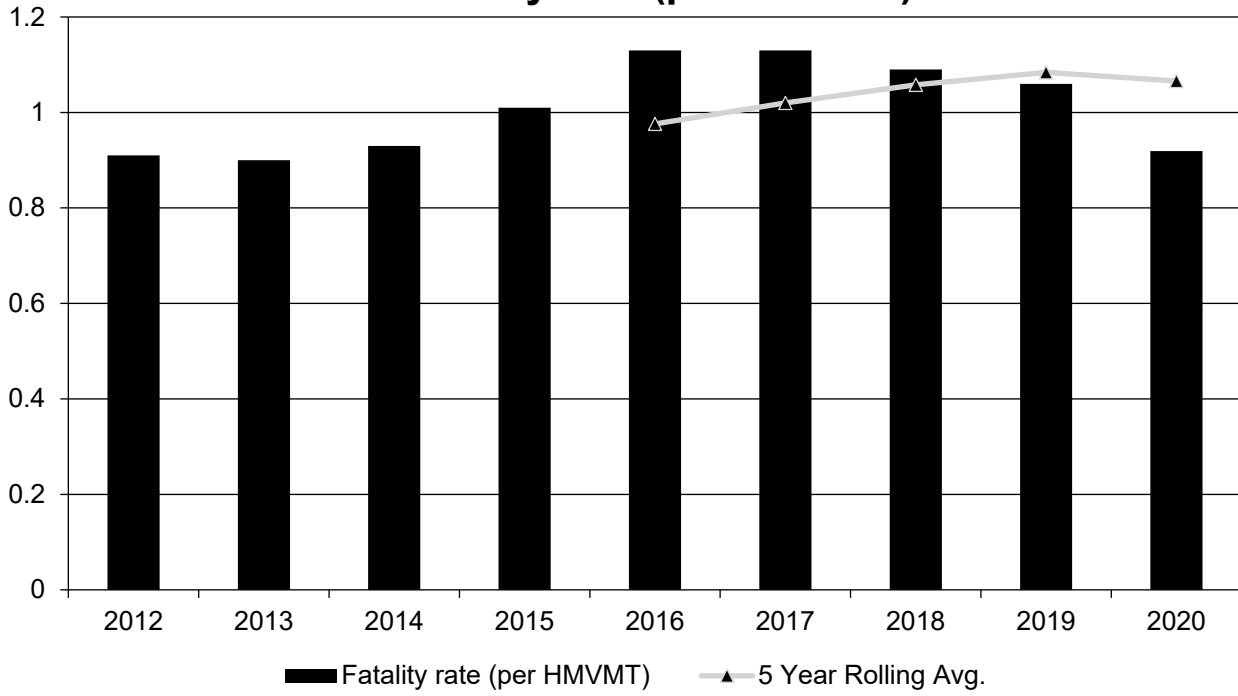


### Annual Serious Injuries

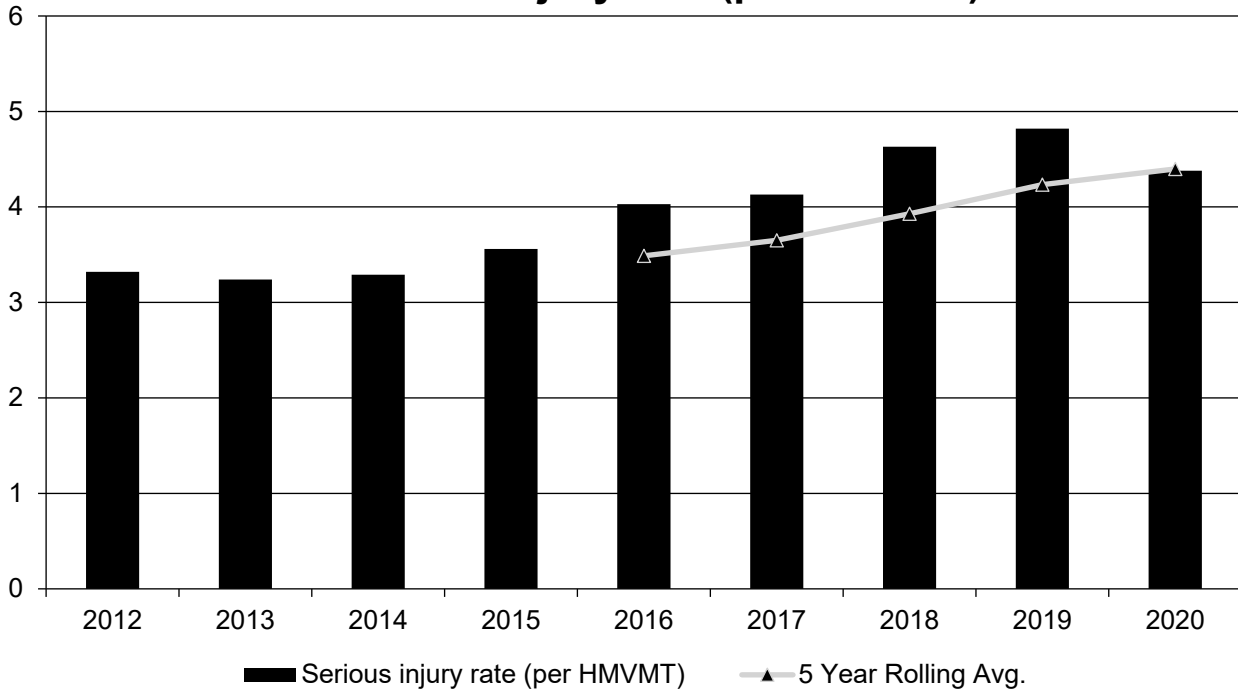




