Example Application from HSIP-Cycle 5 and HR3-Cycle 3

07-Manhattan Beach-2

Countermeasures Used:

NS17: Install pedestrian crossing (new signs and markings only)
NS18: Install pedestrian crossing (with enhanced safety features / curb-extensions)
S19: Install pedestrian countdown signal heads

Primary reasons this application was selected to show as an Example:

- This project was identified through a comprehensive analysis including a comprehensive review of available SWITRS data of all accidents involving pedestrians and bicyclists during the past 10 years
    - The agency believes that "proactively attempting to reduce these types of accidents will have a substantial positive effect on safety"
- Good mix of Pedestrian/Bike countermeasures focused on a mix of signalized and un-signalized intersections with or without a past crash history
- Simple and clear aerial photos (plan views) of locations with location numbers shown on each page (It would be nicer if each location was individually numbered)
- The collision summary report removes all collisions that do not apply to this application, which makes the review much easier

Changes needed for similar applications in future HSIP calls for projects:

- It is not a requirement, but it would be helpful for the reviewers if each individual location number is labeled on the plan views and collision diagrams
    - It is recommended that projects with a large number of locations show individual location numbers to allow a quick verification of collisions across the locations, collision diagrams, and collision summaries.

APPLICATION FOR HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROGRAM CYCLE 5 AND HIGH RISK RURAL ROADS (HR3) PROGRAM CYCLE 3

APPLICATION SUMMARY

After the application is finalized, please save this PDF form using the exact "Application ID" (shown below) as the file name.

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

Application ID: 07-Manhattan Beach-2

Submitted By (Agency):
Manhattan Beach

Caltrans District	Application Number	Out of
07	2	2

Project Location

22 intersections located throughout the City of Manhattan Beach

Project Description

Install marked crosswalks and signage; construct bulb-outs; install flashing beacons; install countdown pedestrian signals.

Countermeasure 1: NS17: Install pedestrian crossing (new signs and markings only)

Countermeasure 2: NS18: Install pedestrian crossing (with enhanced safety features / curb-extensions)

Countermeasure 3: S19: Install pedestrian countdown signal heads

Total Expected Benefit $1,572,100.00 **Total Project Cost** $248,600.00

B/C Ratio: 6.32

I. Basic Project Information

Date: Jul 2, 2012 Caltrans District: 07 MPO: SCAG

Agency: Manhattan Beach County: Los Angeles County

Total number of applications being submitted by your agency: 2

Application Number (each application must have a unique number): 2

Contact Person Information

Name (*Last, First*): Madrid, Nhung

Position/Title of Contact Person: Management Analyst - Community Development

Email: nmadrid@citymb.info Telephone: (310) 802-5540 Extension:

Address: 1400 Highland Avenue

City: Manhattan Beach Zip Code: CA 90266 (Enter only a 5-digit number.)

Project Information

Project Location
-Be Brief (limited to 250 characters)
-See Instructions

22 intersections located throughout the City of Manhattan Beach

Project Description
-Be Brief (limited to 250 characters)
-See Instructions

Install marked crosswalks and signage; construct bulb-outs; install flashing beacons; install countdown pedestrian signals.

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

CRS Map ID (e.g. 08E14): 13V42

Urban/Rural Area: Urban (Visit http://earth.dot.ca.gov/)

Eligible for HR3 Funding ***(See Instructions)*** No

Work on the State Highway System *(See Instructions)*

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

If no, move on to the next page; If yes, go to the below question.

Is this a joint-funded project with Caltrans? No

☐ If yes, check this box to confirm a formal Letter of Support from Caltrans - District Traffic is attached to the application. The letter should include estimates of cost sharing.

☐ If no, check this box to confirm a written correspondence from Caltrans District Traffic is attached to the application. The correspondence should indicate that Caltrans does not see issues that would prevent the proposed project from receiving an encroachment permit

Additional Information

1. Is the project focused primarily on "spot location" or "systemic" improvements? Systemic

The primary type of the "systemic" improvements: Other

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/)

8: Make Walking and Street Crossing Safer

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

Jurisdiction-wide safety analysis

4. What is the primarily mode of travel intended to be benefited by this project?

All Non-motorized Users

5. Approximate percentage of project cost going to improvements related to **motorized** travel 0 %

6. Approximate percentage of project cost going to improvements related to **non-motorized** travel 100 %

7. Is the project focused primarily on "Intersection" or "Roadway" improvement?

Intersection

Number of Intersections 22

8. Posted Speed Limit (mph) 35

9. Average Daily Traffic *(See Instructions)*

ADT (Major Road)	ADT (Minor Road)	Year Collected
20,000	1,000	2009

II. Narrative Questions (See Instructions)

These narrative questions are intended to provide additional project details for the application reviewers and project files. Application reviewers will use the information in their "fatal flaw" assessment of the applications, including:

