

CHAPTER 9

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) AND HIGH RISK RURAL ROADS (HR3) PROGRAM GUIDELINES

FOR HSIP CYCLE 5 & HR3 CYCLE 3 CALL-FOR-PROJECTS

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CHAPTER 9 HIGHWAY SAFETY IMPROVEMENT PROGRAM

9.1 INTRODUCTION

The Highway Safety Improvement Program (HSIP), codified as Section 148 of Title 23, United States Code (23 U.S.C. §148)¹ was elevated to a core program as a result of the passage of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). Additionally, SAFETEA-LU introduced a new set-aside provision known as the High Risk Rural Roads (HR3) Program, codified as 23 U.S.C. §148(f). This program is a component of the HSIP and is set-aside after HSIP funds have been apportioned to the states. The purpose of the HR3 program is to reduce the frequency and severity of collisions on rural roads by correcting or improving hazardous roadway locations or features. SAFETEA-LU was originally effective through September 30, 2009 and now has been extended by continuing resolution through June 2012.

These HSIP/HR3 Guidelines are written for the anticipated available programming capacity in the FSTIP at the time of this call for projects. At the time these guidelines are released, a new Federal Transportation Act to supersede SAFETEA-LU has not yet been enacted by Congress. These guidelines were written with the expectation that the HSIP/HR3 will remain a core program and be funded at or near the 2010/11 Federal Fiscal Year (FFY) funding levels.

9.2 ELIGIBLE APPLICANTS

The applicant for HSIP/HR3 funds is an agency that assumes responsibility and accountability for the use and expenditure of federal-aid highway funds. The applicant must be a city, a county, or a tribal government federally recognized within the State of California. It is expected that a funds transfer would be required between the Federal Highway Administration (FHWA) and the Bureau of Indian Affairs (BIA) for a project awarded directly to a tribal government. The tribal government may also partner with a city or county to apply for funding. Exceptions to this requirement will be reviewed by the Department of Transportation (Caltrans), Headquarters - Division of Local Assistance (HQ-DLA) on a case-by-case basis.

9.3 ELIGIBLE PROJECTS

HSIP funds:

HSIP funds are eligible for work on any public road or publicly owned bicycle/pedestrian pathway or trail, or on tribal lands for general use of tribal members, that corrects or improves the safety for its users.

HR3 funds:

HR3 funds are only eligible for roadways functionally classified as a rural major or minor collector, or rural local road. 23 U.S.C. §148(a)(1)¹ defines the HR3 Program:

“The term ‘high risk rural road’ means any roadway functionally classified as a rural major or minor collector, or rural local road –

- (A) *on which the accident rate for fatalities and incapacitating injuries exceeds the statewide average for those functional classes of roadways; or*
- (B) *that will likely have increases in traffic volume that are likely to create an accident rate for fatalities and incapacitating injuries that exceeds the statewide average for those functional classes of roadway.”*

It is not necessary to indicate if an application is for HSIP and/or HR3 funds. All applications will compete for HSIP funds. Those applications eligible for HR3 funds will compete for HR3 funds. **Only one application is needed for a proposed project.**

It is the intent of the HSIP/HR3 programs that federal funds be expended on safety projects that can be designed and constructed expeditiously. Projects should not require the acquisition of significant rights of way (not more than 10% of the construction cost), nor should they require extensive environmental review and mitigation.

For a project to be eligible for HSIP/HR3 funding, a specific safety problem must be identified for correction and the proposed countermeasure must correct or substantially improve the condition. **All proposed projects must lead to the construction of safety improvements.** The project must be consistent with [California’s Strategic Highway Safety Plan \(SHSP\)](#)⁷. The twenty-one project categories as listed under 23 U.S.C. §148(a)(3)(B)¹ originally and slightly modified in 5.1 of [FHWA’s Highway Safety Improvement Program Manual](#)⁴ are shown below. There is no funding priority assigned to the list.

