



LOCAL HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

Cycle 13 Call for Projects

July 21, 2026

Agenda

9:05am – FHWA Remarks

Presented by: Maria Bhatti, Safety Program Manager, FHWA California Division

9:25am – Local HSIP Overview

Presented by: Vaik Renga, Office of Federal Programs, Caltrans Division of Local Assistance

9:45am – Cycle 13 Call for Projects

Presented by: Kelly Mar, HSIP Manager, Caltrans Division of Local Assistance

10:30am – Roundabouts Webinar Recap

Presented by: Phil Rust, Traffic Engineer, City of San Diego

10:40am – Questions





Highway Safety Improvement Program Cycle 13 Call-for-Projects

Federal Highway Administration Remarks

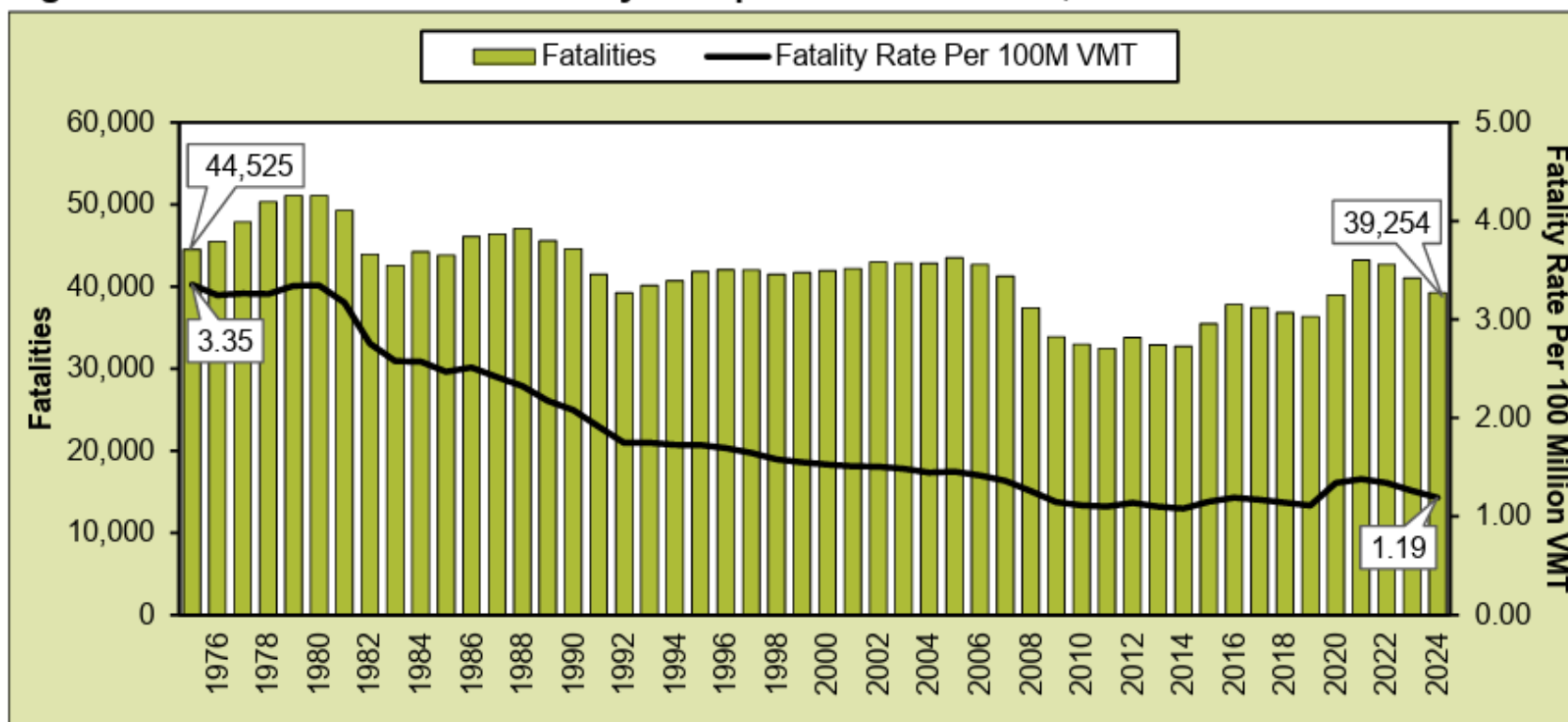
Maria Bhatti
Safety Program Manager
FHWA California Division

Disclaimer:

Except for the statutes and regulations cited, the contents of this presentation do not have the force and effect of law and are not meant to bind the States or the public in any way. This presentation is intended only to provide information regarding existing requirements under the law or agency policies.

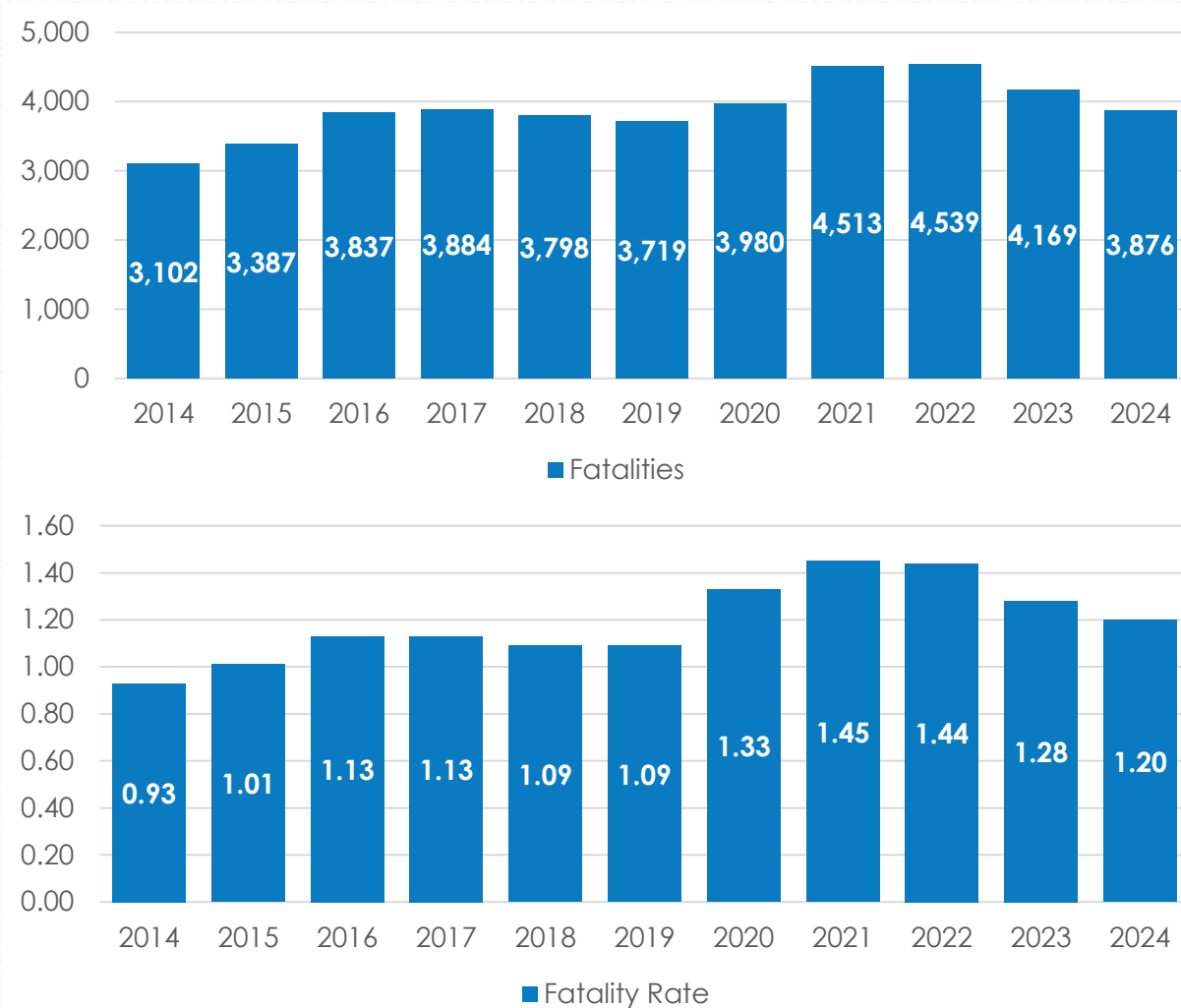
National Fatalities

Figure 1. Traffic Fatalities and Fatality Rate per 100 Million VMT, 1975-2024



Sources: FARS 1975-2023 Final File, 2024 ARF; 1975-2024 VMT – FHWA's Annual Highway Statistics

California's Fatalities



Highway Safety Improvement Program (HSIP)

Purpose:

Significantly reduce fatalities and serious injuries on ALL public roads

- Strategic safety planning
- Data-driven roadway safety management process
- Highway safety improvement projects
- Federally-funded, State administered

HSIP Project Eligibility



Source: FHWA

Additional Considerations to HSIP under the Infrastructure Investment and Jobs Act (IIJA)