1) The project scope is eligible for HSIP and/or HR3 funding;
2) The countermeasures used in the B/C ratio calculation are appropriately applied based on the scope of the project;
3) The crash data used in the B/C ratio calculation is appropriately applied based on the scope of the project and countermeasures used;
4) The costs included in the application represent the likely total project cost necessary to fully construct the proposed scope. If the proposed project is a piece of a larger construction project, the entire scope of the larger project must be identified.
5) 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 Caltrans reviewers may conclude that the application includes one or more "fatal flaws" and the application will be dropped from further funding considerations. The applicant will be notified of Caltrans 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? (limited to 5,000 characters)

This project was identified through a comprehensive review of available SWITRS data of all accidents involving pedestrians and bicyclists during the past 10 years, ending December 2011. Due to the serious nature of accidents involving pedestrians and bicyclists, plus the fact that Manhattan Beach is a popular tourist and vacation destination, the City believes that proactivly attempting to reduce these types of accidents will have a substantial positive effect on safety. The details of each accident were analyzed and City Staff conducted field investigations of each site to determine what measures could be implemented to reduce the potential for future pedestrian and/or bicycle accidents. Although the analysis revealed many locations where there were no feasible mitigation measures, patterns emerged that suggested a systemic approach to installing a few selected improvements would be appropriate. These improvements and locations were consolidated into this project.

2. Potential for Proposed Improvements to Correct the Problem

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 Benefit/Cost Ratio calculations. (limited to 5,000 characters)

Note: Safety improvements that do not have countermeasures and crash reduction factors identified in the TIMS B/C Calculator can be included in the project scope; they just won't be added to the project's B/C ratio shown in the application.

Review of the available pedestrian and bicycle accident data revealed a pattern of pedestrian and bicycle accidents occurring at intersections due to motorists not yielding the right-of-way to those within the crossings. To reduce the potential for future accidents, it was determined that a combination of three countermeasures, utilized at appropriate crossing locations, would be effective in improving safety. These countermeasures consist of: installation of marked crossings (NS17), installation of marked crossings with safety enhancements (NS18), and installation of countdown pedestrian signal heads (S19). By installing these countermeasures, motorists will have greater awareness of pedestrians and bicyclists crossing at the selected intersections, pedestrians and bicyclists will have greater protection from approaching vehicles, and pedestrians and bicyclists will also have greater awareness of the signal cycle, thus allowing them to make better decisions regarding when to cross the roadway.

3. Crash Data Evaluation

Describe how the limits of the crash data were established to ensure only appropriate crashes were included in the Collision Summary Report(s), Collision Diagram(s) and B/C calculations. Explain how the influence areas for each separate countermeasure were established. (limited to 5,000 characters)

Since the purpose of this project was to address non-motorized safety throughout the City, only SWITRS accident data involving pedestrians and bicycles was reviewed. To obtain a comprehensive overview of the accidents, a 10-year period was reviewed and each accident was mapped. From this initial step, it was determined intersection locations provided the most appropriate approach to developing a city-wide project. Further evaluation and field investigation resulted in limiting the crash data used for the project to only those intersections where there were identifiable correlations between the types of accidents occurring and the three countermeasures identified for use. The crashes used in the B/C ratio are those that are directly related to the countermeasures proposed.

The influence areas for the three countermeasures used are specifically related to the countermeasures themselves. Pedestrian countdown signal heads were used only at signalized intersections where there were reported accidents involving pedestrians and/or bicyclists at the intersection. Marked crossings, either with or without safety enhancements, were selected for non-signalized intersections where crossing accidents occurred and field investigation revealed that the additional improvements would be beneficial. The decision to include safety enhancements was based on the type of roadway, characteristics of traffic, the feasibility of installing enhancements (bulb-outs, refuge islands, flashers), and our understanding of why the accidents occured in the first place.

