# Local HSIP

## Policies , Procedures and Funding

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# Outline

- General information
- Funding set-asides Cycle 10 – TBD for Cycle 11
- Benefit / Cost Ratio (BCR) Applications
  - Safety countermeasures
  - Tips for a good BCR application
  - Available Tools/Documents
- Application Form
- HSIP Analyzer
- Project Delivery Requirements

# General Information – Local HSIP

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

- **NOTE:** Office Bulletin released Sept 2021 – updated Local HSIP Guidelines
  - Added language on Local HSIP Advisory Committee
  - LRSP or equivalent requirement starting from cycle 11
  - Incorporated procedures for state funded HSIP projects
  - Incorporated information for getting scope/cost/schedules approved on existing projects

  - https://dot.ca.gov/programs/local-assistance/guidelines-and-procedures/division-of-local-assistance-office-bulletins-dla-obs

# General Information - Local HSIP

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

- Announcement for Cycle 11 – Sometime in April/May 2022
- Due date for Applications – TBD, typically August / Sept timeframe
- Applications will be reviewed by Districts and Headquarters – September/ October 2022
- Develop the list of recommended projects and secure approval by Caltrans management - November/Early December 2022
- Applicants will only be notified with final selection results –
- **NOTE: Clock will start for delivery commitments – January 2023**

# General Information - Local HSIP

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- $160 - $170M will available for funding.  Perhaps more if more projects than anticipated get delivered this FFY.
- Applicants: Cities, Counties, Tribes and Other
  - Agencies with delivery delays on their current HSIP projects must resolve the delays by the time the projects are selected.
- For Cycle 11, applicants must have completed Local Roadway Safety Plan (LRSP) or equivalent.
- Like Cycle 10, will use State and Local Funds (funding exchange based on SB 137)
- Multiple applications may be submitted for the same project:
  - For a "systemic approach" project (i.e. locations with similar characteristics and crash types): include less/more number of locations thus have higher/lower BCRs; or
  - Two applications one as BCR, the other applying for a funding set-aside.

# Local HSIP: Application Categories

- **BCR Applications**
  - Benefit Cost Ratio (BCR) is required. Project selection based on BCR.
  - Funding Reimbursement Ratio is based on safety countermeasures.
  - Application minimum BCR: 3.5
  - Maximum $10 million per agency.
  - Number of applications per agency: no limit
- **Funding Set-asides**
  - No collision data and BCR required
  - Funding Reimbursement Ratio = 100%.
  - Number of applications per agency: 1 for each set-aside

# Local HSIP Cycle 10: Funding Set-asides*

**Four Set-asides:**

- Guardrail Upgrades;
- Pedestrian Crossing Enhancements;
- Installing Edgelines;
- Tribes
  - FYI - FHWA FY20 TTP Safety Fund is also available to tribes: https://highways.dot.gov/federal-lands/programs-tribal/safety/funds.

**Project selection criteria (priority in the below order):**

- Agencies with no funds awarded in Cycles 8&9;
- agencies with no set-aside funds awarded in Cycles 8&9;
- Agencies who completed LRSP;
- Agencies with more (F+SI) crashes in the last 3 years.

* NOTE: Cycle 11 set asides have not been established but could be the same as cycle 10

# Local HSIP Cycle 10: Funding Set-asides*

**Set-asides:** Guardrail Upgrades; Pedestrian Crossing Enhancements; Installing Edgelines; Tribes

- Guardrail Upgrades
  - Total $20M; Max per agency: $1M
  - For upgrades of existing guardrails and end treatments; bridge rails are not eligible
- Pedestrian Crossing Enhancements
  - Total $15M; Max per agency: $250k
  - Install pedestrian countdown signal heads, Rectangular Rapid Flashing Beacons (RRFB) and other flashing beacons, pedestrian crossing/signs, advanced yield lines/signs, and other signs/striping.