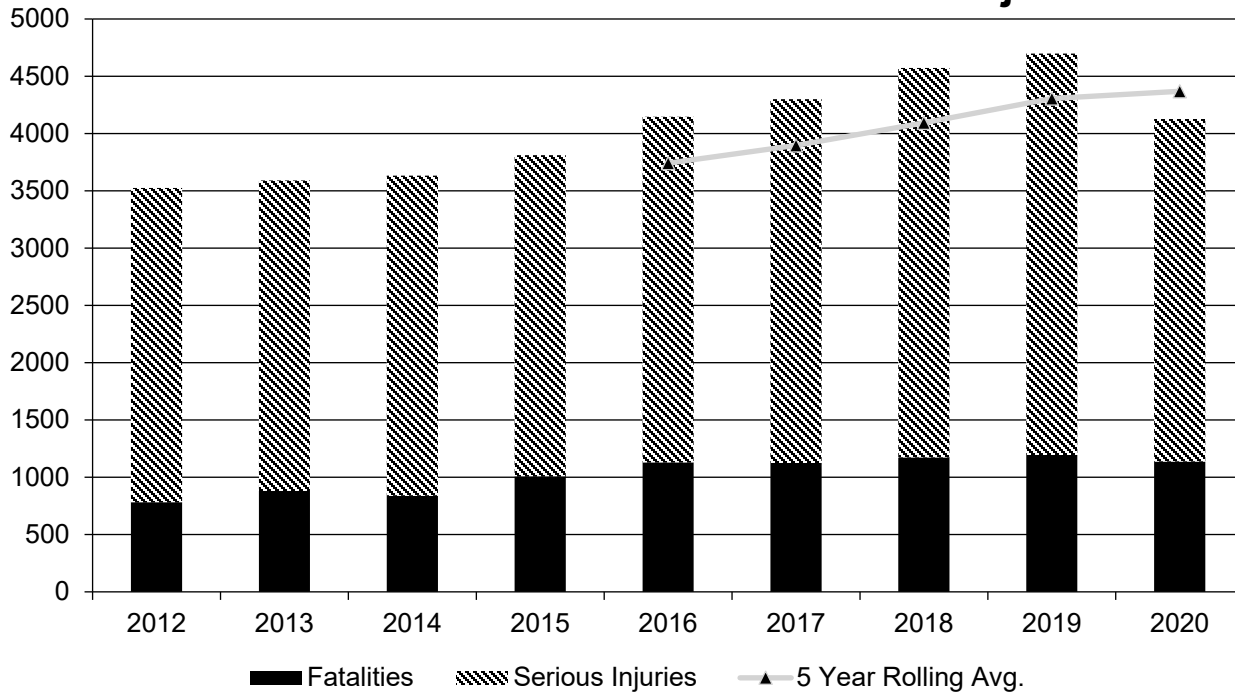
### Fatality rate (per HMVMT)



