California Department of Transportation's

APPLICATION FOR HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) FUNDS

- Cycle 4 -

Submitted By

Agency: OAKLAND

Application Ranked #: 1 Out of : 4

Project Location

Hegenberger Road at Edes Avenue, Baldwin Street, Hamilton Street and 73rd Avenue

Project Description

Signal modification to improve traffic and predestrian safety. Measures: improve signal hardware, convert signal to mast arm, and install flashing beacon.

Project Countermeasures

Countermeasure Type	Countermeasure Name	CM #
Signal Mod.	Improve signal hardware: lenses, back-plates, mounting, size, and number	1
Signal Mod.	Convert signal from pedestal-mounted to mast arm	2
Signal Mod.	Install flashing beacons as advance warning	3

Project's Total Benefit / Cost Ratio

3.152

Caltrans District

04

Contents

APPLICATION FOR HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) FUNDS

Basic Project Information

Date	12/09/2010	Caltrans District	04	MPO	MTC
Agency	OAKLAND			Locode	5012
Total number of applications being submitted by your agency					4
Rank of this project (each project application must have a different rank)					1

Contact Person Information

Position/Title of Contact Person	Transportation Engineer				
Name	Philip Ho				
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County	ALAMEDA	City	OAKLAND	Zip	94612

Project Information

Project Location - Be Brief - See Instructions	Hegenberger Road at Edes Avenue, Baldwin Street, Hamilton Street and 73rd Avenue
Project Description - Be Brief - See Instructions	Signal modification to improve traffic and predestrian safety. Measures: improve signal hardware, convert signal to mast arm, and install flashing beacon.

Functional Classification	14-Urban Other Principal Arterial		Posted Speed	40
Current Average Daily Traffic	Major Street	38900	(Required)	
	Minor Street		(For Intersection Projects)	
	Year Collected	2002		
Is the project focused primarily on "Intersection" or "Roadway" Improvement			Intersection	
Number of Intersections	4	Number of Roadway miles	N/A	

Work on the State Highway System

Does the project include improvements on the State Highway System?	No
If Yes, is this a joint-funded project with Caltrans?	N/A
If Yes, confirm a "letter of support" is attached to the application.	N/A
If No, confirm in writing that Caltrans-District Traffic Office is in support or neutral to the proposed improvements within the State Right of Way.	N/A

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Narrative Questions

These narrative questions are intended to provide additional project details for the reviewers and project files. These questions will be used in the scoring of projects that do not make the initial funding cut based fully on their Benefit/Cost Ratios.

1. Identification and Demonstration of Need

Describe how was the problem identified. Provide information showing the agency identified the project based on a data-driven, comprehensive safety evaluation of their roadway infrastructure and crash data. Given that other problems may exist within the applicant's jurisdiction, explain why this problem was chosen to compete for federal safety funds. Provide some background information about the problem: How long has the problem existed? Have other countermeasures been deployed? Describe the primary cause(s) of the collisions that have occurred at the location. Are there patterns in the crash types? Attach and reference any collision data, traffic data, community surveys, reports, plans, pictures, etc. to illustrate the problem.

Hegenberger Road is a major access to the Oakland Airport with local and regional traffic. It is a major arterial running east and west with four vehicular through lanes with left turning lanes. It is also in the bike route plan. The wide median on Hegenberger Road makes it hard for driver and pedestrian to observe the right-of-way assignment. High vehicular speed and a curvature on one of the cross-streets results on many rear end accidents.

Statewide Integrated Traffic Record System (SWITRS) was used to identify high collision locations, and Hegenberger Road was found to be one of the corridors with high incidents. After further reviewed of the collision data, it was found that the intersection of Hegenberger Road / Edes Avenue; Hegenberger Road / Baldwin St.; Hegenberger Road / Hamilton St.; and Hegenberger Road / International Blvd. has significant number of collisions. There have been 89, 54, 76 and 111 collisions at the intersections of Edes, Baldwin, Hegenberger, and international respectively within a ten-year period (July 1st, 1999 to June 30th, 2009) with three fatalities and 90 injuries. Due to the high number of injuries and fatality collisions, this corridor was selected to compete for federal safety.

The collision problem has existed for a long time. Traffic calming has implemented attempting to reduce collisions. Majority of the collisions were right-angle, rear end, pedestrian and bicycle and other speed related type. Curvatures, wide median, wide intersections and speeding seem to be the issue when vehicles from 94th Avenue are making their way through the wide median.