1. An intersection safety improvement.
2. Pavement and shoulder widening (including addition of a passing lane to remedy an unsafe condition).
3. Installation of rumble strips or other warning devices, if the rumble strips or other devices do not adversely affect the safety or mobility of bicyclists, pedestrians, and persons with disabilities.
4. Installation of a skid-resistant surface at an intersection or other location with a high frequency of crashes.
5. An improvement for pedestrian or bicyclist safety or for the safety of persons with disabilities.
6. Construction of any project for the elimination of hazards at a railway-highway crossing that is eligible for funding under Section 130, including the separation or protection of grades at railway-highway crossings.
7. Construction of railway-highway crossing safety feature, including installation of highway-rail grade crossing protective devices.
8. The conduct of an effective traffic enforcement activity at a railway-highway crossing.
9. Construction of a traffic calming feature.
10. Elimination of a roadside obstacle or roadside hazard.
11. Improvement of highway signage and pavement markings.
12. Installation of a priority control system for emergency vehicles at signalized intersections.
13. Installation of a traffic control or other warning device at a location with high crash potential.
14. ~~Transportation safety planning. (not eligible in this call for projects)~~
15. ~~Improvement in the collection and analysis of safety data. (not eligible in this call for projects)~~

16. Planning integrated interoperable emergency communications equipment, operational activities, or *traffic enforcement activities (including police assistance) relating to work zone safety*.*
17. Installation of guardrails, barriers (including barriers between construction work zones and traffic lanes for the safety of road users and workers), and crash attenuators. (Note: Includes barrier rail and guardrail on a structure or its approaches.)
18. The addition or retrofitting of structures or other measures to eliminate or reduce accidents involving vehicles and wildlife.
19. Installation and maintenance of signs (including fluorescent yellow-green signs) at pedestrian-bicycle crossings and in school zones.
20. Construction and operational improvements on high risk rural roads.
21. *Conducting road safety audits*. *

*Traffic enforcement activities relating to work zone safety, conducting road safety audits and other incidental work (such as landscaping, context sensitive solution features, etc) combined shall not exceed 10% of the project construction cost. The local agency is responsible for all incidental work costs that exceed 10% of the construction costs.

Some of the work categories are broad in nature. Consult the District Local Assistance Engineer (DLAE) for clarifications or questions on project categories and/or eligibility that are not answered by the Guidelines, the Application Form, the Application Form Instructions and the Safety Program website.

9.4 FUNDING

Projected from the current funding level, the amount of federal safety funds available for the local HSIP program and the local HR3 program in this call for projects are expected to be approximately \$100 million and \$15 million, respectively. If the HSIP/HR3 funding is reduced or eliminated in the next Federal Transportation Act, the funding for this call for projects will be adjusted accordingly.

There is no limit to the number of applications an agency is allowed to submit. Instead, there is a limit to the maximum amount of federal funds an agency can receive in this call for projects. This maximum is set at the larger of the following two amounts:

- \$2 Million; and
- $(\text{Agency's Population} / \text{State Population}) \times \text{Total Federal Funds for This Call} \times 1.5$
(Population data is from <http://www.dof.ca.gov/research/demographic/>)

This maximum Federal amount has been established with the intent to reward agencies that proactively analyze their entire roadway network, while still ensuring funds are widely distributed across the state to encourage all agencies to analyze their safety problems and submit their project applications.

The maximum federal reimbursement amount for any single HSIP/HR3 project is \$900,000. All project expenses that exceed the \$900,000 maximum federal reimbursement amount will be the responsibility of the project sponsor and will not be eligible for reimbursement. The minimum Federal reimbursement amount for any single HSIP/HR3 project is \$100,000. This minimum dollar amount has been established to ensure the efficiency and cost-effectiveness of the overall program and individual projects. Exceptions to this requirement may be requested through the DLAE

(see Application Form Instructions). The maximum federal reimbursement ratio for all HSIP/HR3 projects is ninety percent (90%). The actual project reimbursement ratio will be determined when the “Authorization to Proceed” is approved by the FHWA. Requests for additional federal funds that exceed the original dollar amount shown in the agency’s application will not be granted except in unusual cases.