### Serious injury rate (per HMVMT)



### Non Motorized Fatalities and Serious Injuries



2020 numbers are provisional as of July 2021

**Describe fatality data source.**

FARS

**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 |                                 |                                       |                                      |  |
| Rural Principal Arterial (RPA) - Other                          |                                 |                                       |                                      |  |
| Rural Minor Arterial  |                                 |                                       |                                      |  |
| Rural Minor Collector   |                                 |                                       |                                      |  |
| Rural Major Collector   |                                 |                                       |                                      |  |

2021 California Highway Safety Improvement Program

| 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 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  |

2021 California Highway Safety Improvement Program

**Year 2019**

| <b>Roadways</b>   | <b>Number of Fatalities<br/>(5-yr avg)</b> | <b>Number of Serious<br/>Injuries<br/>(5-yr avg)</b> | <b>Fatality Rate<br/>(per HMVMT)<br/>(5-yr avg)</b> | <b>Serious Injury Rate<br/>(per HMVMT)<br/>(5-yr avg)</b> |
|---|--|--|---|---|
| State Highway Agency  | 1,580.6                                    | 5,386.6  | 0.82  | 2.81  |
| 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   |  |  |   |   |

The SWITERS and Caltrans database does not allow at this time for query break down by classification for local roads.

**Provide additional discussion related to general highway safety trends.**

The annual trend in fatalities and serious injuries in 2020 is in the upward direction. Although the annual trend is moving in the wrong direction, Caltrans look to reverse the trend and move toward the long-term goal of zero fatalities and serious injuries by 2050.

Caltrans is working with University of California, Berkley (UCB) to help implement the safe system approach. The Safe System approach (SSA) to road safety is a fundamental shift in how we define the safety challenge, implement safety interventions, and evaluate progress. These include reframing core principles of our

## 2021 California Highway Safety Improvement Program

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. 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 2022 Targets \***

***Number of Fatalities:3491.8***

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

The available data from FARS was used to determine the average trend between 2017 and 2019. The average trend decreased the number of fatalities by 3.61% annually and the five-year rolling average was used to establish the 2022 target. The 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 \$226 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.

***Number of Serious Injuries:16704.2***

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

The available data from SWITRS was used to determine the average trend between 2018 and 2019. The average trend increased the number of serious injuries by 1.66% annually and the five-year rolling average was used to establish the 2022 target. The serious injury definition changed to include suspected serious injuries and was implemented in the middle of 2017. The first full year (2018) of including suspected serious injuries resulted in an increase of 17.93% from the last full year (2016) of the previous definition. In March of 2021, the Federal Highway Administration apportioned \$226 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.

***Fatality Rate:1.042***

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

Based on the number of fatalities per 100 million vehicle miles travelled from 2015-2019, the average trend decreased the fatality rate by 2.00% annually. The five-year rolling average was then used to establish the 2022 target. The 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 \$226 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.

***Serious Injury Rate:4.879***

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

Based on the serious injury rate from 2015-2019, the average trend increased by 1.66% annually. The five-year rolling average was used to establish the 2022 target. The serious injury definition changed to include

## 2021 California Highway Safety Improvement Program

suspected serious injuries and was implemented in the middle of 2017. The first full year (2018) of including suspected serious injuries resulted in an increase of 17.93% from the last full year (2016) of the previous definition. In March of 2021, the Federal Highway Administration apportioned \$226 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:4684.4**

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

The average trend decreased the number of fatalities by 3.61% and increased the number of serious injuries by 1.66%. The five-year rolling average was based on the average trends to establish the 2022 target. In March of 2021, the Federal Highway Administration apportioned \$226 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 July 27, 2021, a virtual workshop was held to discuss the 2022 SPMTs with the MPOs and other vested stakeholders. During this workshop, three possible scenarios for setting the 2021 targets were discussed. They included: (1) an aspirational trend such as reaching zero fatalities by 2050; (2) a target based on estimated impacts from completed activities and projects; and (3) a trend line, which extrapolates the existing changes in fatalities and serious injuries into the future.