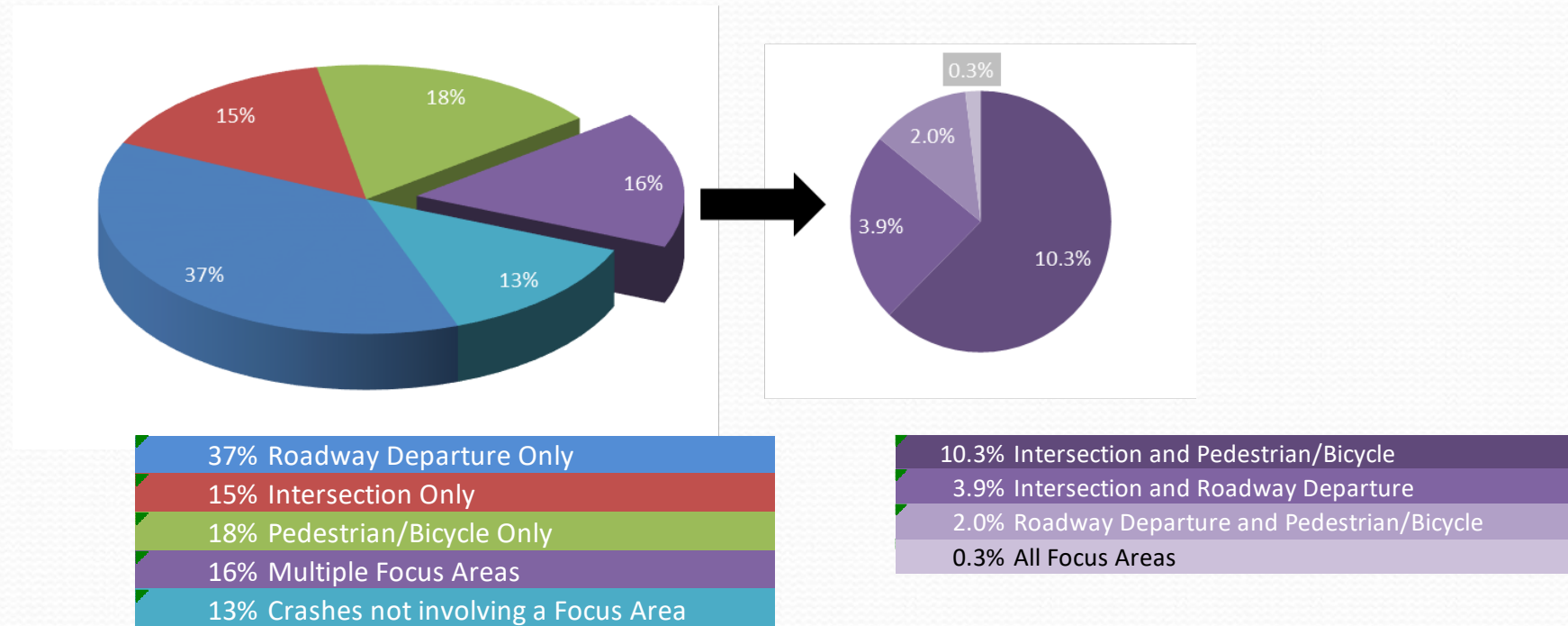
Vulnerable Road Users

High Risk Rural Roads

**Automated Traffic Enforcement
Systems**

**Projects to Maintain minimum
levels of Retroreflectivity**

California's Fatalities by FHWA Focus Area



Fatal crashes that didn't involve an FHWA focus area included 13% of all roadway fatalities in California.

Safe System Approach



Accommodating human mistakes



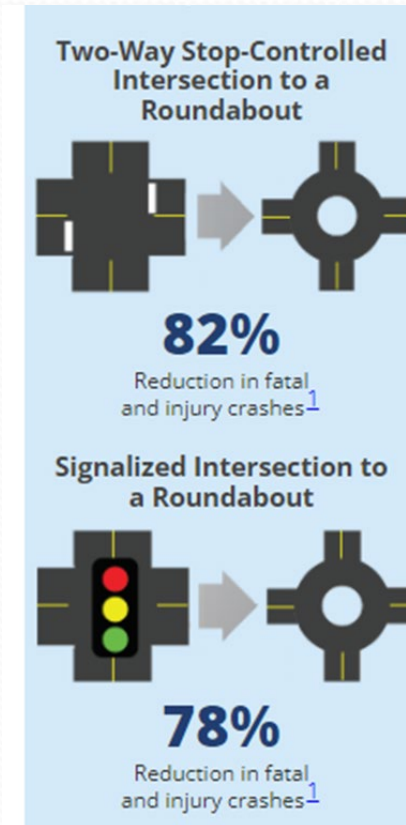
Keeping impacts on the human body at tolerable levels



Proven Safety Countermeasures

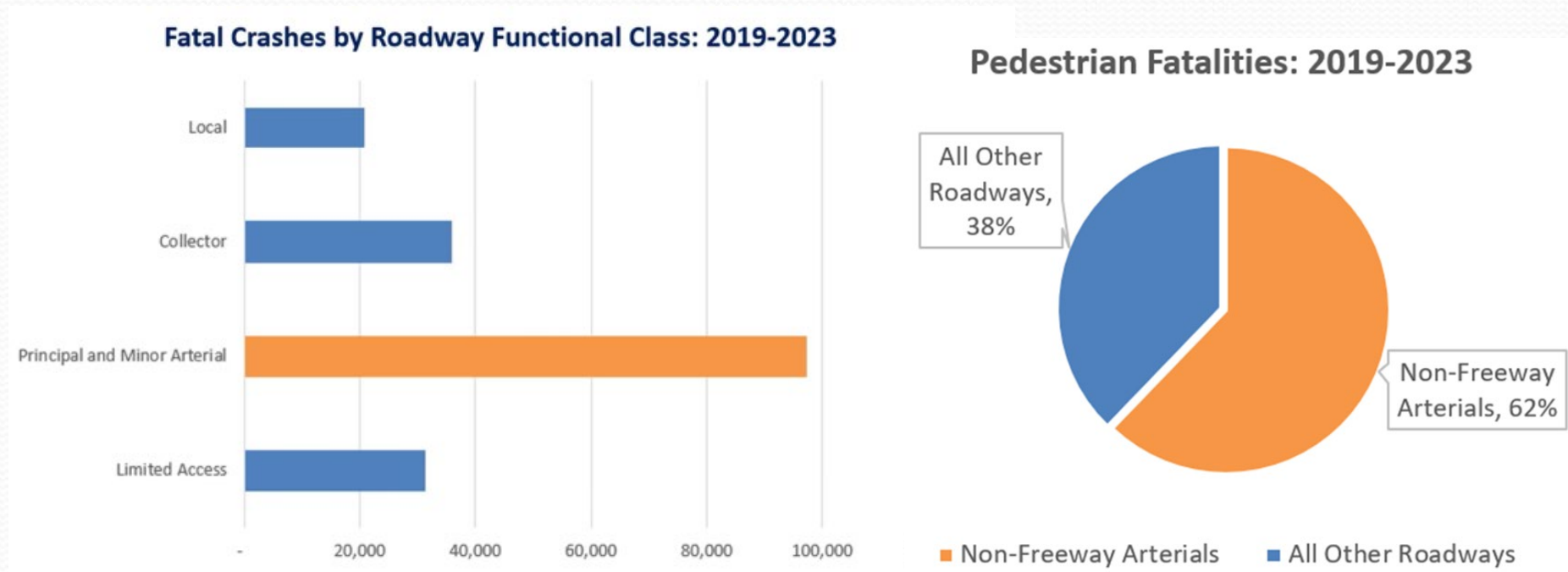
- Total of 28 Proven Safety Countermeasures
- Experimental, Tried and Proven

<https://highways.dot.gov/safety/proven-safety-countermeasures>



Source: FHWA

Non-Freeway Arterial Fatalities



Source: FHWA

<https://highways.dot.gov/safety/safe-roads>

Safe Streets for All (SS4A) Grant Program

- Available to local agencies
- Safety Action Plan grant
- Implementation project grant
- Total \$5 billion is appropriated over 5 years, 2022-2026

<https://www.transportation.gov/grants/SS4A>

Additional Resources

- [Local and Rural Safety Program](#)
- [High Risk Rural Roads \(HRRR\)](#)
- [National Center for Rural Road Safety](#)



Questions

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Local HSIP Overview

Vaik Renga, Office of Federal Programs, Caltrans Division of Local Assistance



Overview

01 – Local HSIP Purpose

02 – Eligible Applicants

03 – Local HSIP Funding

04 – Call for Project Cycle Summary

05 – Project Delivery Requirements and Status

Local HSIP Purpose



To achieve a **significant reduction in fatalities and serious injuries** on all public roads, including non-State-owned public roads and roads on tribal land.