2. Potential for Proposed Improvement to Correct or Improve the Problem

Describe how the proposed solution will improve the traffic safety at or near the project site. Clearly demonstrate the connection between the problem and the proposed solution. What other countermeasures were considered? Does the proposed solution provide safety benefits for all modes of travel? Does the countermeasure reduce speed? Increase visibility? Reduce collision severity? Reduce the occurrence of specific crash types? Enhance safety for persons with disabilities? Explain why the proposed solution is the preferred alternative.

Additional signal standards with vehicle heads for visibility, intersection clearance; speed message signs for speed control; and additional vehicle heads for will improve safety for vehicles, pedestrians and bicycles along Hegenberger road

The proposed improvement will benefit all modes of travel. For motorist, the proposed traffic signal modification and speed message signs will provide improved visibility, speeding alertness. Signal modification will also provide improved safety for motorists crossing some of the wide intersections with wide median along Hegenberger Road. The signal modifications will reduce both right angle, fatality and rear end accidents along Hegenberger. For bicycle and pedestrians, vehicular speed reduction that would result from speed message sign will improve safety. The proposed improvements can also act as a speed calming measure.

3. Potential for Timely Implementation of Project

Describe the time frame to implement the project (This timeframe and follow-up discussion must match the "Implementation Schedule" section of the application). Identify any potential barriers to a timely implementation. Are there likely environmental issues that could delay the project? Are there seasonal considerations for the construction period? Are all construction improvements within existing public rights of way? Have other local, regional or state funds been targeted for the project that have not yet been secured? Is there community support for, or opposition to the project?

There are no issues or concerns that may impact the delivery of the project. Once the City is awarded is with the project, the City will prioritize and obtain the authorization to start the preliminary design within a six-month period. We will then expeditiously working with Caltrans to complete all required environmental studies and obtain the NEPA clearance. The City is foreseeing minimal environmental impact by this project since it is for modification of existing traffic signals, and the project is not proposing a major/lane changes to the intersection. All work will be within City's right-of-way, and no time is needed for right-of-way acquisition. The design will be done by City staff to reduce the time need to hire a consultant to do the design work.

If this project is selected to be funded by HSIP federal funds, local match is available to fund this project.

This project is supported by the community, and the City does not foresee any opposition to the project since it will improve the safety of the intersection.

APPLICATION FOR HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) FUNDS

Project Cost Estimate

Project Costs

Preliminary Engineering Costs

(Preliminary Engineering costs should not exceed 25% of Construction Item costs)

Environmental	$ 40,000
PS&E	$ 123,725
PE Subtotal	**$ 163,725**

Right of Way Costs

(Right of Way costs should not exceed 10% of Construction Item costs)

Engineering	$ -
Appraisal and Acquisition	$ -
Utilities	$ -
ROW Subtotal	**$ -**

Construction Costs

Construction Engineering (Construction Engineering costs should not exceed 15% of Construction Item costs)	$ 98,235
Construction Items (The cost for the "Construction Items" must match the Detail Engineer's Estimate)	$ 654,900
CON Subtotal	**$ 753,135**

Project Cost Subtotal	**$ 916,860**
Contingencies (Maximum of 10% of Project Costs Subtotal)	**$ 91,686**
Total Project Cost	**$1,008,546**
Federal Funds Requested (Federal Funds must not exceed $900,000 or 90% of Total Project Cost, whichever is less)	**$900,000**
Local or other funds	**$108,546**

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Implementation Schedule

This schedule is based on the assumption that the proposed project is amended into the FTIP on: **6/1/2011**

The Local Agency is expected to deliver the project per Caltrans Local Assistance HSIP Guidelines. Otherwise the project will be "flagged" in the program's delivery report.

Request Authorization to Proceed with Preliminary Engineering (PE)

If the PE phase for the project is already complete, check this box	☐
Time for agency to internally staff project and request PE authorization	4.0 Months
Time for Caltrans and FHWA to process and approve PE Auth	1.5 Months
Proposed PE Authorization Date:	**11/16/2011**

Estimated Durations for elements of the PE delivery phase

Will external consultants be required to complete the PE phase of this project? ☐

Additional time allocated to the Delivery Process for hiring PE consultant(s)	Months
Time to prepare environmental studies request	4.0 Months
Time to complete CEQA NEPA studies/approvals *	4.0 Months
Time to complete the Right of Way Acquisition (federal process)	Months
Time to complete final PS&E documentation	10.0 Months
Other :	Months
Expected Completion Date for the PE Phase:	5/16/2013

