Local Highway Safety Improvement Program (HSIP) and How It Works

For 1st STIC Local Roadway Departure Safety Workshop
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This presentation covers:

- Federal Legislation and HSIP Performance Measures;
- Local HSIP Advisory Committee;
- Eligible applicants and projects;
- Funding and project selection;
- Project delivery requirements and status; and
- Systemic Safety Analysis Report Program (SSARP).
Federal Legislation

- The Fixing America's Surface Transportation Act (FAST) Signed on 12/4/2015.
- The purpose of the HSIP program is “to achieve a significant reduction in traffic fatalities and serious injuries on all public roads” (23 U.S. Code § 148 (b)(2))
  - Includes Performance Measures and Targets
  - HSIP projects:
    - must be based on elements of the Strategic Highway Safety Plan (SHSP);
    - Are identified through a data-driven process;
    - Target identified safety issue;
    - Reduce fatalities and serious injuries.
National Performance Management Measures for the HSIP


Five Performance Measures (5-Year Rolling Averages):

• Number of Fatalities
• Rate of Fatalities per 100 million VMT
• Number of Serious Injuries
• Rate of Serious Injuries per 100 million VMT
• Number of Non-motorized Fatalities and Non-motorized Serious Injuries

Target setting:

• Caltrans will first establish statewide targets by August 31, 2017 HSIP Annual Report for calendar year 2018, and annually thereafter.
• MPOs will then establish their targets by
  1) agreeing to plan and program projects so that they contribute toward the accomplishment of the State targets or
  2) committing to a quantifiable HSIP target for the metropolitan planning area.
Local HSIP Advisory Committee

- Members from:
  Caltrans; California Transportation Cooperative Committee; California State Association of Counties; League of California Cities; Rural County Task Force; RTPAs; MPOs
- Provides high-level balanced strategic guidance to California’s Local HSIP and other safety programs and efforts regarding safety on California local roadways.
- Meet about 6 times per year.
Eligible Applicants

Any local agency that owns, operates, and maintains the public roadways

- City and County agencies
- Tribal Governments
- Others (reviewed on a case-by-case basis)
Eligible Projects

- Generally, any work on publicly owned roadway or bicycle/pedestrian pathway that corrects or improves the safety for users;
- Improvement-type must have an established Crash Reduction Factor to be included in the Application’s Benefit Cost Ratio (BCR) calculation;
- Prefer projects that can be delivered quickly and have minimal ROW and Environmental impacts
Eligible Projects

- Safety improvements at intersections, such as:
  - Providing left-turn phase;
  - Other signal timing and phasing modifications;
  - Improving signal hardware;
  - Installing roundabouts;
  - New signals;
  - Converting signal to master arm;
  - Dilemma zone detection; and
  - Intersection lighting.
Eligible Projects

- Pedestrian/bike projects, such as:
  - Crosswalks;
  - Bike lanes;
  - Sidewalks;
  - Pedestrian countdown signal heads;
  - Pedestrian hybrid beacons; and
  - Rectangular rapid flashing beacons.
Eligible Projects

- Roadway Departure Prevention, such as:
  - Roadway safety sign audits;
  - High friction surface treatments;
  - Guardrails or guardrail upgrades;
  - Install centerline/edgeline rumble strips/stripes;
  - Remove/relocate fixed objects;
  - Improve curve superelevation/alignments;
  - Install curve advance warning signs; and
  - Install delineators, reflectors and/or object markers.
Local HSIP: Funding and Project Selection

- Local HSIP apportionments: approx. $81 million per year (2016-2010 average)

<table>
<thead>
<tr>
<th>National</th>
<th>California</th>
<th>California Local HSIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2.317 billion/year</td>
<td>$204 million/year</td>
<td>$81 million/year</td>
</tr>
</tbody>
</table>

- Calls for Projects:
  - Interval: every one to two years (8 calls from 2007);
  - Most recent call (Cycle 8): May, 2016;
  - Next call (Cycle 9): expected to be around May, 2018.
Local HSIP: Funding and Project Selection

- Key to Successful Applications:
  - 1. Develop good projects:
    - Select locations where safety improvements are most needed (high crash-concentration spots versus systemic approach).
    - Apply effective safety countermeasures.
  - 2. Prepare your applications – no fatal flaws.
    - A technical process not grant writing – engineer’s work.
    - Collect/verify data and use data correctly.
Local HSIP: Funding and Project Selection Cycle 8 Call for Projects (2016):

- Announced on May 9, 2016;
- Applications Due August 12, 2016;
- Min: $100k per application;
  Max: $10 million per application and per agency.
- Three Categories:
  - **Benefit/Cost Ratio (BCR) projects:**
    Application’s minimum BCR: 3.5
  - **Set-aside for guardrail upgrades:**
    For upgrades of existing guardrails and end treatments
  - **Set-aside for crosswalk enhancements and pedestrian countdown heads**
Local HSIP: Funding and Project Selection Cycle 8 Call for Projects (2016):

Safety Countermeasures (CMs): a total of 76

- Signalized Intersection (S): 18
- Non-Signalized Intersection (NS): 20
- Roadway (R): 38

Each countermeasure is associated with:

- A crash type (all; Ped & Bike; Night; etc.);
- A Crash Reduction Factor (CRF): 10% to 70%; and
- A Service Life: 10 or 20 years.
Benefit/Cost Ratio Calculation Procedure

Applicants Calculate the Benefit/Cost Ratio:

Benefits:
- Collision History (3 to 5 years);
- Countermeasures and corresponding CRFs

It is the applicant's responsibility to clearly demonstrate the correlation between the proposed countermeasures and past collisions.

Project Costs:
- All phases;
- All funding sources.