The current approach is the third scenario that uses a trend line. The trend line approach extrapolates the existing changes in fatalities and serious injuries into the future and is a data-driven process that estimates the impacts of external factors and safety improvements based on collision history.

Caltrans and Office of Traffic Safety (OTS) met prior to the July 27th meeting, to discuss and agree on the methodology to set the three core safety performance targets (C1 - C3), that OTS and Caltrans are required to agree upon and must be included in the HSP and HSIP.

#### **Does the State want to report additional optional targets?**

No

#### **Describe progress toward meeting the State's 2020 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                          | 3518.0  | 3787.8  |
| Number of Serious Injuries                    | 13740.4 | 15165.8 |
| Fatality Rate                                 | 1.023   | 1.066   |
| Serious Injury Rate                           | 3.994   | 4.398   |
| Non-Motorized Fatalities and Serious Injuries | 4147.4  | 4369.0  |

## 2021 California Highway Safety Improvement Program

The 2020 target for number of fatalities used a target line to reach zero fatalities by 2050 (with 2016 numbers as the baseline numbers), and this methodology was similarly done by several States in the nation. The percent reduction for the number of serious injuries was 1.5%. Based on the data available at the time of reporting, Caltrans will not meet any of the targets set for 2020. Since Caltrans set aspirational goals consistent with the SHSP, there will be a difference in the target and the actual outcome. Caltrans is committed to safety and this approach will require aggressive implementation efforts to improve performance.

### ***Applicability of Special Rules***

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

No

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

| <b>PERFORMANCE MEASURES</b>                            | <b>2013</b> | <b>2014</b> | <b>2015</b> | <b>2016</b> | <b>2017</b> | <b>2018</b> | <b>2019</b> |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Number of Older Driver and Pedestrian Fatalities       | 391         | 416         | 434         | 540         | 487         | 517         | 492         |
| Number of Older Driver and Pedestrian Serious Injuries | 636         | 695         | 799         | 927         | 1,011       | 1,179       | 1,270       |

Caltrans has Older Driver Challenge Area as well as a Pedestrian Challenge area that takes into consideration Pedestrians over the age of 65.

These numbers have been updated to represent Older Driver and Older Pedestrians for both Fatalities and Serious injuries.

## 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

There are 3 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 fatality, injury, PDO, AADT from 3-year before and 3-year after, and including a Benefit-Cost Analysis to determine whether a low-cost and effective countermeasure does reduce certain type of collisions and patterns. DLA does a preliminary screening for approving safety improvement projects by using method of Benefit-Cost Analysis and data criteria.

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

Caltrans is continually working towards zero deaths and serious injuries on our roadways, based on the measures stated above we need to do more. We are looking with our partners both at the local and state level to work together to develop strategies aimed at eliminating traffic fatalities and serious injuries on our roadways.

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

- # RSAs completed
- HSIP Obligations
- Increased awareness of safety and data-driven process
- Increased focus on local road safety
- More systemic programs
- Other-SHSP Crash Data Dash Board

### *Effectiveness of Groupings or Similar Types of Improvements*

Present and describe trends in SHSP emphasis area performance measures.

