APPLICATION FORM INSTRUCTIONS FOR CYCLE 9 HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

The instructions included in this file are for applicants in completing the applications in Highway Safety Improvement Program (HSIP) Cycle 9 Call for Projects. Applicants must prepare their electronic applications and the attachments as defined in these instructions. Failure to follow this procedure will result in the applications being rejected or not being properly received. The application deadline is **Friday, August 31, 2018.**

At a minimum, Adobe Acrobat Reader DC is needed in order to complete, save and submit the application form. You may download Adobe Acrobat Reader DC for free at https://acrobat.adobe.com/us/en/acrobat/pdf-reader.html.

Application preparation and submittal process:

1. Download the application form and other documents from the Division of Local Assistance (DLA) HSIP Website http://www.dot.ca.gov/hq/LocalPrograms/HSIP/apply_nowHSIP.htm.
2. Complete the application form and attach the required documents to the last page of the application form. Save the application form by using the Application ID as the file name, e.g. "07-Sacramento-1.pdf". Using a generic file name may result in your application being overwritten by another application from a different applicant with the same file name.
3. Click the "Save and submit" button on the last page of the application.
    - If some mandatory information is not provided, a message will appear to warn the applicant, and all mandatory unfilled fields will have a red box. Fill in these fields prior to clicking the "Save and submit" button again.
    - If the submittal is successful, the applicant will receive a confirmation email at the email address provided on page 2 of the application form under "Contact Person Information". Please keep a copy of the email as proof of the application submittal.

Applicants must submit the applications electronically before the deadline. Any submittal after midnight of 8/31/2018 will not be accepted. **It is highly recommended that you submit the application as early as possible after completion.** The DLA may start to review the applications prior to the application deadline, so the early submitted applications might get an opportunity to correct problems, if any. Early submittals will also help the DLA to even the work load and expedite the review process.

Important: Read the entire instructions before attempting to prepare and submit any application. Applicants are expected to utilize and follow these instructions in a step-by-step process as they complete their applications. Completing an application without referencing to these instructions may result in an incomplete application or an application with fatal flaws that will be excluded from the ranking and selection process. Due to time constraints, the applicant will not be notified of Caltrans findings until after the selection process is complete. If an applicant has questions relating to potential fatal flaws in their application, they should seek assistance from their Caltrans DLAE before submitting their application.

GENERAL INFORMATION

The total federal funds available for HSIP Cycle 9 is estimated at approximately $140 million to $160 million. The actual funding amount will depend on the delivery of the active HSIP projects by the end of the 2017/2018 Federal Fiscal Year.

Application Categories:

There are six application categories (AC's) in HSIP Cycle 9.

Application Categories that require a Benefit Cost Ratio (BCR):

AC #1: Common BCR Application

This application category is for the majority of the applications. A benefit cost analysis must be performed using the HSIP Analyzer. The applications will be ranked based on the BCRs, from the largest to the smallest. A minimum BCR of 3.5 is required for an application to be submitted. Please do not submit any application with a BCR lower than 3.5.
At least 75% of the HSIP Cycle 9 federal funds will be used for this application category.

AC #2: Set-aside for High Friction Surface Treatment

The maximum total HSIP funds available for this category is $5 million. This application category is for applications that utilize High Friction Surface Treatment (HFST). The applications under this category are still required to have a benefit cost analysis using the HSIP Analyzer. However, the minimum BCR for an HFST application to be submitted is 2.5. The BCR cutoff in the project selection under this application category may be lower than AC #1, if necessary.

The applications under this category will be ranked based on the BCRs, from the largest to the smallest.

The maximum HSIP funds that an agency may have for their selected Cycle 9 projects under AC #1 and AC #2 combined is $10 million.

The applications under AC #1 and AC #2 are called BCR applications.

Application Categories that do NOT require a BCR:

AC #3: Set-aside for Guardrail Upgrades

The maximum total HSIP funds available for this category is $20 million. This application category is for projects that will upgrade existing guardrails and end treatments. New guardrail installations and bridge rail upgrades are not eligible. The applications under this category are not required to have a benefit cost analysis or a BCR.