Construction Cost Estimate
(Use Excel Template
"Detailed Engineer's Estimate and Cost Breakdown by Countermeasure")

Total Construction Cost; Max "HSIP/Total" %; Cost Breakdown by CMs

Project Cost Estimate
(Use Section III of the Application Form)

Total Project Cost; Cost Breakdown by CMs

Benefit/Cost Ratio Calculation
(Use Section IV of the Application Form)

CMs Selected; Crash Data Period; CM Benefits

Benefit Summary Sheet
(Use Excel Template)
Summarizing all calculation runs

CM Benefits Calculation
(Use Excel Benefit Calculator)
(Calculation Runs 1.2, ...)

... Multiple if needed

Crash Data Summary
(Use Excel Template)
(Summaries No.1, 2, ...)

... Multiple if needed

Applicants Calculate the Benefit/Cost Ratio:
Local HSIP: Funding and Project Selection

Cycle 8 Call for Projects (2016):

<table>
<thead>
<tr>
<th>Applications</th>
<th>Selected Projects</th>
<th>% Selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>247</td>
<td>225</td>
<td>91%</td>
</tr>
<tr>
<td>Federal Funds</td>
<td>$252 million</td>
<td>$216.9 million</td>
</tr>
</tbody>
</table>

**Selected Projects:**

<table>
<thead>
<tr>
<th>Category</th>
<th>Benefit/Cost Ratio</th>
<th>“Guardrail upgrade” set-aside</th>
<th>“Crosswalk enhancements/ pedestrian countdown heads” set-aside</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Projects</td>
<td>167</td>
<td>24</td>
<td>34</td>
</tr>
<tr>
<td>Federal Funds</td>
<td>$187.6 million</td>
<td>$21.9 million</td>
<td>$7.4 million</td>
</tr>
</tbody>
</table>
Local HSIP: Funding and Project Selection
Cycle 8 Call for Projects (2016):

All BCR Projects vs.
Projects with Roadway Departure Safety Related Components

<table>
<thead>
<tr>
<th></th>
<th>Number of Projects</th>
<th>Federal Funds</th>
<th>Benefit/Cost Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>All BCR Projects</td>
<td>167</td>
<td>$187.6 million</td>
<td>10.3</td>
</tr>
<tr>
<td>Roadway Departure Safety Related</td>
<td>56 (34%)</td>
<td>$47.4 million (25%)</td>
<td>12.9 (25% higher)</td>
</tr>
</tbody>
</table>
Cycles 4-8: Selected Projects

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Release Date</th>
<th>Number of Applications</th>
<th>Number of projects selected</th>
<th>Federal funds approved ($M)</th>
<th>Average BCR of selected projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>2/23/2011</td>
<td>357</td>
<td>179</td>
<td>$74.5</td>
<td>7.9</td>
</tr>
<tr>
<td>5</td>
<td>10/19/2012</td>
<td>276</td>
<td>221</td>
<td>$111.3</td>
<td>14.6</td>
</tr>
<tr>
<td>6</td>
<td>11/14/2013</td>
<td>389</td>
<td>231</td>
<td>$150.0</td>
<td>10.7</td>
</tr>
<tr>
<td>7</td>
<td>11/12/2015</td>
<td>212</td>
<td>182</td>
<td>$160.5</td>
<td>16.9</td>
</tr>
<tr>
<td>8</td>
<td>11/21/2016</td>
<td>247</td>
<td>225</td>
<td>$216.9</td>
<td>10.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>1,481</td>
<td>1,038</td>
<td>$713.2</td>
<td>12.3</td>
</tr>
</tbody>
</table>

Expected benefits: $8.8 billion!
Local HSIP: Project Delivery Requirements

- Need to follow federal-aid process;
- Requirements established to ensure safety projects are delivered in a timely manner
  - PE Authorization - within 9 months; and
  - CON Authorization - within 36 months
- Can not apply for new HSIP funds if either milestone is not met
- If there is still no CON authorization within 5 years, project will be removed from the program.
## Local HSIP Project Delivery Status

### Status of Local HSIP Projects (as of 4/6/2017)

<table>
<thead>
<tr>
<th>Status</th>
<th>Number of Projects (all 8 cycles)</th>
<th>%</th>
<th>Number of Projects (cycles 1 to 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Authorization</td>
<td>280</td>
<td>20%</td>
<td>8</td>
</tr>
<tr>
<td>In Preliminary Engineering / Right of Way</td>
<td>258</td>
<td>18%</td>
<td>24</td>
</tr>
<tr>
<td>In Construction</td>
<td>376</td>
<td>27%</td>
<td>265</td>
</tr>
<tr>
<td>Completed</td>
<td>494</td>
<td>35%</td>
<td>480</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1408</strong></td>
<td><strong>100%</strong></td>
<td><strong>777</strong></td>
</tr>
</tbody>
</table>
Systemic Safety Analysis Report Program (SSARP)

- $10 million of state funds allocated by the CTC in October, 2015.
- Provides funding to do a comprehensive systemic safety analysis on roadway networks.
- Purpose is to assist local agencies that do not have safety analysis expertise.
- Up to $250,000 for one agency; up to $500,000 for a joint application (two or more agencies).
Systemic Safety Analysis Report Program (SSARP)

- Selection results announced on 7/15/16
  - 61 projects; $10m state funds
    - 41 are cities / 15 are counties / 5 joint.
    - As of 4/10/17: $7.6 million sub-allocated to 45 projects.
  - 46 applications unselected (requesting $7.7m of state funds)
    - CTC allocated $7.7m in its January, 2017 meeting
Questions?
Thank you …

- **Local HSIP Website:**
  [http://www.dot.ca.gov/hq/LocalPrograms/hsip.html](http://www.dot.ca.gov/hq/LocalPrograms/hsip.html)

Or

- **Google search:** “CA Local HSIP”