#### Year 2019

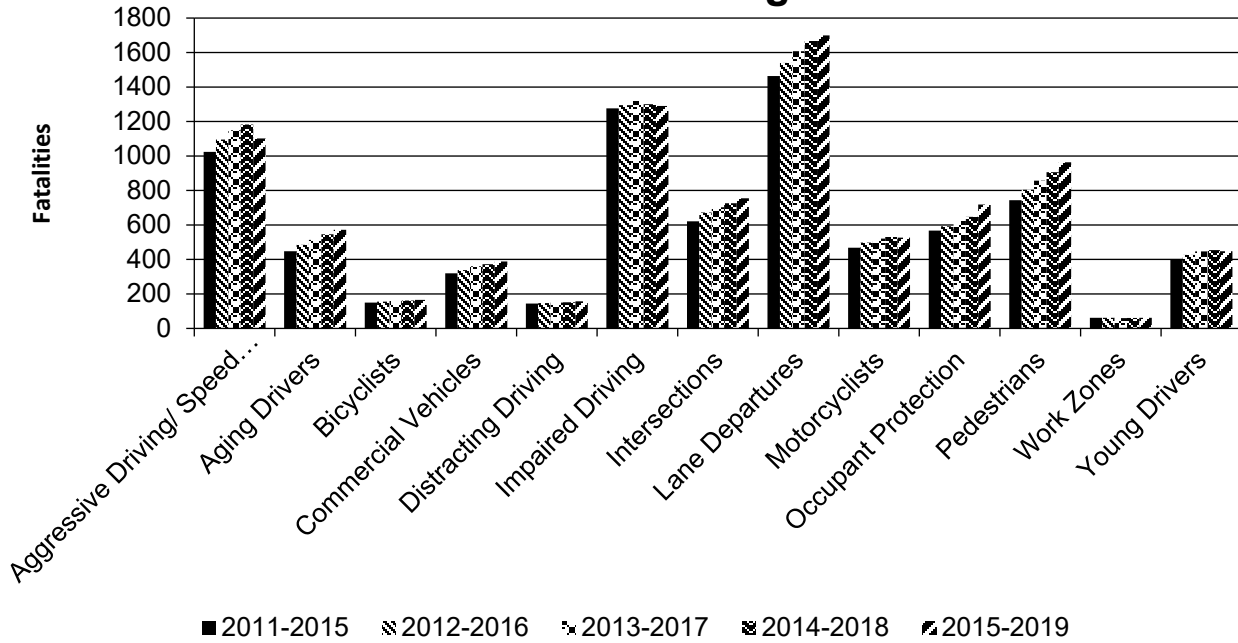
| SHSP Emphasis Area                   | Targeted Crash Type | Number of Fatalities (5-yr avg) | Number of Serious Injuries (5-yr avg) | Fatality Rate (per HMVMT) (5-yr avg) | Serious Injury Rate (per HMVMT) (5-yr avg) |
|--------------------------------------|---------------------|---------------------------------|---------------------------------------|--------------------------------------|--|
| Aggressive Driving/ Speed Management | All                 | 1,102.2                         | 4,353.8                               | 0.32                                 | 1.27                                       |
| Aging Drivers                        | All                 | 571.6                           | 1,879.4                               | 0.17                                 | 0.55                                       |



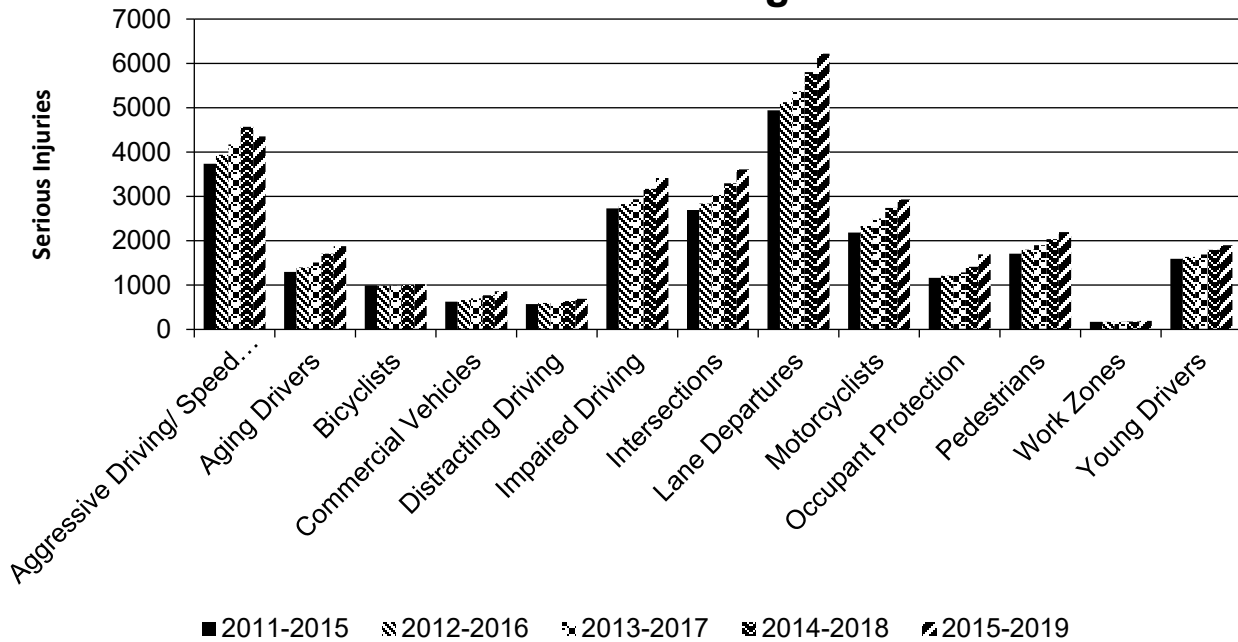
2021 California Highway Safety Improvement Program