In the project selection, the agencies who did not have projects awarded under this set-aside in HSIP Cycle 8 will have higher priorities. In addition, the applications will be ranked based on the total number of Fatal & Severe Injury (F+SI) crashes within the boundaries of the agency in the last three years with data available from California Highway Patrol (CHP) Statewide Integrated Traffic Records System (SWITRS). The applicant does not need to provide this number as DLA will obtain from the SWITRS if needed.

The maximum HSIP amount per agency under this application category is $1 million.

AC #4: Set-aside for Horizontal Curve Signing

The maximum total HSIP funds available for this category is $5 million. This application category is for projects to install horizontal alignment warning signs. Per California MUTCD Section 2C.06 Horizontal Alignment Warning Signs:
"…In advance of horizontal curves on freeways, on expressways, and on roadways with more than 1,000 AADT that are functionally classified as arterials or collectors, horizontal alignment warning signs shall be used in

accordance with Table 2C-5 based on the speed differential between the roadway's posted or statutory speed limit or 85th-percentile speed, whichever is higher, or the prevailing speed on the approach to the curve, and the horizontal curve's advisory speed.
Option:
Horizontal Alignment Warning signs may also be used on other roadways or on arterial and collector roadways with less than 1,000 AADT based on engineering judgment."

The target compliance date established by the FHWA for the above requirement is December 31, 2019. Any work to meet this requirement is eligible for this application category.

The applications will be ranked based on the total number of Fatal & Severe Injury (F+SI) crashes within the boundaries of the agency in the last three years with data available from California Highway Patrol (CHP) Statewide Integrated Traffic Records System (SWITRS). The applicant does not need to provide this number as DLA will obtain from the SWITRS if needed.

The maximum HSIP amount per agency under this application category is $250,000.

AC #5: Set-aside for Pedestrian Crossing Enhancements

The maximum total HSIP funds available for this category is $8 million. This application category is for projects to install pedestrian countdown signal heads, pedestrian crossing/signs, advanced yield lines/signs, striping, and flashing beacons. Other work related to pedestrian crossing enhancements is allowed as long as it is no more than 20% of the project total cost. The applications under this category are not required to have a benefit cost analysis or a BCR.

In the project selection, the agencies who did not have projects awarded under this set-aside in HSIP Cycle 8 will have higher priorities. In addition, the applications will be ranked based on the total number of Pedestrian & Bicyclist (P&B) Fatal & Severe Injury (F+SI) crashes within the boundaries of the agency in the last three years with data available from California Highway Patrol (CHP) Statewide Integrated Traffic Records System (SWITRS). The applicant does not need to provide this number as DLA will obtain from the SWITRS if needed.

The maximum HSIP amount per agency under this application category is $250,000.

AC #6: Set-aside for Tribes

The total HSIP funds available for this category is $2 million. For this application category, the applicant must be a federally recognized tribe in California. The work can be one or more of the above AC #3, AC #4 and AC #5. In addition, the below low cost roadway safety improvements are also eligible.

- ✓ Install/Upgrade signs with new fluorescent sheeting (regulatory or warning);
- ✓ Install chevron signs on horizontal curves;
- ✓ Install curve advance warning signs/flashing beacons;
- ✓ Install dynamic/variable speed warning signs;
- ✓ Install delineators, reflectors and/or object markers;
- ✓ Install edge-lines, centerlines, no-passing lines;
- ✓ Install centerline/edge-line rumble strips/stripes;
- ✓ Install pedestrian countdown signal heads/pedestrian crossing; and
- ✓ Install advance stop bar before crosswalk.

The applications under this category are not required to have a benefit cost analysis or a BCR.

The maximum HSIP amount per tribe under this application category is $250,000.

The applications under AC #3, AC #4, AC #5 and AC #6 are called non-BCR applications.