4. Prior attempts to address the Safety Issue

If appropriate, list all other projects/countermeasures that have been (or are being) deployed at this location. Applicants must identify all prior federal HSIP, HR3 or Safe Routes To School (SRTS) funds approved within or directly adjacent to the propose projects limits within the last 5 years. (limited to 5,000 characters)

The City has an ongoing process of addressing traffic concerns through evaluation, investigation and mitigation throughout the City. This is generally a reactive process based on complaints. The purpose of this project is to approach accidents involving pedestrians and bicyclists on a proactive, citywide basis. The City has also previously undertaken Neighborhood Traffic Management Programs at each of the Manhattan Beach Unified schools. These programs, which involved implementing a variety of improvements frequently targeting pedestrians and bicyclists, have been completed.

The City has also recently been active in pursing Safe Routes to School projects and funding. Grant funding was awarded through the federal Cycle 3 Safe Routes to School grant and the state Cycles 8 and 10 Safe Routes to School to install a variety of improvements directed at pedestrians and bicyclists at all of the City's elementary and middle schools.

5. Total project costs

Describe the process used to establish the total cost for the project. Confirm contingencies for reasonably expected costs, including drainage, environmental, traffic, etc, are included. (limited to 5,000 characters)

Note: For applications with more than one countermeasure used in the B/C calculations, applicants need to describe the logic used to distribute the total project cost to each countermeasure.

Construction costs were developed in the detailed engineers estimate based on a review of the work required to install marked crosswalks, ADA curb ramps, pavement markings and signage, bulb-outs, refuge islands, flashers and pedestrian countdown signal heads. Unit costs were based upon recent costs for similar types of projects. The construction cost also includes a 15% contingency to account for any unexpected work required during preliminary engineering or construction. The construction cost includes traffic control.

The total project cost estimate includes allowances for environmental and right-of-way engineering. These allowances are intended to cover the cost of any environmental reports, verifications, visual impact and survey reports that may be required prior to construction.

III. Project Cost Estimate (See Instructions)

All project costs must be accounted for on this form, even if substantial elements of the overall project are to be funded by other sources.

Round all costs up to the nearest hundred dollars. Once all costs are entered, click "Check Cost Estimate" to perform validation. If errors are detected, they will appear below the button. Click it to check again each time when the costs have been revised.

Phase		Federal Funds	Local/Other Funds(7)	Total Cost	Federal/Total(5)
Preliminary Engineering	Environmental	$4,500	$500	$5,000	
	PS&E	$22,500	$2,500	$25,000	
	PE Subtotal(2)	**$27,000**	**$3,000**	**$30,000**	**90%**
	☐ Agency does NOT request **federal** funds for PE Phase (automatically checked if PE - federal funds is $0).				
Right of Way	Right of Way Engineering	$4,500	$500	$5,000	
	Appraisals, Acquisitions & Utilities	$0	$0	$0	
	ROW Subtotal(3)	**$4,500**	**$500**	**$5,000**	**90%**
Construction Engineering & Construction	Construction Engineering(4)	$9,000	$1,000	$10,000	**90%**
	Construction(1)	$183,200	$20,400	$203,600	**90%**
	CON Subtotal	**$192,200**	**$21,400**	**$213,600**	
	Total Cost(5)(6)(7)	**$223,700**	**$24,900**	**$248,600**	

(1) The "Total Construction Cost" (including contingencies) must match the detailed Engineer's Estimate (attached to the application).
(2) "Federal Funds" for Preliminary Engineering may not exceed 25% of the Federal Construction Cost.
(3) "Federal Funds" for Right of Way may not exceed 25% of the Federal Construction Cost.
(4) "Federal Funds" for Construction Engineering may not exceed 15% of the Federal Construction Cost.
(5) "Federal Funds" may not exceed 90% of "Total Cost." This applies to each phase.
(6) "Federal Funds" may not exceed $900,000.
(7) To maintain efficiencies in the overall Program and Project Management, the total "Federal Funds" must be no less than $100,000 (see Application Form Instructions for exceptions). If needed, agencies should consider extending the project limits and/or adding other safety improvements in order to increase both the Benefits and Costs.

Check Cost Estimate [Per (2) through (7) above]

Congratulations! No errors have been found in the cost estimate.

IV. Implementation Schedule *(See 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 needs to be filled in. For steps that are not applicable, enter "0".