* NOTE: Cycle 11 set asides have not been established but could be the same as Cycle 10.

# Local HSIP Cycle 10: Funding Set-asides*

**Set-asides:** Guardrail Upgrades; Pedestrian Crossing Enhancements; Installing Edgelines; Tribes

- Installing Edgelines
  - Total $5M; Max per agency: $250k
  - Installing edgelines along roadways
- Tribes
  - Total $2M; Max per agency: $250k
  - Applicants must be federally recognized tribes in California
  - For any work under the other 3 set-asides, and other low cost roadway safety improvements (signs, pavement delineators, edge-lines, centerlines, rumble strips/stripes, etc.)

* Cycle 11 set asides have not been established but could be the same as Cycle 10.

# Local HSIP: BCR Applications

- Prefer projects that can be delivered quickly and have minimal ROW and Environmental impacts
- Safety countermeasures (CM's) must have an established Crash Reduction Factor (CRF).

**Safety countermeasures**

| CM Location | Funding Eligibility | | | Total |
|---|---|---|---|---|
| | 100% | 90% | 50% | |
| Signalized Intersection (S) | 15 | 5 | 1 | 21 |
| Non-Signalized Intersection (NS) | 14 | 9 | 0 | 23 |
| Roadway (R) | 16 | 22 | 0 | 38 |
| Total | 45 | 36 | 1 | 82 |