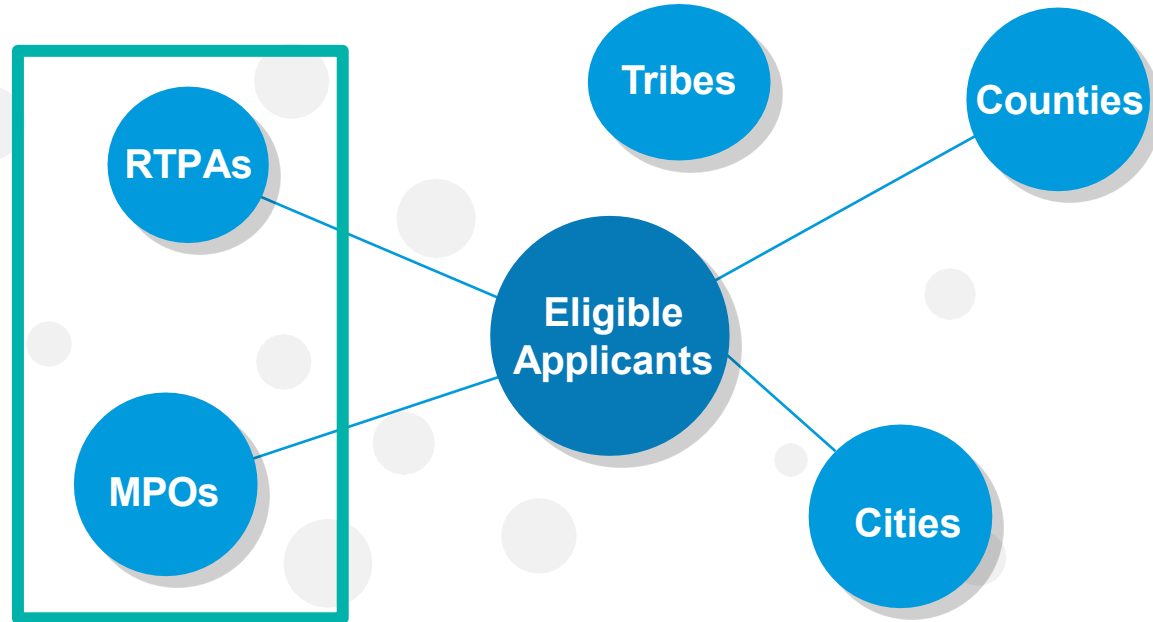
- [Title 23 US Code 148 Highway Safety Improvement Program](#)
- [23 Code of Federal Regulations, 924 & 490 HSIP Implementation Guidance](#)

Eligible Applicants

ANY LOCAL AGENCY THAT OWNS, OPERATES, AND MAINTAINS PUBLIC ROADWAYS

RTPAs and MPOs can apply on behalf of local agencies

- RTPA: Regional Transportation Planning agency
- MPO: Metropolitan Planning Organization



Local HSIP Funding

CALIFORNIA HSIP: 50/50 SPLIT BETWEEN STATE HSIP AND LOCAL HSIP

- Local HSIP: \$120 Million/year
- State funding made possible via SB 137 funding exchange



Call for Project Cycle Summary

Cycle	1	2	3	4	5	6	7
Year	2007	2008	2010	2011	2012	2013	2015
Cycle	8	9	10	11	12	13	
Year	2016	2018	2020	2022	2024	2026	

Call for Project Cycle Summary

Cycles 8 to 12:

- \$1.2 billion awarded to 1,287 projects

Cycle	Release Date	Number of Applications	Number of projects selected	HSIP funds approved (\$M)	BCR Cutoff	Average BCR of selected projects
8	11/21/2016	247	225	\$216.9	3.5	10.3
9	12/12/2018	351	220	\$180.8	7.5	17.7
10	3/30/2021	429	268	\$238.3	12.0	24.0
11	3/9/2023	434	286	\$231.6	18.0	35.5
12	2/21/2025	330	288	\$299.6	7.0	28.3
	Total	1,791	1,287	\$1,167.2		23.2

Project Delivery Requirements

Established to ensure safety projects are delivered in a timely manner:

Must meet two delivery milestones:

- Preliminary Engineering (PE) Authorization - within 9 months; and
- Construction (CON) Authorization - within 36 months

Time extension may be requested via District Local Assistance Engineer (DLAE):

- 2nd time extension request of the phase: need to present at a Local HSIP Advisory Committee meeting

Project Delivery Status

CYCLE 8 -12 PROJECT DELIVERY STATUS (AS OF 6/30/2026)

Status	Number of Projects	Percentage
No Authorization	108	9%
Preliminary Engineering (PE) or Right-of-Way (ROW)	290	24%
In Construction (CON)	382	31%
Completed	452	36%
Total	1232	100%

- 84 projects delayed
(14 on PE; 70 on CON)



Questions





Cycle 13 Call for Projects

Kelly Mar, HSIP Manager, Caltrans Division of Local Assistance



Overview

- Local HSIP Cycle 13 Timeline
- General Information
- Eligible Applicants
- Funding Set-asides
- Benefit Cost Ratio (BCR) Applications
- Useful Documents & Websites
- Application Form
- HSIP Analyzer
- Demonstration

Local HSIP Cycle 13 Timeline

- Announcement – July 1, 2026
- Applications Due – November 2, 2026
- Applications will be reviewed by Caltrans Headquarters – November 2026-February 2027
- Develop the list of recommended projects and secure approval by Caltrans and CalSTA – March 2027-April 2027

<https://dot.ca.gov/programs/local-assistance/fed-and-state-programs/highway-safety-improvement-program/apply-now>

General Information

- Total funding: \$370 million
- Expected to use both federal and state funds
 - State funding made possible via SB 137 funding exchange
 - Federal funding is for larger projects and High-Risk Rural Roads (HRRR)/Vulnerable Road User (VRU) Special Rule projects
- Fund Reimbursement Ratio: 90%
- Application categories:
 - Benefit Cost Ratio (BCR) Applications and Funding Set-asides

Eligible Applicants

- Applicants: Cities, Counties, Tribes and Other (RTPAs and MPOs)
 1. Local Roadway Safety Plan (LRSP) requirement:
 - Applicants must have completed LRSP or equivalent
 - LRSP > 5 years; Update or validate or being worked concurrently with application
 2. Agencies with delivery delays on their current HSIP projects must resolve the delays by 11/30/2026
 - District Local Assistance Engineer (DLAE) must receive the Request for Authorization package by 11/30/2026 and verify it is complete; or
 - An extension is granted
 3. Agencies with one active HSIP project that is still not in construction after 5 years from project selection are not eligible to apply

Application Categories

- Benefit Cost Ratio (BCR) Applications
 - Majority of the applications (\$306 million)
 - BCR calculation is required. Project selection based on BCR
 - Application minimum BCR: 5.0
 - Maximum \$10 million per agency
 - Number of applications per agency: no limit
- Funding Set-asides
 - \$64 million for all set-asides
 - No BCR required
 - Number of applications per agency: 1 for each set-aside

Funding Set-Asides

- Five Set-asides:
 - Guardrail Upgrades
 - Pedestrian Crossing Enhancements
 - Bike Safety Improvements
 - Tribes
 - Lane Departure Prevention
- Project selection criteria (priority in the below order):
 - Agencies with no funds awarded in Cycles 11&12
 - Agencies with no same set-aside funds awarded in Cycles 11&12
 - Agencies with more Fatal + Severe Injury (F+SI) crashes in the last 3 years

Funding Set-Asides

- Guardrail Upgrades
 - Total \$22.5M; Max per agency: \$1.125M
 - For upgrades of existing guardrails and end treatments; bridge rails are not eligible
- Pedestrian Crossing Enhancements
 - Total \$23.4M; Max per agency: \$360k
 - Install pedestrian countdown signal heads, Rectangular Rapid Flashing Beacons (RRFB) and other flashing beacons, pedestrian signal/crossing/signs, advanced yield lines/signs, and other signs/striping

Funding Set-Asides

- Lane Departure Prevention
 - Total \$7.2M; Max per agency: \$360k
 - Installing edgelines along roadways, remove and relocate fixed objects outside of the clear recovery zone, improve to high friction surface treatment, install chevron signs on horizontal curves, and install edge line and centerline rumble strips
- Bike Safety Improvements
 - Total \$7.2M; Max per agency: \$360k
 - Installing bike lanes / separated bike lanes. Removing objects and installing way finding signs for multi-use paths/trails