Target Date for the Project's Amendment into the FTIP:	**01/01/2013**		
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:	**04/02/2013**		**(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)	2	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)	1	Month(s)	
Plan on 18 months minimum for federal process including a condemnation			
Time to complete final PS&E documentation	3	Month(s)	
Other	0	Month(s)	
Expected Completion Date for the PE Phase:	**12/01/2013**		
Time for agency to request CON authorization	1	Month(s)	
Typical Time for Caltrans and FHWA to process and approve CON Auth	3	Month(s)	
Proposed CON Authorization Date:	**04/01/2014**		**(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)	3	Month(s)	
Time to complete construction	4	Month(s)	
Time included for closing the CON contract	1	Month(s)	
Other	0	Month(s)	
Expected Completion Date for the CON Phase:	**12/30/2014**		
Time to complete the project close-out process	2	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:	**05/31/2015**		**(Close-Out Delivery Milestone)**

V. Countermeasures, Crash Data and Benefit/Cost Ratio *(See Instructions)*

In the process of completing this application, the Local Agency is required to utilize the Benefit/Cost Ratio Calculation Tool that is included in the Safe Transportation research and Education Center (SafeTREC) Transportation Injury Mapping System (TIMS) web site. This **web site** can be assessed at http://tims.berkeley.edu/

The final output summary page from TIMS must be included as part of the official application (both electronically and hard copy). The hard copy page must be included in the application following this page.

In order to facilitate the electronic collection and tracking of this data, Caltrans is requiring agencies to manually enter some of the key "input data" and "output data" used in their final TIMS B/C Ratio. *NOTE: If any of the values inputted on this sheet do not match the values from the TIMS B/C Ratio Output Summary sheet, THE APPLICATION WILL BE REJECTED.* ***Be Careful and confirm the numbers!***

TIMS Application ID: **07-Manhattan Beach-2** (This ID is generated by this form. TIMS Application ID must match this ID.)

Version (from TIMS) : **1**

Total Project Cost: $248,600 (This must match the total project cost in Section III.)

Countermeasure Information

Number of countermeasures utilized: 3

	Countermeasure	% of Total Project Cost
#1:	NS17: Install pedestrian crossing (new signs and markings only)	20 (%)
#2:	NS18: Install pedestrian crossing (with enhanced safety features / curb-extensions)	60 (%)
#3:	S19: Install pedestrian countdown signal heads	20 (%)

B/C Ratio Calculation

	Expected Benefit (Life)	Expected Cost	Resulting B/C
Countermeasure #1	$197,500	$49,720	3.97
Countermeasure #2	$663,600	$149,160	4.45
Countermeasure #3	$711,000	$49,720	14.30
Project's Total (Overall)	**$1,572,100**	**$248,600**	**6.32**

VI. Application Data Verification and Signature *(See Instructions)*

All HSIP/HR3 applications (hard-copies only) must be signed by a registered engineer or the Agency's Transportation Manager in responsible charge of their Traffic Engineering section. By signing and submitting this application, the engineer/manager is attesting to:

1. All data in the application is accurate and represents the total scope of the planned project.
2. All likely project costs are included in the Total Project Cost (additional federal funds for cost increases will not be approved.)
3. Each countermeasure included represents a minimum of 20% of the Total Project Cost.
4. All crash data is: 1) accurately shown in collision diagram(s) attached to this application; and 2) applied to countermeasures using generally accepted traffic engineering principles.
5. The agency understands the Project Delivery Requirements for the HSIP and HR3 programs and is prepared to deliver the project with these requirements;
6. The agency understands if Caltrans staff determine that any of the above requirements are not met, inaccurate, or fail to meet the program guidelines and application instructions, the application will be rejected and will not be eligible to receive federal safety funding. Due to time constraints in the evaluation process, applicants will not be notified until after the selection process is complete. Refer to Application Form Instructions for more information on "fatal flaws."

Name *(Last, First)*: Rydell, Jack

Title: City Traffic Engineer

Engineer License Number C42874

Signature*:

Date: Jul 10, 2012

* Note: This signature is only expected on the two hard copies of the application. The electronic copy of this PDF form must be saved in the original format (NOT a scanned copy) so the application data can be extracted.

Application Attachments *(See Instructions)*

Check all attachments included in this application.

- ☒ Vicinity map /Location map (Required)
- ☒ Project map showing existing and proposed conditions (Required)
- ☒ Collision diagram(s) (Required)
- ☒ Collision summary report / list (Required)
- ☒ TIMS output summary sheet (Required)
- ☒ Detailed Engineer's Estimate (Required)
- ☐ Warrant studies (Required when applicable to proposed improvements)
- ☐ Letter of Support from Caltrans (Required when applicable)
- ☐ Additional narration, documentation, photographs, letters of support, etc.