Project costs eligible for federal reimbursement include:

- **Preliminary Engineering**
 - Environmental Studies (NEPA Clearance required)
 - Preparation of Plans, Specifications and Estimates (PS&E)

- **Right of Way**
 - Engineering
 - Appraisal and Acquisition
 - Utility relocation

- **Construction**
 - Construction Engineering
 - Construction

9.5 PROJECTS INVOLVING STATE HIGHWAYS

A Caltrans-initiated safety project on a state highway that requires financial participation by a local agency is eligible for funding. Typically, these types of projects involve new or upgraded traffic signals at an intersection. The number of intersection legs owned by each agency determines the cost-sharing ratio. For example, if a traffic signal is proposed at a 4-legged intersection, 2 legs being a State Highway and 2 legs being a local road, the project cost sharing ratio for each agency would be fifty percent (50%). For other special financial arrangements, see Section 4B.104 (CA), Financing, of the [California Manual on Uniform Traffic Control Devices](#) (California MUTCD)⁵.

A local agency-initiated safety project on a local roadway that involves a State Highway must include a written correspondence from Caltrans-District Traffic staff. This letter only intends to confirm that Caltrans does not see issues with the proposed project that would prevent it from receiving an encroachment permit. If the project is likely to require financial participation by Caltrans, the applicant should include a formal letter of support and reasonable estimates of all cost sharing ratios, amounts, and funding schedule in their application.

The local agency should consult with the DLAE to identify any planned and/or programmed State Highway safety projects that may require financial participation by a local agency. If Caltrans is developing a safety project that may require financial participation by a local agency, the local agency should consider submitting an HSIP/HR3 application to compete for funding. Submittal of an application does not guarantee that the project will be approved for funding. The financial and project administration responsibilities of each agency shall be outlined in the Cooperative Agreement.

9.6 AGENCY APPLICATION

Prior to beginning the preparation of a HSIP/HR3 Application, agencies should ensure that they are in good standing with respect to the new Safety Program Delivery Requirements and are eligible to receive new HSIP/HR3 funding. For more details, see Section 9.9, Project Delivery, in these guidelines.

Agencies seeking HSIP/HR3 funds to construct infrastructure improvements are required to complete the HSIP/HR3 Application Form in PDF format located on [the website](#)¹⁶. The application form and its instructions guide applicants through the process of entering the required data. In the process of filling out the application, applicants are directed to utilize [the University of California, Berkeley Safe Transportation Research and Education Center \(SafeTREC\) website](#)¹⁷ for their Transportation Injury Mapping System (TIMS) and the TIMS Benefit/Cost (B/C) Calculation Tool. Once the data has been entered, the tool automatically calculates the B/C for the project and prepares a B/C calculation summary to be attached to the application. Applicants must utilize this process in preparing their electronic and hard-copy applications. Failure to follow this process will result in their application being rejected.

A local agency must submit applications to its respective [Caltrans District Office](#)⁸, with attention to the District Local Assistance Engineer (DLAE), **by the designated deadline, July 20, 2012**. A signed application plus one hard copy are required. An electronic copy of the completed application form (PDF file) must also be included in the applicant's submittal. All maps, schematics, drawings, figures, or photographs attached to the application should be made on 8-1/2 x 11-inch paper or 11 x 17-inch paper and are included as PDF files in the electronic copy.

Candidate projects must include a detailed engineer's estimate for all the construction costs. The total construction cost in this engineer's estimate must match the total construction cost entered into the PDF application form.

Candidate projects must include estimated dates when various project milestones will be completed.