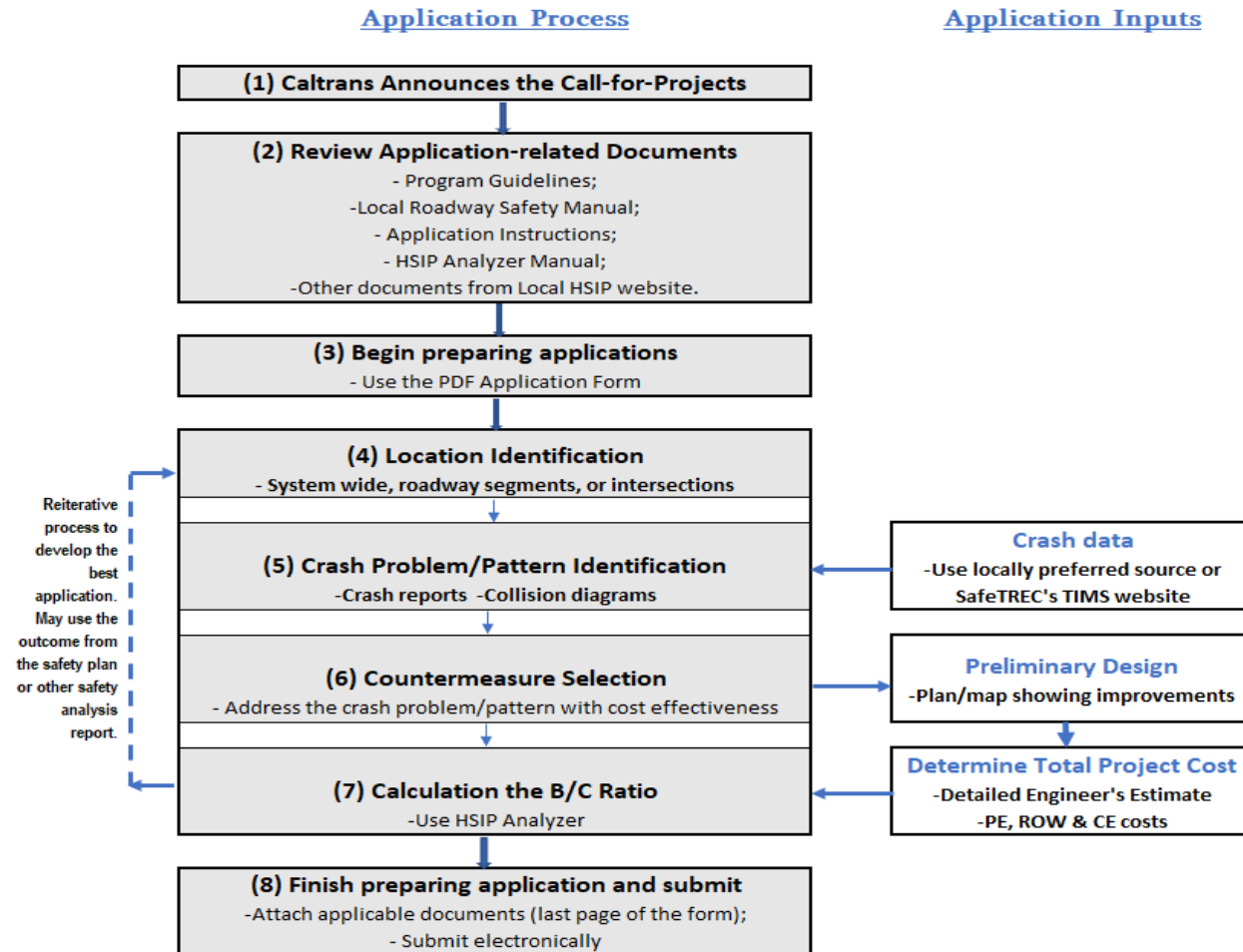
Funding Set-Asides

- Tribes
 - Total \$3.6M; Max per agency: \$360k
 - Applicants must be federally recognized tribes in California
 - For any work under the other 4 set-asides, and other low-cost roadway safety improvements (signs, pavement delineators, edgelines, centerlines, rumble strips/stripes, etc.)

Benefit Cost Ratio (BCR) Applications

- Work must be related to the safety countermeasures as listed
- Prefer projects that can be delivered quickly and have minimal Right-Of-Way (ROW) and environmental impacts
- BCR applications are selected for funding based on the BCRs
- Applications will be ranked per BCRs from highest to lowest
- BCR cutoff is unknown at the time of application submittal
- BCR must be at least 5.0 for submitting

BCR Applications - Steps



BCR Applications: Safety Countermeasures

- Safety improvements must be related to the 86 safety countermeasure (CMs) with established Crash Reduction Factors (CRF)
- CMs by location types
 - Signalized Intersection (SI): 22
 - Non-Signalized Intersection (NS): 25
 - Roadway (R): 39
- CMs by Crash types (for applying CRFs)
 - All: 63
 - Pedestrians and Bicyclists: 18
 - Night: 3
 - Emergency vehicle involved: 1
 - Animal involved: 1

Local Roadway Safety Manual (LRSM)

- LRSM outlines the basic elements:
 - Analyzing safety data and identifying safety issues
 - Selecting safety countermeasures
 - Calculating the BCR and comparing projects
 - Appendix B: Detailed Tables of Countermeasures
 - Appendix C: BCR Calculations

BCR Applications: Safety Countermeasures

- CM List Example - CMs for Signalized Intersections:

Table 1. Countermeasures for Signalized Intersections

No.	Type	Countermeasure Name	Crash Type	CRF	Expected Life (Years)	HSIP Funding Eligibility	Systemic Approach Opportunity?
SI01NT	Lighting	Add intersection lighting (S.I.)	Night	40%	20	90%	Medium
SI02	Signal Mod.	Improve signal hardware: lenses, back-plates with retroreflective borders, mounting, size, and number	All	15%	10	90%	Very High
SI03	Signal Mod.	Improve signal timing (coordination, phases, red, yellow, or operation)	All	15%	10	50%	Very High
SI04EV	Signal Mod.	Install emergency vehicle pre-emption systems	Emergency Vehicle	70%	10	90%	High
SI05	Signal Mod.	Install left-turn lane and add turn phase (signal has <u>no</u> left-turn lane or phase before)	All	55%	20	90%	Low
SI06	Signal Mod.	Provide protected left turn phase (left turn lane already exists)	All	30%	20	90%	High
SI07	Signal Mod.	Convert signal to mast arm (from pedestal-mounted)	All	30%	20	90%	Medium
SI08	Operation/ Warning	Install raised pavement markers and striping (Through Intersection)	All	10%	10	90%	Very High
SI09	Operation/ Warning	Install flashing beacons as advance warning (S.I.)	All	30%	10	90%	Medium
SI10	Operation/ Warning	Improve pavement friction (High Friction Surface Treatments)	All	55%	10	90%	Medium
SI11	Geometric Mod.	Install raised median on approaches (S.I.)	All	25%	20	90%	Medium
SI12PB	Geometric Mod.	Install pedestrian median fencing on approaches	P & B	35%	20	90%	Low
SI13	Geometric Mod.	Create directional median openings to allow (and restrict) <u>left-turns</u> and u-turns (S.I.)	All	50%	20	90%	Medium
SI14	Geometric Mod.	Install right $\perp$ turn lane (S.I.)	All	15%	20	90%	Medium
SI15	Geometric Mod.	Reduced Left-Turn Conflict Intersections (S.I.)	All	50%	20	90%	Medium
SI16RA	Geometric Mod.	Convert intersection to roundabout (from signal)	All	Varies	20	90%	Low
SI17RA	Geometric Mod.	Convert intersection to compact roundabout (from signal)	All	Varies	20	90%	Low
SI18PB	Ped and Bike	Install pedestrian countdown signal heads	P & B	25%	20	90%	Very High
SI19PB	Ped and Bike	Install pedestrian crossing (S.I.)	P & B	25%	20	90%	High
SI20PB	Ped and Bike	Pedestrian Scramble	P & B	40%	20	90%	High
SI21PB	Ped and Bike	Install advance stop bar before crosswalk (Bicycle Box)	P & B	15%	10	90%	Very High
SI22PB	Ped and Bike	Modify signal phasing to implement a Leading Pedestrian Interval (LPI)	P & B	60%	10	90%	Very High

BCR Applications: Safety Countermeasures

- Incremental approach
 - For certain high-cost safety improvements:
 - R15 (Widen shoulder)
 - R16 (Curve shoulder widening (outside only))
 - R17 (Improve horizontal alignment (flatten curves))
 - R18 (Flatten crest vertical curve)
 - Need to show that low-cost improvements, e.g., additional signs or new curve warning signs, or High Friction Surface Treatment (HFST), have been tried

BCR Applications: Safety Countermeasures

- NS03: New traffic signals
 - Signal Warrant calculation sheet is required as an attachment to the application for installing new traffic signals and must meet warrant (4) Pedestrian Volume, (5) School Crossing or (7) Crash Experience
- NS25PB: Install Pedestrian Signal (including Pedestrian Hybrid Beacon (HAWK))
 - Warrant 4, 5 or 7, or passing the test in Figure 4F-1/4F-2 in Chapter 4F of California Manual on Uniform Traffic Control Devices (CA MUTCD).
- SI07 and SI02 should not be used together
 - SI07: Convert signal to mast arm; SI02: Improve signal hardware. Signal hardware is part of new mast arm.

Multiple Applications for the Same Project

- Two situations when multiple applications may be submitted for the same project:
 - Two applications: one as BCR, the other applying for a funding set-aside
 - The BCR one will be considered first
- For a “systemic approach” project (i.e. locations with similar characteristics and crash types):
 - Less locations: higher BCR
 - More locations: lower BCR
 - BCR cutoff is unknown at application time
- To overcome this dilemma, you may develop multiple applications with different BCRs

Application Preparation

- For set-aside applications
 - Select project locations systemically.
 - Make sure the work is eligible for the respective set-asides.
- For BCR applications
 - Use safety countermeasures that target the crash types at the project locations.
 - Use crashes within the influence area of the CMs.
 - Special requirements:
 - Incremental approach for certain CMs; Warrant requirement for signals; projects involving state highways, etc.