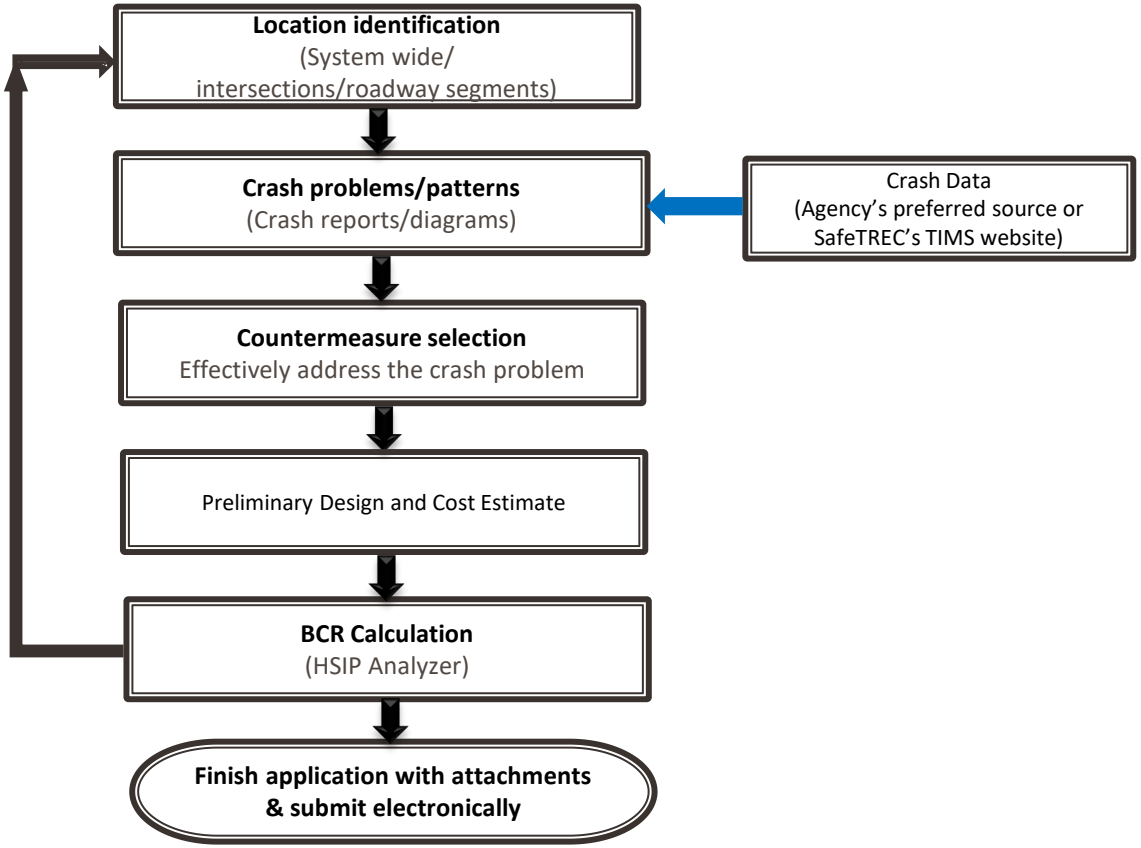
# Local HSIP Safety Countermeasures

## CM List Example - CMs for Signalized Intersections:

| No. | Type | Countermeasure Name | Crash Type | CRF | Expected Life (Years) | HSIP Funding Eligibility | Systemic Approach Opportunity? |
|---|---|---|---|---|---|---|---|
| S01 | Lighting | Add intersection lighting (S.I.) | Night | 40% | 20 | 100% | Medium |
| S02 | Signal Mod. | Improve signal hardware: lenses, back-plates with retroreflective borders, mounting, size, and number | All | 15% | 10 | 100% | Very High |
| S03 | Signal Mod. | Improve signal timing (coordination, phases, red, yellow, or operation) | All | 15% | 10 | 50% | Very High |
| S04 | Signal Mod. | Provide Advanced Dilemma Zone Detection for high speed approaches | All | 40% | 10 | 100% | High |
| S05 | Signal Mod. | Install emergency vehicle pre-emption systems | Emergency Vehicle | 70% | 10 | 100% | High |
| S06 | Signal Mod. | Install left-turn lane and add turn phase (signal has no left-turn lane or phase before) | All | 55% | 20 | 90% | Low |
| S07 | Signal Mod. | Provide protected left turn phase (left turn lane already exists) | All | 30% | 20 | 100% | High |
| S08 | Signal Mod. | Convert signal to mast arm (from pedestal-mounted) | All | 30% | 20 | 100% | Medium |
| S09 | Operation/ Warning | Install raised pavement markers and striping (Through Intersection) | All | 10% | 10 | 100% | Very High |
| S10 | Operation/ Warning | Install flashing beacons as advance warning (S.I.) | All | 30% | 10 | 100% | Medium |
| S11 | Operation/ Warning | Improve pavement friction (High Friction Surface Treatments) | All | 55% | 10 | 100% | Medium |
| S12 | Geometric Mod. | Install raised median on approaches (S.I.) | All | 25% | 20 | 90% | Medium |
| S13PB | Geometric Mod. | Install pedestrian median fencing on approaches | P & B | 35% | 20 | 90% | Low |
| S14 | Geometric Mod. | Create directional median openings to allow (and restrict) left-turns and u-turns (S.I.) | All | 50% | 20 | 90% | Medium |
| S15 | Geometric Mod. | Reduced Left-Turn Conflict Intersections (S.I.) | All | 50% | 20 | 90% | Medium |
| S16 | Geometric Mod. | Convert intersection to roundabout (from signal) | All | Varies | 20 | 100% | Low |
| S17PB | Ped and Bike | Install pedestrian countdown signal heads | P & B | 25% | 20 | 100% | Very High |
| S18PB | Ped and Bike | Install pedestrian crossing (S.I.) | P & B | 25% | 20 | 100% | High |
| S19PB | Ped and Bike | Pedestrian Scramble | P & B | 40% | 20 | 100% | High |
| S20PB | Ped and Bike | Install advance stop bar before crosswalk (Bicycle Box) | P & B | 15% | 10 | 100% | Very High |
| S21PB | Ped and Bike | Modify signal phasing to implement a Leading Pedestrian Interval (LPI) | P & B | 60% | 10 | 100% | Very High |

# Local HSIP: BCR Applications

## Steps to prepare a BCR application



# Local HSIP: BCR Applications

**Application Preparation:**

This is a technical process. The HSIP program relies on the integrity of the BCRs

- Review, analysis, and application of crash data
- Understanding of collision patterns and countermeasure effectiveness
- Developing project scope and estimate

Who completes the applications?