| <b>SHSP Emphasis Area</b> | <b>Targeted Crash Type</b> | <b>Number Fatalities (5-yr avg)</b> | <b>of</b> | <b>Number Serious Injuries (5-yr avg)</b> | <b>of</b> | <b>Fatality Rate (per HMVMT) (5-yr avg)</b> | <b>Serious Injury Rate (per HMVMT) (5-yr avg)</b> |
|---------------------------|----------------------------|-------------------------------------|-----------|---|-----------|---|---|
| Bicyclists                | All                        | 165.2                               |           | 1,017.6                                   |           | 0.05  | 0.3   |
| Commercial Vehicles       | All                        | 387.8                               |           | 859.8                                     |           | 0.11  | 0.25  |
| Distracting Driving       | All                        | 157.6                               |           | 690.6                                     |           | 0.05  | 0.2   |
| Impaired Driving          | All                        | 1,289.8                             |           | 3,417                                     |           | 0.37  | 0.99  |
| Intersections             | All                        | 755                                 |           | 3,608.6                                   |           | 0.22  | 1.05  |
| Lane Departures           | All                        | 1,699.8                             |           | 6,218.6                                   |           | 0.5   | 1.81  |
| Motorcyclists             | All                        | 526.8                               |           | 2,933.4                                   |           | 0.15  | 0.85  |
| Occupant Protection       | All                        | 719                                 |           | 1,694.2                                   |           | 0.21  | 0.49  |
| Pedestrians               | All                        | 963.2                               |           | 2,194.4                                   |           | 0.28  | 0.64  |
| Work Zones                | All                        | 62                                  |           | 192.4                                     |           | 0.02  | 0.06  |
| Young Drivers             | All                        | 448                                 |           | 1,901                                     |           | 0.13  | 0.55  |