Application Preparation

- For BCR applications
 - Maximize project benefit:
 - Select locations with high number of crashes; select effective CMs; Use multiple CMs when applicable.
 - Lower project cost:
 - Use low-cost CMs; Minimize non-safety related components.

Useful Documents & Websites

- Local HSIP Website:
 - <https://dot.ca.gov/programs/local-assistance/fed-and-state-programs/highway-safety-improvement-program>
 - Google search “CA Local HSIP”
- Transportation Injury Mapping System (TIMS): <http://tims.berkeley.edu/>
- FHWA Safety Website: <https://highways.dot.gov/safety>

Local HSIP Website

- <https://dot.ca.gov/programs/local-assistance/fed-and-state-programs/highway-safety-improvement-program>

[Home](#) |
 [Programs](#) |
 [Local Assistance](#) |
 [Federal and State Programs](#) |
 Highway Safety Improvement Program (HSIP)

Local Highway Safety Improvement Program (HSIP)

The Infrastructure Investment and Jobs Act (IIJA), aka Bipartisan Infrastructure Law (BIL), was signed into law by President Biden on November 15, 2021. Under IIJA, the Highway Safety Improvement Program (HSIP), codified as Section 148 of Title 23, United States Code (23 U.S.C §148), is a core federal-aid program to States for the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads. The Division of Local Assistance (DLA) manages California's local agency share of HSIP funds. California's Local HSIP focuses on infrastructure projects with nationally recognized crash reduction factors (CRFs). Local HSIP projects must be identified on the basis of crash experience, crash potential, crash rate, or other data-supported means.

Program Elements

For more details and information regarding California's Local HSIP, click the texts below or the links to the right.

- [Local HSIP Guidelines \(PDF\)](#)
- [Local Roadway Safety Manual for California Local Road Owners \(PDF\)](#)
- [Local Roadway Safety Plans \(LRSP\) and Systemic Safety Analysis Report Program \(SSARP\)](#)

Local HSIP cycle 13 call-for-projects is now active, please click [this link](#) .

Highway Safety Improvement Program

- [Approved Project Lists](#)
- [Call-for-Projects, Guidelines and Safety Manual](#)
- [Delivery Requirements, Project Status and Project Change Requests](#)
- [Federal Transportation Improvement Program \(FTIP\)](#)
- [Local HSIP Advisory Committee](#)
- [Local Roadway Safety Plan \(LRSP\) and Systemic Safety Analysis Report Program \(SSARP\)](#)
- [Model Inventory of Roadway Elements \(MIRE\) and MIRE Fundamental Data Elements \(FDE\)](#)
- [Process for State Funded HSIP Projects](#)
- [Roadway Safety Training and Materials](#)

Transportation Injury Mapping System (TIMS)

- <http://tims.berkeley.edu/>

UC Berkeley SafeTREC

Transportation Injury Mapping System

About - Crash Summaries - Analysis & Visualizations - AV Safety - Help - Donate

Create Account Sign In

Mapping California crash data in a quick, free and easy way

Create Account

It's free and you can do it in under 3 minutes!

For over 20 years, the Transportation Injury Mapping System (TIMS) developed by UC Berkeley SafeTREC has enabled quick, easy and free access to California crash data.

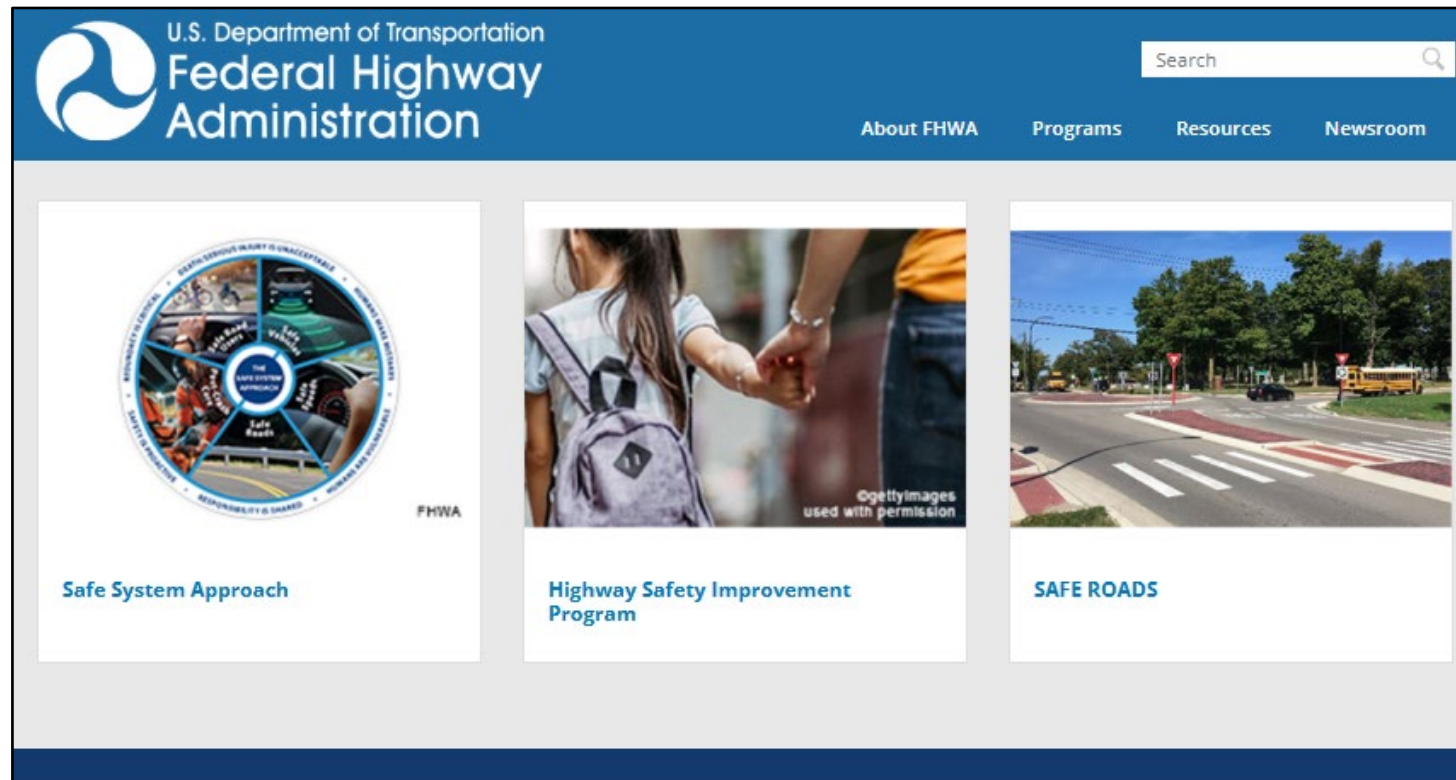
What's new?

Jun 22 2026

2026 Q1 SWITRS Added & 2024-2025 SWITRS Updated

FHWA Safety Website

- <https://highways.dot.gov/safety>



Application Submittal

- Application Form is a savable PDF file
 - Adobe Acrobat Reader is required: <https://www.adobe.com/acrobat/pdf-reader.html>
- Submit electronically via Smartsheet
 - All required information and attachments must be added to the Application Form
 - Follow the form link to submit
 - (Link available at the Call for projects website)

Application Attachments

- Required for all applications:
 - Local Roadway Safety Plan (LRSP) Certification
 - Engineer's Checklist
 - Vicinity map/Location map
 - Project maps/plans showing existing and proposed conditions
 - Pictures of existing condition
 - HSIP Analyzer
- Required for BCR applications:
 - Collision Diagram(s)
 - Collision List(s)

Application Attachments

- Required for new signal applications:
 - Warrant studies
- Required for projects involving State Highway System (SHS):
 - Letter/email of support from Caltrans
- Optional:
 - Additional narration, documentation, letters of support, etc.

HSIP Analyzer

- HSIP Analyzer is required to use for all applications.
 - HSIP Analyzer for Set-aside applications:
 - General Information
 - Project Schedule
 - Engineer's estimate for construction items
 - Project cost estimate
 - HSIP Analyzer for BCR applications:
 - General Information
 - Project Schedule
 - Engineer's estimate for construction items
 - Project cost estimate
 - List of Project Locations
 - Selection of CMs
 - Crash data
 - BCR calculation

HSIP Analyzer

- HSIP Analyzer is a PDF form and Adobe Acrobat Reader is required
 - <https://www.adobe.com/acrobat/pdf-reader.html> to download
- After completion:
 - Enter key data to the HSIP Application Form
 - Attach the completed HSIP Analyzer to the HSIP Application Form as Attachment No. 6
- Manual for HSIP Analyzer:
 - Refer to the manual while using the HSIP Analyzer
 - Completing the analysis without referring to the manual could lead to errors and fatal flaws

Demonstration

- Application Form
- HSIP Analyzer



Application Form

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION
APPLICATION FORM FOR LOCAL
HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)
DOT LAPG 9-A (REV 04/2024)

Local Assistance Programs Guidelines
Application ID NA-NA-NA
Page 1 of 4

Print Form

APPLICATION SUMMARY

This summary page is filled out automatically once the application is completed.