- Traffic and Transportation Engineers; Other traffic-safety professionals
- **Engineer's stamp is required** (Engineer's Checklist)

# Local HSIP: BCR Applications

## Tips for a Good BCR Application (1):

No flaws in the BCR calculation

1. The BCR is key for a project to be selected for funding. It is critical to make sure the BCR is calculated correctly. Please read through Manual for HSIP Analyzer before you start any calculation.
2. Do the safety countermeasures (CMs) selected target the particular crash types at the project locations? Are collisions used in the benefit calculation within the influence area of the CMs? The majority of the rejected applications in the previous cycles were due to:
    a. Misuse of CMs
    b. The use of crashes not in CM's influence area
3. For an application proposing shoulder widening or roadway realignments, documentation is required to show that an incremental approach has been tried but failed to reduce crashes. Incremental approach would entail installing/adding/upgrading warning signs, delineation, flashing beacons, installing high friction surface treatment, etc.
4. Have you reviewed the specific requirements that some CMs have in Appendix B of the Local Roadway Safety Manual? For example, before a traffic signal can be considered for HSIP funding, it will need to satisfy warrant 4, 5 or 7.

# Local HSIP: BCR Applications

## Tips for a Good BCR Application (2):

**Maximize the project benefit**

5. Select locations & corridors with highest numbers of crashes. Identify highest crash corridors first and then look for projects in those corridors. Do not identify projects first and then look for collisions to justify the project.
6. Select CMs with high Crash Reduction Factors (CRFs) when applicable.
7. Combine multiple CMs or multiple locations with similar characteristics into one application to improve safety effectiveness and project delivery efficiencies. Use multiple solutions in high crash corridors. Apply other CMs (e.g. rumble strips/signing upgrades/high visibility striping). If the BCR is very high (e.g. 30), consider adding other locations that have similar characteristics, face similar safety issues but have no high number of crashes.

**Lower the project cost**

8. Focus on low-cost, quick-delivery projects – rumble strips, High Friction Surface Treatments, Pedestrian Crossings, warning signs, etc.
9. Minimize adding non-safety-related components into the project scope – Non-safety-related components will make the project harder to deliver and lower the project's BCR.

# Local HSIP: BCR Applications

## Available Tools/Documents (1)

**FHWA Safety Website:** http://safety.fhwa.dot.gov/

# Local HSIP: BCR Applications

## Available Tools/Documents (2)

**Local Roadway Safety Manual for California Local Road Owners (LRSM)**

LRSM outlines the basic elements of a proven process for Crash Analysis & Project Identification:

1. Introduction and Purpose
2. Identifying Safety Issues
3. Safety Data Analysis
4. Countermeasure Selection
5. Calculating the B/C ratio and Comparing Projects
6. Identifying Funding and Construct Improvements
7. Evaluation of Improvements