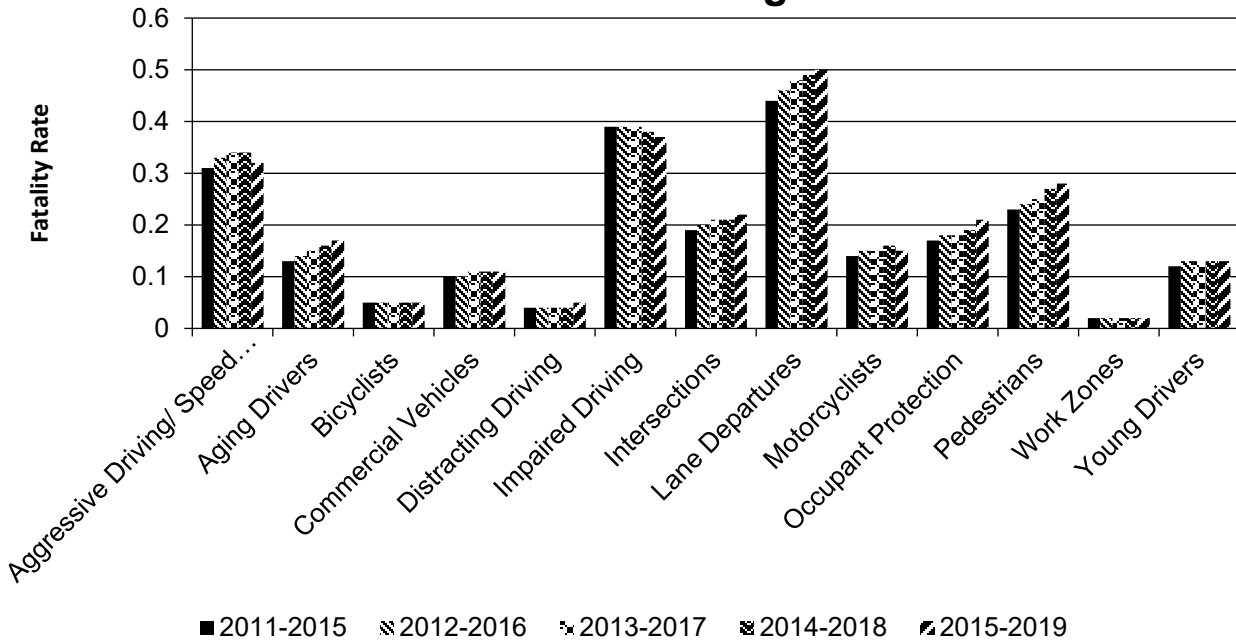
### Number of Fatalities 5 Year Average



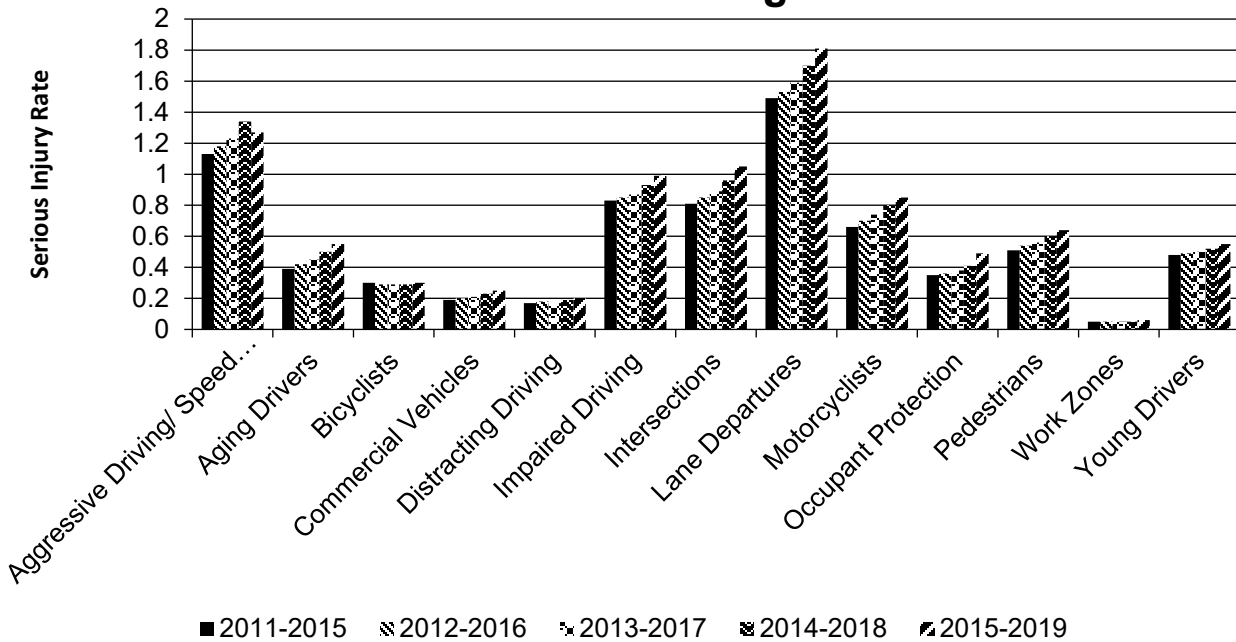
### Number of Serious Injuries 5 Year Average



### Fatality Rate (per HMVMT) 5 Year Average



### Serious Injury Rate (per HMVMT) 5 Year Average



Data as of November 2020

**Has the State completed any countermeasure effectiveness evaluations during the reporting period?**

No

## 2021 California Highway Safety Improvement Program

In this reporting period, Caltrans has not completed any countermeasure effectiveness evaluations during the reporting period. Caltrans seldom conducts countermeasure effectiveness evaluations and typically refers to the CMF clearinghouse for countermeasure effectiveness.