After the application is finalized, please save this PDF form using the exact "Application ID" (shown below) as the file name.

Application ID NA-NA-NA

Important: Review and follow the [Application Form Instructions](#) step-by-step as you complete the application. Completing an application without referencing the instructions will likely result in an incomplete application or an application with fatal flaws that will be disqualified from the ranking and selection process.

Submitted By (Agency)

Application Category

Caltrans District

Application Number

Out of

Project Location

Project Description

Total Project Cost

HSIP Funds Requested

Benefit Cost Ratio (BCR)

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION
APPLICATION FORM FOR LOCAL
HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)
DOT LAPG 9-A (REV 04/2024)

Local Assistance Programs Guidelines
Application ID NA-NA-NA
Page 2 of 4

Basic Information

Date:

Caltrans District:

MPO:

Agency:

County:

Total number of applications being submitted by your agency:

Application Number (each application must have a unique number):

☐ Check if this application is one of the multiple ones for the same project (please review the form instructions for explanation).

Contact Person Information

Name (Last, First):

Position/Title of Contact Person:

Email:

Telephone:

Extension:

Address:

City:

Zip Code:

(Enter only a 5-digit number)

Application Category:

Project Information

Project Title:
-Be Brief (Limited to 100 Characters)

Project Location:
-Be Brief (Limited to 250 Characters)
-See [Application Form Instructions](#)

Project Description:
-Be Brief (Limited to 250 Characters)
-See [Application Form Instructions](#)

Total Project Cost

HSIP Funds Requested

Benefit Cost Ratio (BCR)
(Required for a BCR application. Skip for Funding Set-Aside application)

Application Form

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

Local Assistance Programs Guidelines

APPLICATION FORM FOR LOCAL HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

Application ID NA-NA-NA

DOT LAPG 9-A (REV 04/2024)

Page 3 of 4

1. Project Identification

Describe how the agency identified the project as one of its top safety priorities. Was a data-driven safety evaluation of their entire roadway network completed? Do the proposed project locations represent some of the agency's highest fatal and injury crash concentrations and types of crashes? (Limited to 5,000 characters)

2. Prior Attempts to Address the Safety Issues

List all other projects/countermeasures that have been (or are being) deployed at the location(s) within the last 5 years. Applicants must identify all federal and/or state funds that have been used or approved within the proposed project limits within the last 5 years. Normally HSIP funding cannot be used to construct safety countermeasures at the same locations within 5 years. (Limited to 5,000 characters)

3. Other Comments

Explain here if this project has any special circumstances or if you have other comments. Enter "NA" if none. (Limited to 5,000 characters)

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

Local Assistance Programs Guidelines

APPLICATION FORM FOR LOCAL HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

Application ID NA-NA-NA

DOT LAPG 9-A (REV 04/2024)

Page 4 of 4

Application Attachments (See [Application Form Instructions](#))

Please attach all files as needed. **Note: files may not be attachable if file is open. Close before attach.**

1. Local Roadway Safety Plan (LRSP) Certification (Required for all projects)	Attach
2. Engineer's Checklist (Required for all projects)	Attach
3. Vicinity Map/Location Map (Required for all projects)	Attach
4. Project Maps/Plans Showing Existing and Proposed Conditions (Required for all projects)	Attach
5. Pictures of Existing Condition (Required for all projects)	Attach
6. HSIP Analyzer (Required for all projects)	Attach
7. Collision Diagram(s) (Required for a BCR application)	Attach
8. Collision List(s) (Required for a BCR application)	Attach

Warrant Studies

☐ Check if the project includes new installation of certain traffic control devices (e.g., traffic signals, pedestrian signals, etc.). If yes, Traffic Signal Warrant 4, 5 and/or 7 must be met (CA MUTCD Chapter 4C).

9. Warrant Studies (Not required for this project)	Attach
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Work on the State Highway System

Does the project include improvements on the State Highway System?
☐ Yes, and the project will be jointly-funded with Caltrans (Must be jointly-funded if the project is for intersection safety improvement involving SHS).
A formal Letter of Support from Caltrans District Traffic is required. The letter should include estimates of cost sharing.
☐ Yes, but the project will not be jointly-funded with Caltrans.
A written correspondence from Caltrans District Traffic is required. The correspondence should indicate that Caltrans does not see issues that would prevent the proposed project from receiving an encroachment permit.
☐ No.

10. Letter/Email of Support from Caltrans (Required when applicable)	Attach
11. Additional Narration, Documentation, Letters of Support, Etc. (Optional)	Attach

Validate and Save

HSIP Analyzer for BCR Applications

Version date: May 2026 HSIP Analyzer (for BCR applications)

[Print Form](#)

HSIP ANALYZER (for BCR Applications)

Benefit Cost Ratio (BCR) Calculation for Highway Safety Improvement Program (HSIP) Application

Important: Review and follow the step-by-step instructions in the HSIP Analyzer Manual. Completing the HSIP Analyzer without referencing to the manual may result in an application with fatal flaws that will be disqualified from the ranking and selection process. This is a dynamic form (i.e. later steps vary depending on the data entered in earlier steps). If any error messages appear, please fix the errors prior to proceeding to the next steps.
Save this file using 'HA' + Application ID as the file name (e.g. 'HA03-Sacramento-01.pdf').

Section I: General Information

Application ID, Project Location and Project Description (copy from the HSIP Application Form):

Application ID:

Project Location:
(limited to 250 characters)

Project Description:
(limited to 250 characters)

Number of Signalized Intersections: Number of Non-signalized Intersections:

Miles of Roadways*: *Do not include the length of the intersections that have been accounted for in the number of intersections above.

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Functional Classification (FC): For California Road System (CRS) maps to check the FC, click [here](#).

Urban / Rural Area:

What is the approximate total cost percentage that is HR3 eligible?

Annual Average Daily Traffic (see instructions):

AADT (Major Road) AADT (Minor Road) Year of AADT

Posted Speed Limit (mph):

Which of the California Strategic Highway Safety Plan's (SHSP) Challenge Areas does the project address primarily? Multiple Challenge Areas may be checked. For example, if this project is for pedestrian safety at intersections, both "Intersections" and "Pedestrians" should be checked. For more information on the SHSP and its Challenge Areas, click [here](#).

☐ Intersections ☐ Lane Departures ☐ Pedestrians ☐ Bicyclists
☐ Emergency Response ☐ Emerging Technologies ☐ Work Zones ☐ Speed Management/
Aggressive Driving

How were the safety needs and potential countermeasures for this project first identified?

California established Systemic Safety Analysis Report Program (SSARP) in 2016 and Local Roadway Safety Plan (LRSP) Program in 2019. Was this project identified through the SSARP or LRSP?

Is the project focused primarily on "spot location(s)" or "systemic" improvements?

If it is systemic, the primary type of the "systemic" improvements is:

What is the primary mode of travel intended to be benefited by this project?

Approximate percentage of project cost going to improvements related to motorized travel

Based on project location(s), please provide:

State Senate District(s): (Use commas to separate if multiple)

State Assembly District(s): (Use commas to separate if multiple)

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Section II: Project Schedule

The local agency is expected to deliver the project per [the HSIP Program Delivery requirements](#). Assuming the HSIP Cycle 13 projects selected for funding will be programmed by March 31, 2027, please enter your best estimated dates for the following implementation milestones. Leave blank if not applicable.

Will this project use HSIP funds for Preliminary Engineering (PE) Phase?

Will an external consultant be hired to do the PE work?

After both of the above two questions are answered, the delivery requirements of this project (if selected for funding) will be displayed here.

PE Authorization Date:

Environmental Clearance Date:

Right of Way Clearance Date:

Final PS&E Date:

CON Authorization Date:

Construction Contract Award Date:

Construction Completion Date:

Project Close-Out Date:

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Step 1: Select safety countermeasures

Does this application include Signalized Intersections (SI)?

Does this application include Non-signalized Intersections (NS)?

Does this application include Roadway Segments (R)?

** Normally a BCR application only includes locations of one of the above 3 categories (SI, NS or R). Multiple categories may be selected if the application proposes corridor safety improvements or uses a systemic approach, or the applicant chooses to bundle multiple locations in the same vicinity together.*

Signalized Intersections (SI):
Click the check box in the 1st column to select up to 3 countermeasures.

Select	No.	Countermeasure Name
☐	1	SI01NT: Add intersection lighting (S.I.) (CRF=0.4 for Night crashes; Life=20 yrs; FE=90%)
☐	2	SI02: Improve signal hardware: lenses, back-plates with retroreflective borders, mounting, size, and number (CRF=0.15 for All crashes; Life=10 yrs; FE=90%)
☐	3	SI03: Improve signal timing (coordination, phases, red, yellow, or operation) (CRF=0.15 for All crashes; Life=10 yrs; FE=50%)
☐	4	SI04EV: Install emergency vehicle pre-emption systems (CRF=0.7 for Emergency vehicle crashes; Life=10 yrs; FE=90%)
☐	5	SI05: Install left-turn lane and add turn phase (signal has no left-turn lane or phase before) (CRF=0.55 for All crashes; Life=20 yrs; FE=90%)

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Step 2: Click to generate table for project locations, enter the project locations and select countermeasures for each location. If any of the selections have been changed, you must re-click the below button to refresh.