* *See PES Form in the Local Assistance Procedures Manual for typical studies and permits*

Request Authorization to Proceed with Construction (CON)

Time for agency to request CON authorization	4.5 Months
Time for Caltrans and FHWA to process and approve CON Auth	1.5 Months
Proposed CON Authorization Date:	**11/16/2013**

Estimated Durations for elements of the CON delivery phase

Time included for the Agency's workload-leveling or Construction-Window needs	3.0 Months
Time to award contract with CON contractor (using the federal process) Including: Board/Council approval, Advertise, Award, Execute, Mobilize	8.0 Months
Time to complete Construction	6.0 Months
Time included for closing the CON contract	2.0 Months
Other :	Months
Expected Completion Date for the CON Phase:	6/16/2015

Complete the Project Close-out Process

Time to complete the Project Close-out Process	3.5 Months
Time for Caltrans and FHWA to process and approve Project Clost-out	1.5 Months
Expected Completion Date for the Project Close Out:	**11/16/2015**

APPLICATION FOR HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) FUNDS

Benefit / Cost Ratio Result

1. Summary of Project Countermeasures

Project Type	Countermeasure	Crash Type	CRF	Life
Signal Mod.	Improve signal hardware: lenses, back-plates, mounting, size, and number	All	10	10
Signal Mod.	Convert signal from pedestal-mounted to mast arm	All	35	20
Signal Mod.	Install flashing beacons as advance warning	All	35	10

2. Crash Data Time Period

From	7/1/1999	To	6/30/2009	Years	10.00

3. Details of Each Countermeasures

A. Countermeasure #1: Improve signal hardware: lenses, back-plates, mounting, size, and number

a) Crash Data Summary

Crash Type	Fatal	SI	Injury	MI	PDO	Total
All	1		20		34	55
Night						
Ped & Bike						
Animal						
Emerg Vehicle						

b) Result

Benefit (Annual)	$52,382
Benefit (Life)	$424,865
% of Total Cost	20
Cost	$201,709
B/C Ratio	2.106

B. Countermeasure #2: Convert signal from pedestal-mounted to mast arm

a) Crash Data Summary

Crash Type	Fatal	SI	Injury	MI	PDO	Total
All			7		18	25
Night						
Ped & Bike						
Animal						
Emerg Vehicle						

b) Result

Benefit (Annual)	$14,434
Benefit (Life)	$196,163
% of Total Cost	20
Cost	$201,709
B/C Ratio	0.973

C. Countermeasure #3: Install flashing beacons as advance warning

a) Crash Data Summary

Crash Type	Fatal	SI	Injury	MI	PDO	Total
All	2		13		53	68
Night						
Ped & Bike						
Animal						
Emerg Vehicle						

b) Result

Benefit (Annual)	$315,382
Benefit (Life)	$2,558,026
% of Total Cost	60
Cost	$605,128
B/C Ratio	4.227

4. Total Benefit :	$3,179,054
5. Total Project Cost :	$1,008,546
6. Project's Total B/C Ratio :	3.152

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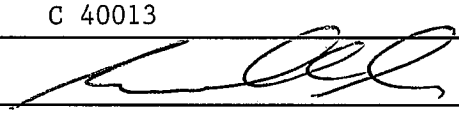
Applicant Data Verification and Signature

All HSIP applications (hard-copies only) must be signed by a registered engineer or the Agency's Transportation Manager in responsible charge of their Traffic Enginerring section. By signing and submitting this application, the engineer/manager is attesting to :

1. All data in the application is accurate.
2. All likely project costs are included in the Total Project Cost.
3. Each countermeasure included represents a minimum of 20% of the Total Project Cost
4. All crash data is accurately shown in the application and applied to countermeasures using generally accepted traffic engineering principles.
5. The agency understands the Project Delivery Requirements for the HSIP Program and is prepared to deliver the Project with these requirements.

Agency Official Name	Wladimir Wlassowsky
Engr. License # or Title	C 40013
Signature	
Date	12/09/10

Application Attachments

Attachments to be included in Application

Included	Not Included	
◉		Vicinity map
◉		Project map showing existing and proposed conditions
◉		Collision diagram
◉		Collision summary report/list
◉		Detailed Engineer's Estimate
○	◉	Warrant studies (required when applicable to proposed improvement)
○	◉	Letter of Support from Caltrans
◉	○	Additional Narration, Documentation, Photographs, Letters of Support, etc.