Projects must contain collision summary reports and collision diagrams. Do not submit copies of the traffic collision report prepared by the law enforcement officer.

Schematic drawings or plans showing the general nature and location of the proposed improvements must be submitted for all projects. The right-of-way lines for the local roads (and State highways if appropriate) must be shown.

Photographs to better illustrate the problem are encouraged.

9.7 APPLICATION REVIEW AND PROJECT SELECTION PROCESS

All proposed projects will be evaluated based on the Benefit/Cost (B/C) ratios. The B/C ratios are calculated automatically online. Refer to Section 9.6 for more details regarding B/C ratio calculation.

Applicants shall not submit projects with B/C ratios less than 1.0. Such projects are not eligible for funding and will be rejected if submitted.

All proposed projects will compete for HSIP funds; those projects eligible for HR3 funds will also compete for HR3 funds.

STATEWIDE PROJECT SELECTION

All proposed projects will be prioritized in descending order, statewide, by the calculated B/C ratios. Projects with highest B/C ratios will be selected for funding.

All HR3 funds and sixty to seventy-five percent (60% to 75%) of the HSIP funds will be targeted for projects in Statewide Project Selection.

DISTRICT PROJECT SELECTION

Projects that do not receive funding under Statewide Project Selection will re-compete for funding under District Project Selection, which is used to ensure a minimum level of funding throughout the state.

For each Caltrans District, those proposed projects that have not been selected in Statewide Project Selection will be ranked based on their B/C ratios. Projects with highest B/C ratios will be selected for funding.

Twenty-five to forty percent (25% to 40%) of the HSIP funds will be targeted for projects in District Project Selection.

HQ-DLA staff, the DLAE and/or the District HSIP Program Coordinator will evaluate all projects that are projected to receive funding to ensure there are no fatal flaws in the proposed projects. The DLAE may also choose to establish a District review committee to assist in the fatal flaw evaluation. Applications that are determined to have fatal flaws will be rejected and dropped from consideration. "Fatal flaws" are defined in detail in the PDF application form and its instructions.

HQ-DLA staff will review the Districts' project lists in conjunction with the statewide project list. HQ-DLA will consider the Districts' project lists on a statewide basis to achieve an equitable funding distribution across the state.

Approximately 3 to 4 months after the application due date, HQ-DLA will post the list of approved projects on the HSIP/HR3 website. The DLAE will notify all applicants of the results.

9.8 PROJECT PROGRAMMING AND IMPLEMENTATION

Caltrans HQ-Division of Transportation Programming will send the list of approved projects to the Metropolitan Planning Organizations (MPOs). The MPOs will amend the Federal Transportation Improvement Program (FTIP) to include their projects. Caltrans, acting as the MPO for the rural Regional Transportation Planning Agencies,

will amend the Federal Statewide Transportation Improvement Program (FSTIP) accordingly. Once the FTIP/FSTIP is amended, the DLAE will notify the local agencies that they may submit their request for authorization (E76).

Once programmed into the FTIP/FSTIP, projects must be processed and implemented in accordance with the federal-aid procedures contained in the [Local Assistance Procedures Manual \(LAPM\)](#)¹¹ and the [DLA Safety Program Delivery Requirements](#)¹⁸. Agencies are strongly encouraged to review the LAPM and Delivery Requirements before submitting new applications and/or proceeding with new projects, even if they have completed federally funded projects in the past.

Federal funds are considered obligated to each project phase when the FHWA approves the 'Request for Authorization' (see Chapter 3, Project Authorization, of the [LAPM](#)¹¹).

Agencies should not proceed with any phase of reimbursable work (Preliminary Engineering, Right of Way, or Construction) until the DLAE provides the local agency with the written "Authorization to Proceed" for each project phase.

All costs associated with any phase of work performed prior to receiving written "Authorization to Proceed" from the DLAE will not be eligible for reimbursement.