[Click to Generate Table for Project Locations Entry](#)

CMs have been selected. Ok to proceed.

+/- Line	Location No.	Location Description (Intersection Name or Road Limit or General Description)	Click to select Countermeasures		Error Messages (must resolve)
			(Signalized Intersections)		
			SI18PB	SI22PB	
+	SI_1	Intersection of X and Y Street	●		
-					
+	SI_2	Intersection of Y and Z Street		●	
-					

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+	SI_1	Intersection of X and Y Street	●		
-					
+	SI_2	Intersection of Y and Z Street		●	
-					

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Step 3: Click to generate tables for crash data and provide crash data. If any changes have been made in the previous two steps, you must re-click to refresh.

Click to Generate Tables for Crash Data Entry

Crash Data Periods: you may use one or two time periods. The total time periods must be between 3 and 5 years. The crash data to be entered are combined from both periods if two periods are used.

Crash Data Period 1: from (MM/DD/YYYY): 01/01/2019 To (MM/DD/YYYY): 12/31/2023

Crash Data Period 2: from (MM/DD/YYYY): To (MM/DD/YYYY):

Combined Crash Data Period (years) = 5

Fill out the crash data table(s) for the crash type(s) as required by the selected countermeasure(s) in Step 2.

Fill in yellow fields only. "Total" fields are calculated. Gray fields (if any) are locked as data are NOT needed for those fields.

No.	Location No : Description (from Step 2)	Fatal (P&B)	Severe Injury (P&B)	Other Visible Injury (P&B)	Complaint of Pain (P&B)	PDO (P&B)	Total
1	SI_1: Intersection of X and Y Street	1	2	3	4	5	15
2	SI_2: Intersection of Y and Z Street	0	1	1	1	0	3
	Total	1	3	4	5	5	18

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Step 4: Click to Calculate the project benefit. If any changes have been made in the previous two steps, you must re-click to refresh.

[Click to Perform Benefit Calculation](#)

Benefit Summary:

Benefit by Locations

Location No : Description	[CM1 ID]	[CM1] Benefit	[CM2 ID]	[CM2] Benefit	[CM3 ID]	[CM3] Benefit	Total Benefit
SI_1: Intersection of X and Y Street	[SI18PB]	\$8,360,000	[None]	\$0	[None]	\$0	\$8,360,000
SI_2: Intersection of Y and Z Street	[None]	\$0	[SI22PB]	\$3,255,601	[None]	\$0	\$3,255,601
Total							\$11,615,601

Benefit by Countermeasures

No.	Countermeasure	Benefit
1	SI18PB: Install pedestrian countdown signal heads	\$8,360,000
2	SI22PB: Modify signal phasing to implement a Leading Pedestrian Interval (LPI)	\$3,255,601
	TOTAL	\$11,615,601

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Section IV. Construction Cost Estimate and Cost Breakdown

The purpose of this section is to:

- Provide a detailed engineer's estimate for construction items. The costs for other phases i.e. Preliminary Engineering (PE), Right of Way (ROW), and Construction Engineering (CE) will be accounted for in the next section.
- Determine the project's maximum Funding Reimbursement Ratio (FRR).

IV.1 Detailed Engineer's Estimate for Construction Items:

Cost breakdown:
For each item, enter cost percentages for this project's safety countermeasures (CMs) and 'Other Safety (OS)' respectively (e.g. enter 10 for 10%). The percentage for 'Non-safety (NS)' is then calculated. If an item is a general one (such as traffic control, mobilization, etc.), check the 'General item' box and the cost breakdown is not needed. A general item will NOT be used in determining the project's overall percentages of countermeasures, other safety and non-safety costs.

	No.	Item Description	Unit	Quantity	Unit Cost	Total	General Item? (Click center to check)	% for CMs	% for OS	% for NS
+ -	1	Mobilization	LS	1	100,000	100,000	X			
+ -	2	Traffic Control	LS	1	100,000	100,000	X			
+ -	3	Signal Modification	Ea	2	\$90000.00	180,000		100 %	0 %	0 %
+ -	4	Pavement Re-striping	LF	4,200	\$10.00	42,000		0 %	100 %	0 %
		Weighted Average (%)						81%	19%	
		Total (\$)				\$422,000				

Contingencies, as % of the above 'Total' of the construction items:
(e.g. enter 10 for 10%) 10 % \$42,200

Total Construction Cost (Con Items & Contingencies):
(Rounded up to the nearest hundreds) \$464,200

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Section V. Project Cost Estimate

All project costs, **for all phases and by all funding sources**, must be accounted for on this form.

- 'Total Cost'**: Round all costs up to the nearest hundred dollars.
- 'HSIP/Total (%)'**: The maximum allowed is the project's Funding Reimbursement Ratio (FRR) as determined in Section IV.2. Click the button to assign the maximum to all, OR enter if not the maximum.
- 'HSIP Funds'** and **'Local/Other Funds'** are calculated.

Pay attention to the interactive warning/error messages below the table. The messages, if any, must be fixed, or exceptions should be justified in narrative question No. 3 in the HSIP Application Form.

Project's maximum Funding Reimbursement Ratio (FRR)
(from Section IV.2, rounded up to integer)

To set all 'HSIP/Total (%)' in the below table to the above maximum FRR, click 'Set':

Description	Total Cost	HSIP/Total (%)	HSIP Funds	Local/Other Funds
Preliminary Engineering (PE) Phase				
Environmental	\$20,000	90 %	\$18,000	\$2,000
PS&E	\$50,000	90 %	\$45,000	\$5,000
Subtotal - PE	\$70,000	90 %	\$63,000	\$7,000
Right of Way (ROW) Phase				
Right of Way Engineering	\$0	90 %	\$0	\$0
Appraisals, Acquisitions & Utilities	\$0	90 %	\$0	\$0
Subtotal - Right of Way (ROW)	\$0	%	\$0	\$0
Construction (CON) Phase				
Construction Engineering (CE)	\$0	90 %	\$0	\$0
Construction Items (Read only - from Section I)	\$464,200	90 %	\$417,780	\$46,420
Subtotal - Construction	\$464,200	90 %	\$417,780	\$46,420
PROJECT TOTAL	\$534,200	90 %	\$480,780	\$53,420

☐ Agency does NOT request HSIP funds for PE Phase (automatically checked if PE - HSIP funds is \$0).

Interactive Warning/Error Messages:
If there are any messages in the below box, please fix OR explain justification for exceptions in narrative question No 3 in the HSIP application form.

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Section VI. Summary

Transfer the 'Total Project Cost', 'HSIP Funds Requested' and the BCR to Page 2 of the HSIP Application Form.

Cost, FRR, Benefit and BCR:

Total Project Cost	HSIP Funds Requested	Max. FRR
\$534,200	\$480,780	90%
Total Expected Benefit	Benefit Cost Ratio (BCR)	
11,615,601	21.74	

Local Assistance HSIP Contacts

- District Contact: District Local Assistance Engineer (DLAE)
 - <https://dot.ca.gov/programs/local-assistance/other-important-issues/local-assistance-contacts>
- Kelly Mar: kelly.mar@dot.ca.gov
- Simrit Dhillon: simrit.dhillon@dot.ca.gov



Roundabouts Webinar Recap

Phil Rust, Traffic Engineer, City of San Diego



City of San Diego Prefabricated Permanent Roundabouts

Phil Rust prust@sandiego.gov



Cycle 11 vs Cycle 12

Taylor St. & Hotel Circle North/South

- Version 1: \$400k B/C = 13 (failed to meet threshold)
- Version 2: \$220k B/C = 27 (successful grant award)





Credit: FHWA Small Business Program.