Summary of Application Categories for HSIP Cycle 9

No.	Application Category/ Statewide Funding Level	Max Amount Per Agency	BCR Required?
AC #1	Common BCR Application (>=75% of HSIP Cycle 9 Funding)	$10M (AC #1 and #2 combined)	Yes
AC #2	Set-aside for High Friction Surface Treatment (<=$5M)		Yes
AC #3	Set-aside for Guardrail Upgrades (<=$20M)	$1M	No
AC #4	Set-aside for Horizontal Curve Signing (<=$5M)	$250K	No
AC #5	Set-aside for Pedestrian Crossing Enhancements (<=$8M)	$250K	No
AC #6	Set-aside for Tribes (<=$2M)	$250K	No

HSIP Analyzer:

HSIP Analyzer is a PDF form based software that streamlines the project cost estimate, safety improvement countermeasure evaluation, crash data input and Benefit Cost Ratio (BCR) calculation. It simplifies the application work by integrating multiple documents that were required in the previous calls for projects. The use of the HSIP Analyzer is required for all applications in HSIP Cycle 9. For an application that is not required to have the BCR, the HSIP Analyzer will be used for cost estimate only.

The key data from the HSIP Analyzer is required to be transferred to Section III of the Application Form. The completed HSIP Analyzer must be attached to the HSIP Application Form (Attachment No. 5).

Preparations prior to filling in application form:

This document contains detailed instructions for filling in the application form. The instructions for the HSIP Analyzer provide specific instructions for construction cost estimate, overall project cost estimate, countermeasure benefit calculation and the Benefit Cost Ratio (BCR) calculation.

Applicants are expected to prepare their applications based on a data-driven, comprehensive safety evaluation of their roadway infrastructure, traffic volumes and crash data. Prior to filling in the PDF application form, it is recommended that applicants complete some general preparations:

1) Read the Program Guidelines.

2) Review Caltrans' Local Roadway Safety Manual for California's Local Road Owners. This manual should help applicants in selecting good safety projects to compete for federal HSIP funds.

3) Verify your agency is eligible to apply for HSIP funding. Review the HSIP guidelines related to eligibility and confirm your agency has no delivery flags on the current HSIP projects. (See DLA delivery status at http://www.dot.ca.gov/hq/LocalPrograms/HSIP/delivery_status.htm)

4) Review the HSIP Analyzer and its instructions to become familiar with the relationship between the construction cost estimate, the project cost estimate, and the calculations of the project benefit and the Benefit Cost Ratio (BCR).

5) Review the Engineer's Checklist. The checklist must be completed by a licensed Engineer who is in "responsible charge" of the preparation of the HSIP application. This checklist has been developed to help ensure all of the

primary elements of the application are included and the application is free of errors in the calculation of the BCR so the application can be accurately ranked in the statewide selection process. Engineers are encouraged to print the checklist and then review the corresponding checklist items as they work through these instructions and prepare the final application.

DETAIL INSTRUCTIONS

Application Summary (Cover Sheet)

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

NOTE: The **Application ID** shown on this summary page is generated automatically based on the Caltrans District, the agency name, and the Application Number. This exact Application ID is to be used as the file name for saving the final Application Form. In addition, this Application ID must be entered in the HSIP Analyzer.

Section I: Basic Project Information

Agency
From the drop-down list, **select** the agency name. Only **Type** the name if your agency is not in the list.

County
Select from the drop-down list.

Caltrans District
Select from the drop-down list.

MPO
From the drop-down list, select the MPO (Metropolitan Planning Organization) that will be involved with the programming of the project in the FTIP. Select "Other" if not applicable. For information about MPOs, visit http://www.dot.ca.gov/hq/transprog/federal/mpo_ftip_links.htm.

Application Number
If multiple applications are submitted, each application must have a unique number (1, 2, 3, etc). As stated above, this number is used to generate a unique Application ID. It does not imply any priority among the applications from your agency.

Contact Person Information
This information will be used to contact the agency relating to funding results and later for project delivery questions. **NOTE**: the email address will be used to notify the applicant once the electronic submittal has been successful. Please make sure the email address is entered correctly.

Application Category
Select one of the application categories from the drop-down list:
- Common BCR Application;
- Set-aside for High Friction Surface Treatment;
- Set-aside for Guardrail Upgrades;
- Set-aside for Horizontal Curve Signing;
- Set-aside for Pedestrian Crossing Enhancements; Or
- Set-aside for Tribes.

Refer to Pages 2 through 4 for more details regarding the application categories.

