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

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 08-Grand Terrace-1

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)
Grand Terrace

Application Category
Set-aside for Guardrail Upgrade

Caltrans District	Application Number	Out of
08	1	1

Project Location
The Project is located in the Cities of Grand Terrace and Colton at high risk sections of Barton Road, Mount Vernon Avenue, Vista Grande Way and Vivienda Avenue.

Project Description
The Cities of Grand Terrace and Colton will replace existing guardrails at high risk locations on Barton Road, Mount Vernon Avenue, Vista Grande Way and Vivienda Avenue.

Total Project Cost	HSIP Funds Requested
$648,300	$648,300

Countermeasure No. 1 R4: Install Guardrail

Countermeasure No. 2

Countermeasure No. 3

Project Benefit	Benefit Cost Ratio (BCR)

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

Application ID 08-Grand Terrace-1

I. Basic Project Information

Date: Aug 31, 2018

Caltrans District: 08

MPO: SCAG

Agency: Grand Terrace

County: San Bernardino County

Total number of applications being submitted by your agency: 1

Application Number (each application must have a unique number): 1

Contact Person Information

Name (Last, First): French, Alan

Position/Title of Contact Person: Public Works Director/City Engineer

Email: afrench@grandterrace-ca.gov

Telephone: (909) 824-6621

Extension: 251

Address: 22795 Barton Road

City: Grand Terrace

Zip Code: CA 92313 (Enter only a 5-digit number)

Application Category: Set-aside for Guardrail Upgrades

Project Information

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

The Project is located in the Cities of Grand Terrace and Colton at high risk sections of Barton Road, Mount Vernon Avenue, Vista Grande Way and Vivienda Avenue.

Project Description:
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The Cities of Grand Terrace and Colton will replace existing guardrails at high risk locations on Barton Road, Mount Vernon Avenue, Vista Grande Way and Vivienda Avenue.

Functional Classification: Other Principal Arterial (For Functional Classification and CRS Maps, Visit: http://www.dot.ca.gov/hq/tsip/hseb/crs_maps/)

CRS Map ID (e.g. 08E14): 15v22 and 15v23

Urban/Rural Area: Urban

High-Risk-Rural-Roads (HR3) Eligibility: No

If this project is not entirely HR3 eligible, what is the approximate total cost percentage that is HR3 eligible? 0 %

Work on the State Highway System

Does the project include improvements on the State Highway System? No

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.

Additional Information

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

2. Which of the California's Strategic Highway Safety Plan (SHSP) Challenge Areas does the project address primarily? (For more information on the SHSP and its Challenge Areas, see: http://www.dot.ca.gov/SHSP/)

   2: Intersections, Interchanges, and Other Roadway Access

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

   Agency Management/Other Departments in Agency

4. California established Systemic Safety Analysis Report Program (SSARP) in 2016. Was this project identified through the SSARP program?

   No

5. What is the primary mode of travel intended to be benefited by this project? Motorized users

6. Approximate percentage of project cost going to improvements related to motorized travel: 100 %

7. Approximate percentage of project cost going to improvements related to non-motorized travel: 0 %

8. Provide the number of intersections and the length of roadways included in the project (enter 0 if not applicable):

   Number of Intersections: 0 Miles of Roadway: 0.89

9. Posted Speed Limit (mph): 50

10. Annual Average Daily Traffic (See Application Form Instructions)

AADT (Major Road)	AADT (Minor Road)	Year Collected/Estimated
11,835	7,392	2013

II. Narrative Questions (See Application Form Instructions)

These narrative questions are intended to provide additional project details for the application reviewers and project files. The reviewers will use the information in their "fatal flaw" assessment of the applications. Please make sure that:

1) The project scope is eligible for HSIP funding;
2) The countermeasures used in the Benefit Cost Ratio (BCR) calculation are appropriately applied based on the scope of the project;
3) The crash data used in the BCR calculation is appropriately applied based on the scope of the project and countermeasures used; and
4) The application data and attachments are reasonable and meet generally accepted traffic engineering and transportation safety principles.

If significant inconsistencies or errors are found in the application information, the reviewers may conclude that the application includes "fatal flaws" and the application will be dropped from further funding considerations. The applicant will not be notified of findings until after the selection process is complete.