9.9 PROJECT DELIVERY

To meet FHWA's intent for HSIP/HR3 federal funds being expended on safety projects that can be designed and constructed expeditiously and to ensure that all programmed projects are delivered in a timely manner, DLA has created [Safety Program Delivery Requirements](#) for all ongoing and future federally funded safety projects.

The key delivery requirements for new safety projects include three milestones and corresponding delivery deadlines:

1. Request for Authorization to Proceed with PE within 6 months after the project is amended into the Federal Statewide Transportation Improvement Program (FSTIP).
2. Request Authorization to Proceed with Construction within 30 months (2 ½ years) after the project is amended into the FSTIP.
3. Complete construction and close-out the project within 54 months (4 ½ years) after the project is amended into the FSTIP.

If an agency has an active HSIP or HR3 project that is flagged for not meeting one or more of these milestones, Caltrans will not accept HSIP or HR3 applications from that agency unless the flags have been resolved by the application due date.

See the [Safety Program Delivery Requirements](#) document posted on the [Safety Program Delivery Status website](#)¹⁸ for further details. Agencies can check current project milestone status under the "Project and Program Summaries" section on this web page. **Note:** The delivery requirements for HSIP and HR3 projects are tracked separately. A flag with HSIP projects will NOT impact the HR3 applications, and vice versa.

Due to FHWA's financial constraint requirement for the FSTIP and the past poor delivery of HSIP/HR3 projects, DLA anticipates that most local agencies will be required to utilize Expedited Project Selection Procedures (EPSP) in order to meet the above delivery requirements. To better explain these procedures and provide additional

guidance, DLA has created a document titled [Using EPSP to Meet Delivery Requirements](#). The document is available on [the HSIP website](#)¹².

PROJECT INACTIVITY

Inactive projects tie up limited program funds from being used by other local agencies for their safety needs. Federal-aid projects become ‘inactive’ when there has been no financial activity (invoice submittals or payments) on the project within certain time periods. The duration of the time period that triggers inactivity is based upon the unexpended balance of the project as shown below:

Unexpended Balance < \$50,000	3 years of no financial activity
$\$50,000 \leq$ Unexpended Balance \leq \$500,000	2 years of no financial activity
Unexpended Balance > \$500,000	1 year of no financial activity

HSIP/HR3 projects that become ‘inactive’ can lose all federal funds that have been programmed, obligated, and expended on a project. Go to the [Inactive Projects](#) website²⁰ for additional information.

9.10 DESIGN STANDARDS

Chapter 11, “[Design Standards](#)”, of the LAPM¹¹ describes statewide design standards, specifications, procedures, guides, and references that are acceptable in the geometric, drainage, and structural design of local assistance projects. The chapter also describes design exception approval procedures. These standards and procedures shall be used for all HSIP/HR3 projects on the local road system.

If a project contains a bikeway component, it shall be designed in accordance with the [Caltrans Highway Design Manual](#)⁹ and the [California Manual on Uniform Traffic Control Devices \(California MUTCD\)](#)⁵. Exceptions to using these standards will be handled in accordance with the exception approval process described in the appropriate manual.

All projects must meet the requirements of the Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973. For more information on [ADA compliance](#)¹⁹, please refer to Chapter 11, “[Design Standards](#),” of the LAPM¹¹, or go to the DLA website.

All projects must upgrade nonstandard safety features to the appropriate standard when those features are within the scope and work area of the project. Requests for exceptions to this requirement must follow all federal exception approval processes.

A local agency that proposes to install an experimental traffic control device on a public roadway shall follow the process prescribed in Section 1A.10 of the California MUTCD and coordinate with the [California Traffic Control Devices Committee \(CTCDC\)](#)⁶. Given that this can be a time-consuming process, DLA does not recommend pursuing experimental traffic control devices unless the local agency is close to obtaining the approval to use the experimental device or unless the local agency is willing to accept the risk that the project might fail to meet the delivery requirements and the agency would be prevented from applying for future HSIP/HR3 funding until the project is complete.