Project Location
Provide road name, intersection cross street names, and/or geographical references of where the project is located. Be brief (limited to 250 characters). Example: *"On Elm St. between Oak Ave. and Cherry Blvd."* or *"The Intersection of Elm St. with Oak Ave."* or *"Various locations along Oak Ave." or "Various locations throughout the County."*

Project Description
Describe, in general, the types of work that are proposed for the project. Be brief (limited to 250 characters). Example: *"Install traffic signal; Construct curb, gutter, sidewalk, and curb ramps"* or *"Install traffic signs, stripes and pavement markings"*

Functional Classification
Visit California Road System (CRS) maps at http://www.dot.ca.gov/hq/tsip/hseb/crs_maps/ to determine the functional classification of the road(s) where **most** of the work will be constructed. Select the functional classification from the drop-down list.

CRS Map ID
Enter CRS Map ID (e. g. 08E14) from the CRS website.

Urban/Rural Area
Select "Urban" or "Rural" from the drop-down list, when **most** of the proposed work is in urban or rural area.

High-Risk-Rural-Roads (HR3) Eligibility
If the proposed work is **primarily (90% or more)** in rural area and associated with roads functionally classified as "Major Collector", "Minor Collector" and/or "Local", the project should be marked as HR3 eligible. Select "Yes" or "No" from the drop-down list.

HR3 eligible projects, when selected for funding, will be tracked separately due to the FHWA's special requirements.

If this project is NOT HR3 eligible, it is possible that part of the project is HR3 eligible. Provide an approximate total cost percentage that is HR3 eligible.

Work on the State Highway System
Any project that encroaches the State right-of-way must include written correspondence from Caltrans-District Traffic staff, even if it does not impact the existing roadway infrastructure. Failure to provide this documentation will result in the application being rejected from consideration. Joint funded projects must have a formal letter of support. Encroachment projects that are not seeking Caltrans joint funding still require a letter or email from Caltrans stating that Caltrans is in support, or is at least neutral to the proposed project, given the scope of the project shown in the application, and that Caltrans does not see issues that would prevent the proposed project from receiving an encroachment permit.

NOTE: For intersection improvements on state highways, an Intersection Control Evaluation (ICE) analysis and a cost sharing agreement with Caltrans are required. For more information regarding the ICE analysis, see Chapter 4C, Traffic Control Signal Needs Studies, of the California Manual on Uniform Traffic Control Devices (CA MUTCD).

Caltrans District Local Assistance Engineer (DLAE) will assist the applicants coordinating with Caltrans-District Traffic staff.

If the answer to this question is "Yes", Attachment #9 is required in Section V.

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). Please provide the warrants as Attachment #8 in Section V.

Exception: for pedestrian signals (including Pedestrian Hybrid Beacon (HAWK)), the justification may be Warrant 4, 5 and/or 7, or passing the test in Figure 4F-1/4F-2 in Chapter 4F of CA MUTCD. Please refer to Chapter 4F of CA MUTCD (http://www.dot.ca.gov/trafficops/camutcd/) for more details.

Additional Information

Most of the information requested in this session is required for Caltrans to meet its annual safety program reporting requirements to the FHWA. Responses to these questions will NOT be used in the scoring, ranking or selection process. The responses will be incorporated in statewide and national safety program assessments and used to determine the health of the overall program and potential areas of focus for future program improvements.

- **Spot vs. Systemic**
  The Local Roadway Safety Manual includes a detailed description of these two approaches. When more than one type of systemic improvements are proposed in one application, applicants need to select a single "primary type".

- **SHSP Challenge Area**
  The goal of this question is to tie the improvements to California's Strategy Highway Safety Plan. Most projects should fall within one of the Challenge Areas. Visit http://www.dot.ca.gov/trafficops/shsp/ for more details on the 15 California Challenge Areas.

- **Approximate percentage of project cost going to improvements related to motorized/non-motorized travel**
  Projects benefit a mix of roadway users and modes of travel. For statewide tracking purposes, Caltrans needs applicants to approximate the percent of the overall project costs going to improvements for motorized vs. non-motorized roadway users. Applicant need to make their best approximation of the percentages based on their estimated project costs and their primary goals and objectives for the project.

- **Number of Intersections and Miles of Roadway**
  Provide the number of intersections and the length of roadways included in the project. Enter "0" if none.