1. Overall Identification of Need

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 crash concentrations?
(Limited to 5,000 characters)

The City of Grand Terrace, in partnership with the City of Colton, conducts ongoing traffic safety analysis of roadway segments throughout the city on an annual basis. Through the use of traffic accident reports from the Statewide Integrated Traffic Records System (SWITRS) and communication with the California Highway Patrol (CHP) and San Bernardino Sheriff's Department, City staff compiles a database of accident histories sorted by location and accident description. Using this database, areas of high collision concentrations are identified and further reviewed for causes and possible countermeasures to reduce the potential for accidents. The City strives to update this compilation of traffic accident history on a continuous basis. Past traffic history is reviewed on a one year, three year,and long term basis. This allows staff to identify short term and long term patterns of accident history. The data is updated when changes, such as the installation of a new traffic signal or roadway widening, are made to the current roadway conditions.

The project area, which traverses the Cities of Grand Terrace and Colton, includes roadways that have sharp turns with an abrupt drop-off on one side, steep inclines/declines, blind curves and slippery surfaces when wet. In addition, even though posted speed limits are in line with these conditions, speeding remains a major cause of collisions in the project area. The effects of these factors are amplified when combined with current traffic volumes and the prevalence of larger vehicles, such as SUV's, on the road today. The upgrade of guardrails to contemporary materials and impact absorption standards will assist in reducing crash severity and prevent motorists from going down an embankment, striking a fixed object or careening into the condos/apartments located adjacent to the Barton Road project area.

A guardrail is, first and foremost, a safety barrier intended to shield a motorist who has left the roadway. The best-case scenario, if a car is careening off the road, would be for that car to come to rest unhindered. However, in the Cities of Grand Terrace and Colton, that is challenging on several roads due to lack of shoulder space. Each road in this project area are abutted by steep embankments or side slopes, lined with trees, and/or utility poles.

As a result, in these cases, the consequences of striking a guardrail would be less severe than striking the aforementioned objects. The guardrails will make the roads in the project area safer and lessen the severity of crashes. The guardrail will operate to deflect a vehicle back to the roadway, slow the vehicle down to a complete stop, or, in certain circumstances, slow the vehicle down.

This is not to say that guardrails can completely protect against the countless situations drivers may find themselves in; however, upgraded guardrails will increase the driver's chance of staying on the roadway versus down the embankment.

2. Potential for Proposed Improvements to Address the Safety Issues

Describe the primary causes of the collisions that have occurred within the project limits. Are there patterns in the crash types? Clearly demonstrate the connection between the problem and the proposed countermeasures utilized in the BCR calculations. Depending on the nature of the project, explain why the agency chooses to pursue "Spot location(s)" or "Systemic" improvements.
(Limited to 5,000 characters)

Note: *Safety improvements that do not have countermeasures and crash reduction factors identified in the HSIP Analyzer can be included in the project scope and cost estimate as "Other Safety-Related" improvement; they just won't be added to the project's BCR shown in the application.*

As per page 9 of the application instructions (see below), this section does not apply (N/A).
"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."

3. Crash Data Evaluation

What is the source of the crash data? For each countermeasure, describe how the influence areas and the limits of the crash data were established to ensure only appropriate crashes were included in the Collision Diagrams, Collision Lists and used in the BCR calculation. (Limited to 5,000 characters)

Note: If the project includes multiple locations and multiple countermeasures, group the locations so that within each group, the same countermeasures apply to all locations and their crash data. Describe the location groups. These location groups must be consistent with the grouping in using the HSIP Analyzer.

As per page 9 of the application instructions (see below), this section does not apply (N/A).
"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."

4. Prior Attempts to Address the Safety Issue

List all other projects/countermeasures that have been (or are being) deployed at this location. Applicants must identify all federal funds that have been used or approved within or directly adjacent to the proposed project limits within the last 5 years. (HSIP funding cannot be used to construct the same general type of countermeasures within the same limits within 5 years to ensure agencies do not apply the same Crash Reduction Factors to the same crashes)

For projects proposing high cost improvements/countermeasures such as shoulder widening and horizontal/vertical realignments, applicants must document that they have installed and monitored low-cost improvements which have not adequately addressed the safety issue ("**incremental approach**"). (Limited to 5,000 characters)

As per page 9 of the application instructions (see below), this section does not apply (N/A).
"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."