**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) |
|--|------------------|----------------------|------------------|------------|-----------|-----------------|----------------|-----------------------|----------------------|-------------------------|------------------------|--------------|-------------|---|
| Please see attached Excel spreadsheets |                  |                      |                  |            |           |                 |                |                       |                      |                         |                        |              |             |   |

Both the State Highway System and Local Roads are attached.

**Describe any other aspects of HSIP effectiveness on which the State would like to elaborate.**

Caltrans understands the benefit of reviewing current processes and performance standards to determine how best to revise existing and/or establish new procedures. Reviewing past performance is used to determine ways to substantially improve the effectiveness and transparency of safety implementation.

The HSIP review provides, an opportunity to identify best practices nationally and worldwide that could be incorporated into the program, and discuss safety goals for specific targets.

## 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?**

2025

The current California SHSP was approved in 1/21/2020, the SHSP Executive Leadership and Steering Committee decided in order to address the desire for bolder and broader actions to reduce fatalities and serious injuries, revised and signed in 3/2021 to include four new guiding principles: Integrate Equity, Implement a Safe Systems Approach, Double Down on what works, and Accelerate Advanced Technology.

**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                             |           |                                      |           |                               |           |                   |           |               |           |
|                            | 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       |                                      |           |                               |           |                   |           |               |           |
| Functional Class (19) [19] | 100                                      | 100                             |           |                                      |           |                               |           |                   | 100       |               |           |

2021 California Highway Safety Improvement Program

| 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 |
|                         | Median Type (54) [55]                                     | 100                                    |           |                                      |           |                               |           |                   |           |               |           |
|                         | 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       |               |           |
|                         | <b>INTERSECTION</b>                                       | 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]                    |  |           |                                      |           |                               |           |                   |           |               |           |
| <b>INTERCHANGE/RAMP</b> | Unique Interchange Identifier (178) [168]                 |  |           |                                      |           |                               |           |                   |           |               |           |
|                         | Location Identifier for Roadway at                        |  |           |                                      |           |                               |           |                   |           |               |           |

2021 California Highway Safety Improvement Program

| 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   |
|   | 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                           |             |                   |              |               |             |
| <b>Totals (Average Percent Complete):</b> |   | <b>100.00</b>                   | <b>83.33</b> | <b>75.00</b>                         | <b>25.00</b> | <b>63.64</b>                  | <b>0.00</b> | <b>0.00</b>       | <b>77.78</b> | <b>0.00</b>   | <b>0.00</b> |

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

For this year, the MIRE FDE compliance is based on the information from HPMS.

If the HPMS of local road information is full extend (e.g. mandatory), then the item that is related to it in MIRE FDE is considered 100%. If the HPMS is partial extend (e.g. optional), then the item is considered 0%. For Non-state, the percentage is reflecting on what is being reported under HPMS, it does not reflect the completeness and quality of data. Some datasets require extensive update and cleanup.

Notes:

1. For Non-state, the percentage is reflecting on what is being reported under HPMS, it does not reflect the completeness and quality of data. Some datasets require extensive update and cleanup.
2. For State, the percentage is reflecting on the current data being maintained in TSN, it does not reflect the completeness and quality of data.
3. 100% assumes it's in the TSN for the state highway system or reported in HPMS for local roads that is full extend.
4. 0% assumes is reported in HPMS for local roads that is sampling or partial extend.
5. 0% is based on the TSN has no local roads information including "Location Identifier for Road 2 Crossing Point" element
6. "n/a" assumes in the TSN there are no functional class 7 roads or unpaved roads as part of the state highway system.



**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.**

Caltrans continues with its efforts to meet MIRE FDE requirements by September 30, 2026. Caltrans has executed a contract that will aid in getting MIRE FDE on all non-state public roads.

## **Optional Attachments**

Program Structure:

HSIP-2017-Final.pdf

Project Implementation:

Local HSIP Authorized Projects FY20-21 .xlsx

Safety Performance:

Evaluation:

#46 Before and After Submitted Report including Functional Classification HSIP 2017 v09.20.2021.xlsx

Local Roads HSIP\_BCR\_2021#46.xlsx

Local Roads HSIP\_BCR\_2021#46.xlsx

#46 Before and After Submitted Report including Functional Classification HSIP 2017 v09.20.2021.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.