- Perimeter-only
- Interchangeable parts
- Painted islands

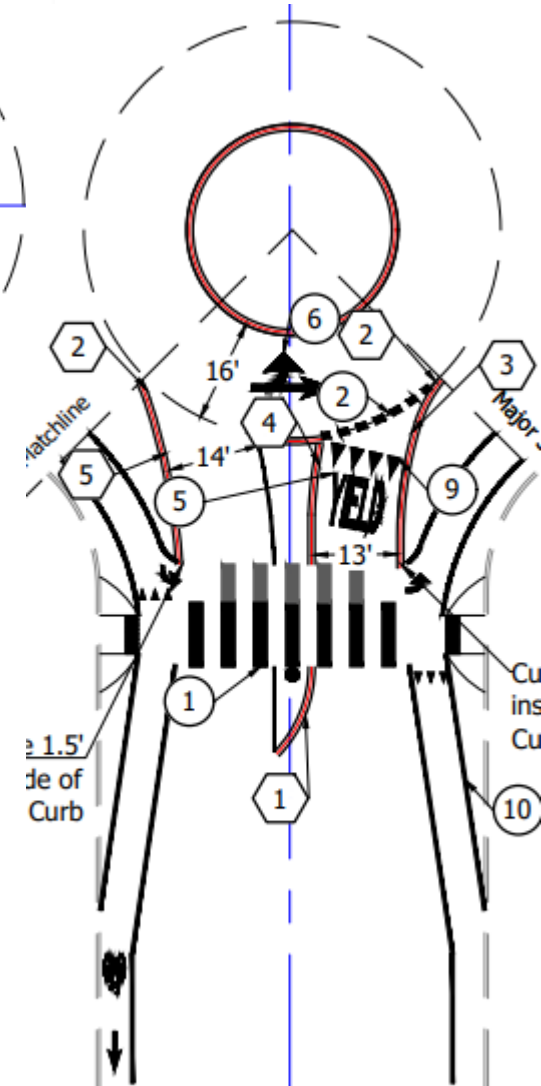
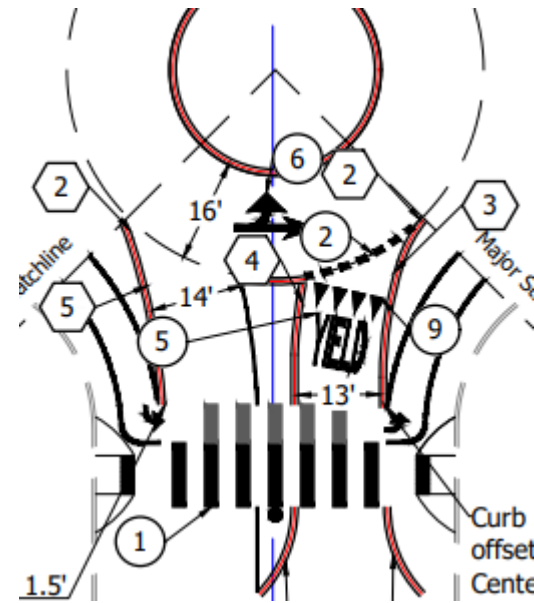
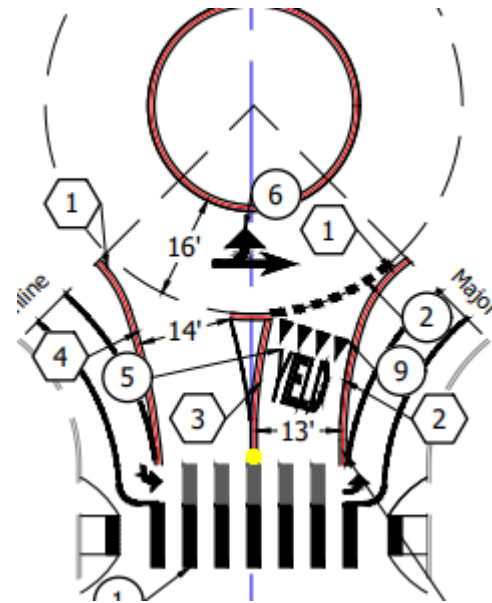
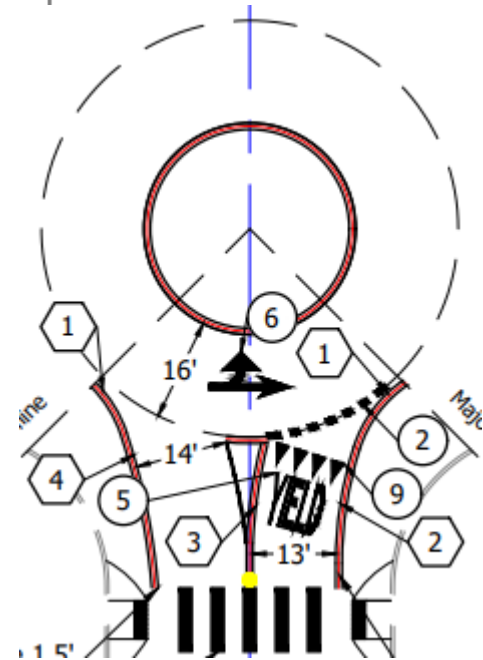
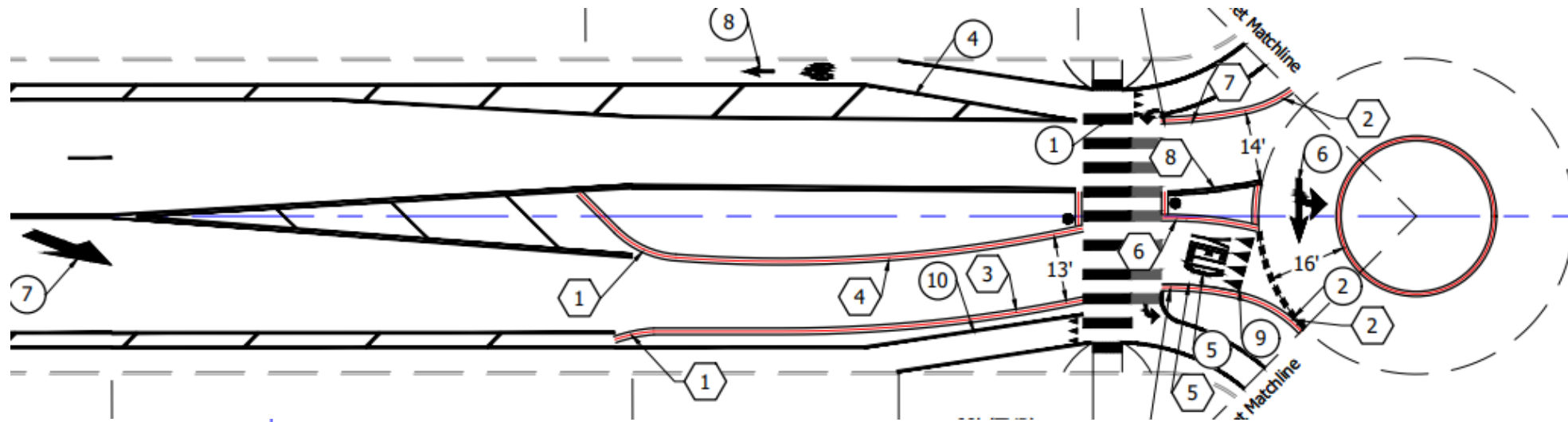
Pilot innovations:

- Quick-build ped ramps
- Quick Design
- Quick Layout



Quick-build Pedestrian Ramps

Quick Design Templates



The ultimate intersection solution

(2-layer protection for redundancy)

Driver Workload Layer

- Direct, Simple, Spaced
because people make mistakes



Crash Energy Layer

- Angle, Speeds (no severe conflicts)
because people are fragile



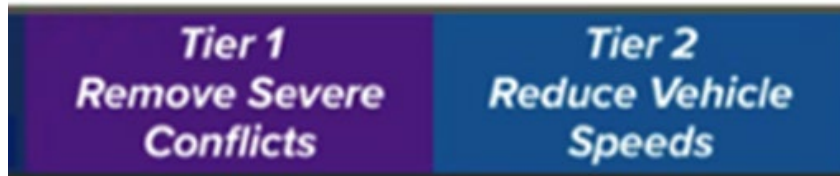
First principles -> Empirical evidence

- **Driver workload**



- **Cuts 90%-100% of fatal crashes**

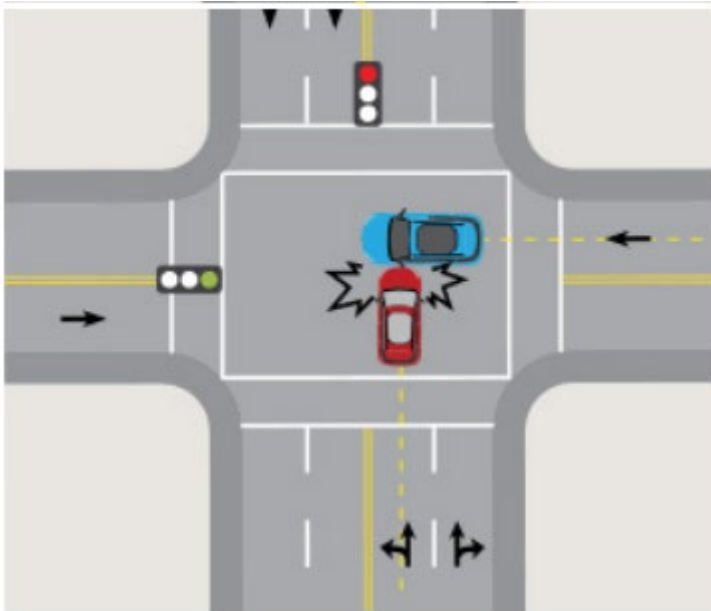
- **Crash energy**



- **Cuts 99.9% of fatal ped/bike crashes**

Past fatals are poor predictors

Most common features?



- 4x2
- Transit routes
- 3+ injury crashes

A high production rate solves many ills.

ROW

- screen for 4x2

Capacity

- screen for 1-lane
- removable, use today's traffic

Design

- screen for templates

Outreach

- pressure is off, efficient
- focus between the RABs



Ribbon cutting > everything else.

- Political support is only rewarded if installation happens before re-election
- The public hates construction
- You don't have to sell the value of saving money
- Every week, 1 life is lost in SD
- Only installation saves lives



You got this!





Questions