Appendix A through G

- *Appendix B: Details on all countermeasures (where to use & why it works)*

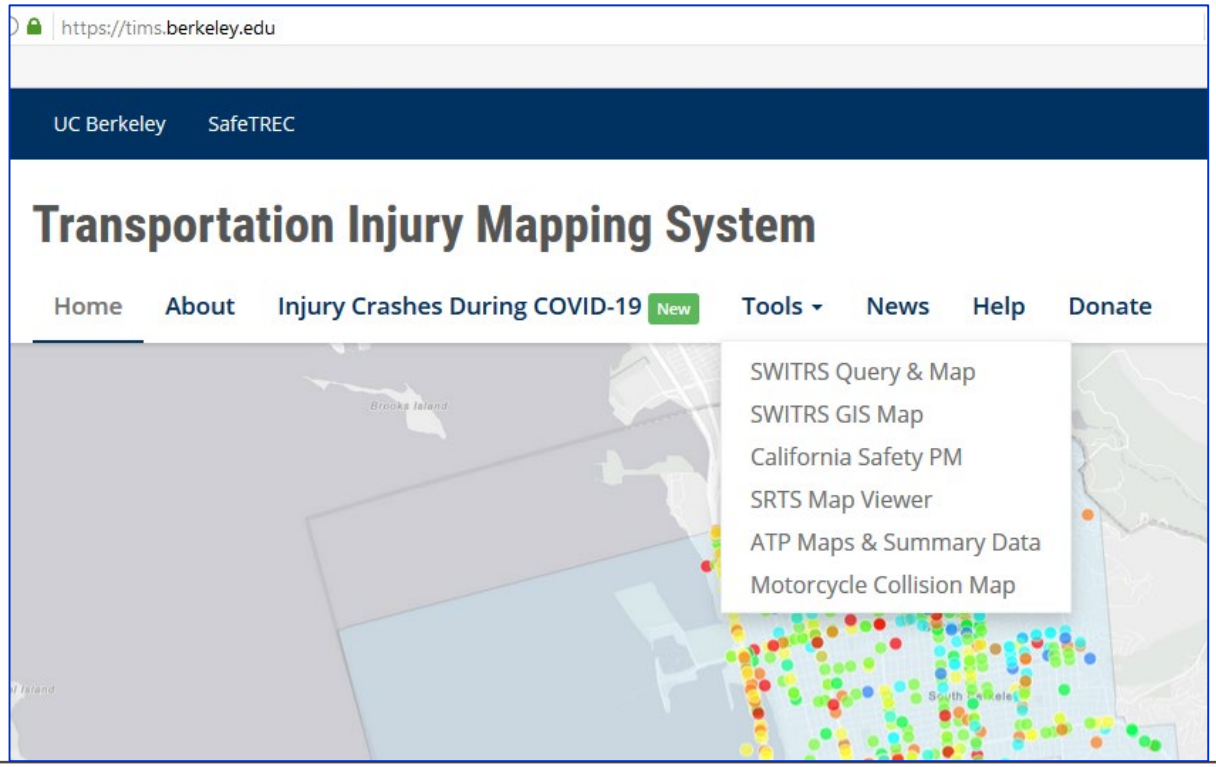
# Local HSIP: BCR Applications

## Available Tools/Documents (3)

### Transportation Injury Mapping System (TIMS)

http://tims.berkeley.edu/

Developed by UC Berkeley Safe Transportation Research & Education Center (SafeTREC)



# Local HSIP: BCR Applications

## Available Tools/Documents (3)

**Transportation Injury Mapping System (TIMS)**

- TIMS provides crash data and mapping analysis tools and information for traffic safety related research, policy and planning
- All Local Agencies have access to California Statewide Integrated Traffic Records System (SWITRS) Crash Data
  - Agencies may use their locally preferred crash data analysis tools (e.g. Crossroads)
  - A great option for agencies without own traffic crash database

# Local HSIP Application Form

- Application Form is a savable PDF file
  - Adobe Acrobat Reader DC is required (https://acrobat.adobe.com/us/en/acrobat/pdf-reader.html to download)
- Will be submitted electronically
  - All required information including attachments must be provided prior to submittal
- An email confirmation will be sent to the email address as provided in application form.

# HSIP Analyzer

A PDF form-based software that streamlines the project cost estimate, safety improvement countermeasure evaluation, crash data input and Benefit Cost Ratio (BCR) calculation.

Adobe Acrobat Reader DC is required (https://acrobat.adobe.com/us/en/acrobat/pdf-reader.html to download)

After completion:

- Enter key data to the Application Form;
- Attach the completed HSIP Analyzer to the HSIP Application Form as Attachment No. 5.