All projects containing Intelligent Transportation System (ITS) components shall comply with federal ITS regulations. See Chapter 12.6, [Intelligent Transportation Systems](#), of the Local Assistance Program Guidelines (LAPG)¹⁰.

9.11 PROGRAM EVALUATION

Title 23, Code of Federal Regulation Part 924.13² requires that the HSIP and HR3 programs be evaluated for its effectiveness in reducing the number of crashes, fatalities, and serious injuries on the nation's roadways. Applicants that receive funding for a project may be asked to collect and submit data to Caltrans upon completion of the project. Positive safety benefits documented on constructed projects can help justify continued funding at or above current funding levels.

9.12 PROJECT PREFIXES AND FEDERAL PROGRAM CODES

The project prefix to be used with HSIP projects is **HSIPL**.

The project prefix to be used with HR3 projects is **HRRRL**.

For program codes and other additional information, see Exhibit 3-M of the [LAPM](#)¹¹.

9.13 REFERENCES

1. Title 23, United States Code, Section 148
❖ <http://uscode.house.gov/>
2. Title 23, Code of Federal Regulations, Part 924
❖ <http://ecfr.gpoaccess.gov/>
3. California Streets and Highways Code, Sections 2330-2334
❖ <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=shc&group=02001-03000&file=2330-2334>
4. FHWA Highway Safety Improvement Program Manual
❖ <http://safety.fhwa.dot.gov/hsip/resources/fhwasa09029/>
5. California Manual on Uniform Traffic Control Devices (California MUTCD)
❖ <http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/>
6. California Traffic Control Devices Committee (CTCDC)
❖ <http://www.dot.ca.gov/hq/traffops/signtech/newtech/others/guidelines-exp.pdf>
7. Strategic Highway Safety Plan (SHSP)
❖ <http://www.dot.ca.gov/SHSP/>
8. Caltrans District Offices
❖ <http://www.dot.ca.gov/hq/LocalPrograms/dlae.htm>
9. Caltrans Highway Design Manual
❖ <http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm>

10. Caltrans Local Assistance Program Guidelines (LAPG)
 - ❖ <http://www.dot.ca.gov/hq/LocalPrograms/lam/lapg.htm>
11. Caltrans Local Assistance Procedures Manual (LAPM)
 - ❖ <http://www.dot.ca.gov/hq/LocalPrograms/lam/lapm.htm>
12. HSIP Website
 - ❖ <http://www.dot.ca.gov/hq/LocalPrograms/hsip.htm>
13. HR3 Website
 - ❖ <http://www.dot.ca.gov/hq/LocalPrograms/HR3>
14. HSIP - List of approved projects
 - ❖ http://www.dot.ca.gov/hq/LocalPrograms/HSIP/prev_cycle_results.htm
15. HR3 - List of approved projects
 - ❖ http://www.dot.ca.gov/hq/LocalPrograms/HR3/approved_project_lists.htm
16. HSIP/HR3 – Application, Application Instruction, and related documents.
 - ❖ http://www.dot.ca.gov/hq/LocalPrograms/HSIP/apply_now.htm
17. HSIP/HR3 – Benefit/Cost Ratio Calculator (UC Berkeley, SafeTREC TIMS website)
 - ❖ <http://tims.berkeley.edu>
18. Safety Program Delivery Requirements and Delivery Status
 - ❖ http://www.dot.ca.gov/hq/LocalPrograms/HSIP/delivery_status.htm
19. Local Programs – ADA compliance
 - ❖ http://www.dot.ca.gov/hq/LocalPrograms/DBE_CRLC/DBE_CRLC.html#ADA
20. Local Programs – Inactive Projects
 - ❖ <http://www.dot.ca.gov/hq/LocalPrograms/Inactiveprojects.htm>