- **Posted Speed Limit (mph)**
  Input the highest posted speed within the project limits.

- **Annual Average Daily Traffic and Year Collected**
  Indicate the existing (or most current) Annual Average Daily Traffic (AADT) volume at the project location and the year the data were collected.
  - If the proposed improvement is on a road segment, the AADT is the number of vehicles that use that section of roadway, in both directions, on an average day. You may enter the same number for the Major Road and Minor Road.
  - If the proposed improvement is at an intersection, separate the AADT volumes approaching the intersection into Major Road and Minor Road.
  - If the proposed improvements span a large distance and/or are spread out over several routes/locations, provide the range of AADT volumes with the high-end input in the "Major Road" field and the low-end input in the "Minor Road" field.

Section II. Narrative Questions

These narrative questions are intended to provide additional project details for the application reviewers and project files. Application reviewers will use this information in their assessment of the application. If significant inconsistencies are found in the application information, Caltrans reviewers may conclude that the application includes one or more "fatal flaws" and the application will be dropped from further funding considerations.

Each narrative answer is limited to 5000 characters. The intent is to keep the answers short and to the point. Bulleted answers are acceptable. Applicants can type the answers directly into the fields or copy text from other documents and paste.

NOTE: If your application is under an Application Category that does not require crash data and a BCR, you are encouraged to provide related information in answering Questions 2, 3 and 4 but it is not required. You may simply enter "NA" in the reply boxes.

Section III. Project Cost, Safety Countermeasures and Benefit Cost Ratio (BCR)

Transfer the key data from the results in HSIP Analyzer.

For all applications, the below data are required:

- Total Project Cost,
- HSIP Funds Requested and
- Project's Maximum Federal Reimbursement Ratio.

For the applications that have the BCR, the below data are also required:

- Number of countermeasures utilized;
- Countermeasure names;
- Project benefit;
- Benefit Cost Ratio (BCR).

Section IV. Implementation Schedule

Provide an estimated implementation schedule of the project based on a target date of 01/01/2019 as the project's amendment into the FTIP.

In order for the milestones to be calculated correctly, all fields need to be filled in. For steps that are not applicable, enter "0" in the boxes.

If the applicant expects an action, task, or delay not accounted for on this form, it is the applicant's responsibility to account for this duration under the "Other" fields.

It's important for the applicant to work closely with its internal environmental and project delivery staff before completing this form to ensure realistic durations are used. Caltrans recommends the applicant review and consider all aspects of the States' PES form to minimize the likelihood of the agency failing to meet the program's delivery requirements. This form is located at: http://www.dot.ca.gov/hq/LocalPrograms/lam/forms/lapmforms.htm (Exhibit 6-A).

The Agency must commit to the delivery schedule shown in the application, with the understanding that if the agency cannot meet the minimum delivery requirements for the program, they will risk not being eligible to apply for future safety funding in this program until the project's milestone flags are removed. The delivery requirements are located at http://www.dot.ca.gov/hq/LocalPrograms/HSIP/delivery_status.htm.

If the proposed project involves lengthy delivery elements (i.e. right-of-way acquisition or environmental permits from regulatory agencies), Caltrans recommends the agency consider completing the PE phase of the project before applying for HSIP funding, re-scope the project to focus on low-impact improvements that can be constructed expeditiously, OR selecting a different project altogether that can be delivered on an expedited schedule. Agencies may choose to seek funding in the HSIP program with the understanding that there is a high risk that their project will miss the delivery requirements, be flagged, and the agency will be excluded from future HSIP funding until after the project's milestone flags are removed.

NOTE: This form is intended to be a tool for the applicant to create a reasonable project schedule in order to reduce the risk of the applicant/agency having a future delivery flag and becoming ineligible to apply for future funding. This information will not affect the ranking or selection of applications.

Section V. Application Attachments

Attach all documents needed for this application. Many of the attachments are listed as "Required for all projects" or "Required for this project" (based on the information you have entered in the Application Form). Failure to include the required attachments will result in the disqualification /rejection of the application.

The preferred size for all pages, maps, schematics, drawings, figures and photographs is 8.5" x 11". 11" x 17" is acceptable for maps and plan sheets only.