Manual for HSIP Analyzer: provides detailed explanations.

- Print and read the manual before entering data;
- Refer to the manual while using the HSIP Analyzer;
- Completing the analysis without referring to the manual could lead to errors and fatal flaws

# Project Delivery Requirements

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

- 2 Milestones (start date: Jan 1 of the year following the project selection)
  - Allocation request for PE - within 9 months; and
  - Allocation request for CON - within 36 months
- Use the Expedited Project Selection Procedures (EPSP) in delivering HSIP projects – this is no needed for cycle 10 and upcoming cycle 11.

**The agency is not eligible to apply for new HSIP funds if:**

(1) an active HSIP project is flagged for not meeting the delivery requirements;

Resolve the flag by September 30, 2020: the DLAE must receive the Request for Authorization package by September 30, 2020 and verify it is complete; **OR** An extension is granted if justified.

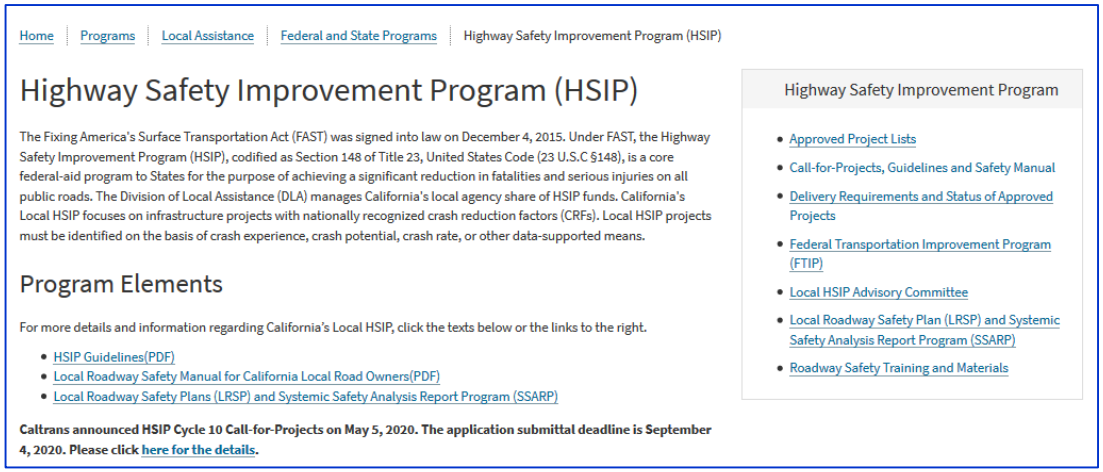
OR (2) two or more active HSIP projects are still not in construction after 5 years from project selection.

# Local HSIP Website

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

or Google search “CA Local HSIP”

- Lists of approved projects
- Current project delivery status
- Call for projects
- LRSP/SSARP



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

## Highway Safety Improvement Program (HSIP)

The Fixing America's Surface Transportation Act (FAST) was signed into law on December 4, 2015. Under FAST, 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.

- 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)

**Caltrans announced HSIP Cycle 10 Call-for-Projects on May 5, 2020. The application submittal deadline is September 4, 2020. Please click here for the details.**

Highway Safety Improvement Program

- Approved Project Lists
- Call-for-Projects, Guidelines and Safety Manual
- Delivery Requirements and Status of Approved Projects
- Federal Transportation Improvement Program (FTIP)
- Local HSIP Advisory Committee
- Local Roadway Safety Plan (LRSP) and Systemic Safety Analysis Report Program (SSARP)
- Roadway Safety Training and Materials

# QUESTIONS?

Contact your DLAEs for questions one may have later:

https://dot.ca.gov/programs/local-assistance/other-important-issues/local-assistance-contacts

CALTRANS DIVISION OF LOCAL ASSISTANCE