5. Other Comments

Explain here if this project requests any exceptions to the rules (such as "PE no more than 25%", "ROW no more than 10%" and "CE no more than 15%" rules), or if you have any other comments. (Limited to 5,000 characters)

N/A

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

Please transfer the below from the HSIP Analyzer. Please make sure you have reviewed the HSIP Analyzer instructions and completed the HSIP Analyzer correctly.

For some funding set-asides, only the project cost information is required. Please review the Application Form Instructions for details.

Total Project Cost
$648,300

HSIP Funds Requested
$648,300

Project's Maximum Federal Reimbursement Ratio (e.g. enter 90 for 90%)
100%

Countermeasures

Number of Countermeasures Utilized (Max 3): 1

Countermeasure No. 1 R4: Install Guardrail

Project Benefit	Benefit Cost Ratio (BCR)

IV. Implementation Schedule (See Application Form Instructions)

The local agency is expected to deliver the project per Caltrans Local Assistance Safety Program Delivery requirements.
In order for the milestones to be calculated correctly, all fields need to be filled in. For steps that are not applicable, enter "0".

Target Date for the Project's Amendment into the FTIP:	01/01/2019	
Time for agency to internally staff project and request PE authorization:	1	Month(s)
Typical time for Caltrans and FHWA to process and approve PE authorization:	2	Month(s)
Proposed PE Authorization Date:	04/01/2019	(PE Authorization Delivery Milestone)
Will external consultants be required to complete the PE phase of this project?	Yes	
Additional time needed to the Delivery Process for hiring PE consultant(s):	6	Month(s) (0 - 6)
Time to prepare environmental studies request:	1	Month(s)
Time to complete CEQA/NEPA studies/approvals:	1	Month(s)
See PES Form in the LAPM for Typical studies and permits		
Time to complete the Right of Way Acquisition (federal process):	0	Month(s)
Plan on 18 months minimum for federal process including a condemnation		
Time to complete final PS&E documentation:	2	Month(s)
Other:	0	Month(s)
Expected Completion Date for the PE Phase:	02/01/2020	
Time for agency to request CON authorization:	2	Month(s)
Typical time for Caltrans and FHWA to process and approve CON authorization:	3	Month(s)
Proposed CON Authorization Date:	07/01/2020	(CON Authorization Delivery Milestone)
Time included for the agency's workload-leveling or construction-window needs:	1	Month(s)
Time to award contract with CON contractor (following the federal process, including Board/Council approval, advertise, award, execute and mobilize):	2	Month(s)
Time to complete construction:	3	Month(s)
Time included for closing the CON contract:	1	Month(s)
Other:	0	Month(s)
Expected Completion Date for the CON Phase:	02/01/2021	
Time to complete the project close-out process:	1	Month(s)
Typical time for Caltrans and FHWA to process and approve project close-out:	3	Month(s)
Expected Completion Date for the project Close-Out:	06/01/2021	(Close-Out Delivery Milestone)

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V. 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. Engineer's Checklist (Required for all projects)
   Grand Terrace_Engineers_Checklist.pdf
2. Vicinity map/Location map (Required for all projects)
   Grand_Terrace_Vicinity_Location_Map.pdf
3. Project maps/plans showing existing and proposed conditions (Required for all projects)
   Grand_Terrace_Project_Maps_Plans_Existing_Proposed.pdf
4. Pictures of Existing Condition (Required for all projects)
   Grand_Terrace_Photo_Essay_and_Maps.pdf
5. HSIP Analyzer (Required for all projects)
   08-Grand Terrace-01Calc.pdf
6. Collision diagram(s) (Not required for this project)
7. Collision List(s) (Not required for this project)
8. Warrant Studies (Not required for this project)
9. Letter/email of Support from Caltrans (No SHS involved - not required for this project)
10. Additional narration, documentation, letters of support, etc. (Optional)
    Grand_Terrace_LOS.pdf