Files may not be attachable when they are open. Close before attach.

1) **Engineer's Checklist (Required for all projects)**
   a) Applicants must use Caltrans template at http://www.dot.ca.gov/hq/LocalPrograms/HSIP/apply_nowHSIP.htm
   b) The checklist is to be used by the engineer in "responsible charge" of the preparation of this HSIP application to ensure all of the primary elements of the application are included and the application is free of errors in the calculation of the Benefit Cost Ratio (BCR).

2) **Vicinity map/Location map (Required for all projects)**
   The application reviewers and the Program Managers must be able to quickly pinpoint the project's location in the state and local agency. This map needs to show where the project is located within the overall agency. It is not intended to show the specific project limits.

3) **Project maps/plans showing existing and proposed conditions (Required for all projects)**
   a) These plans need to show the limits of the propose improvements and that the proposed improvements are technically feasible and design standard are expected to be met including: lane widths, turning movements, lane transitions/off-sets sight distance, etc.
   b) The application reviewers must be able to confirm whether the proposed improvements fall within the existing right-of-way or they require new right-of-way acquisition. If the project encroaches on right-of-way of State Highway System, railroad or other agencies, include a copy of an email or letter of support from the owner.

4) **Pictures of existing condition (Required for all projects)**
   A minimum of two pictures is required, showing the existing safety conditions/concerns that will be altered by project. For the BCR applications that utilize multiple countermeasures, a minimum of two pictures per countermeasure is required, showing the existing safety conditions/concerns that will be altered by each proposed countermeasure.

5) **HSIP Analyzer (Required for all projects)**
   Attach the completed HSIP Analyzer pdf form (the completed fillable form, not a printed/scanned copy).

6) **Collision Diagram(s) (Required for BCR projects)**
   The application reviewers must be able to confirm that for each collision, there is a clear correlation between the collision and the specific countermeasure(s) it applies to.

7) **Collision List(s) (Required for BCR projects)**
   a) Applicants must include a list of crashes (by location) that matches the crashes shown on the collision diagrams and applied to a countermeasure in the BCR calculation using the HSIP Analyzer. This list is often a direct output from SWITRS, Crossroads, TIMS or other crash databases. **When multiple location groups exist in using the HSIP Analyzer for the benefit calculation, separate the collision lists by location groups.**
   b) If the output list includes crashes that were not appropriate to include in the project's BCR calculation, these crashes must be crossed through or removed.
   c) This report/list must show the total number of crashes (not number of victims) summarized by crash severity.

8) Warrant studies (Required when applicable)

Required when the project includes an improvement that requires an engineering study to warrant the installation of certain traffic control devices, e.g., traffic signals, pedestrian signals, etc. When applications include traffic control features like these, it is the applicants' responsibility to ensure all requirements of the latest CA MUTCD are met. Failure to include required warrants completed per CA MUTCD will result in the project being disqualified. See the Engineer's Checklist for more details on Warrant Studies.

When "Warrant Studies" (top of page 3) is checked, this attachment is required for this project.

9) Letter/email of Support from Caltrans (Required when applicable)

a) All projects that encroach within Caltrans' rights-of-way must have a letter or email from Caltrans conveying district Traffic Office's "support" or at least "neutral-support" for the project. Projects that do not contain documentation of Caltrans' position will be disqualified.

b) All "joint funded" projects with Caltrans must have a letter of support from Caltrans indicating the project's scope, schedule, cost and cost sharing ratios. Applications for joint funded projects that do not contain a letter of support will be disqualified.

c) For intersection improvements on state highways, an Intersection Control Evaluation (ICE) analysis and a cost sharing agreement with Caltrans are required. For more information regarding the ICE analysis, see Chapter 4C, Traffic Control Signal Needs Studies, of the California Manual on Uniform Traffic Control Devices (CA MUTCD).

When the answer to "Work on the State Highway System" (bottom of pages) is "Yes", this attachment is required for this project.

10) Additional narration, documentation, letters of support, etc. (Optional)

a) These may be used to help illustrate the safety concerns within the project limits.

b) These should be directly related to documenting the merits of the need, purpose and scope of the project.

c) General documents and/or full reports should not be included.