Application Submittal Process

For applications to be included in the final Caltrans review, ranking and selection process, they must follow the exact submittal process identified in the application instructions. Some of the key requirements are as follows:

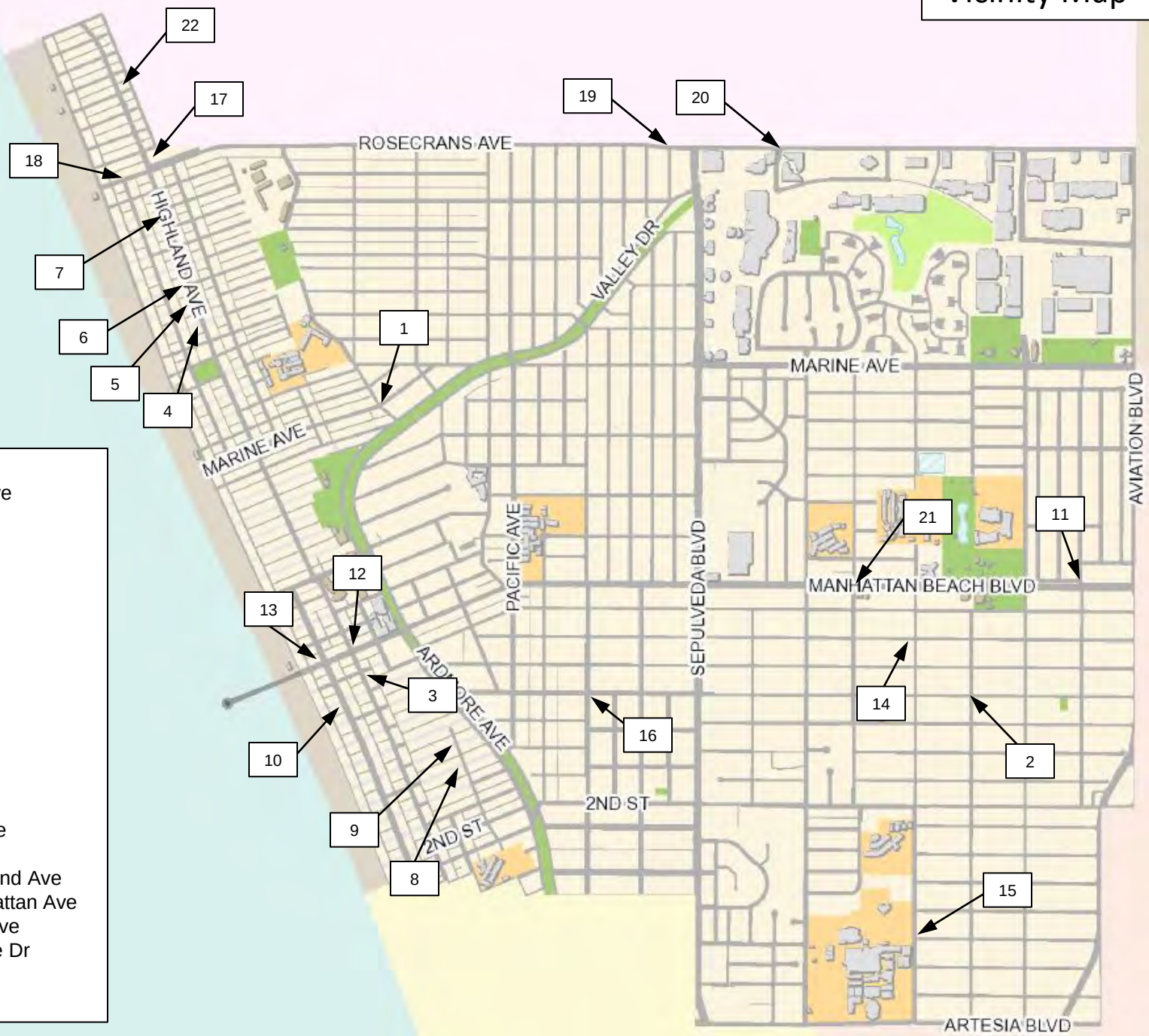
1). Submit two (2) original copies of the SIGNED application form and attachments;

2). On a CD or flash drive, submit electronic copies of

- The original PDF form with application data. The file name must match the "Application ID" shown on the cover page. This file will be used to extract the application data. It can not be a scanned or printed copy.
- Separate electronic PDF files for a scanned copy of signed application form and application attachments.

3) The above must be submitted to Caltrans Local Assistance District Local Assistance Engineer (DLAE), by Friday, July 20, 2012.

Vicinity Map



Project Locations

1. Blanche Rd at Marine Ave
2. Herrin St at 8th St
3. Highland Ave at 11th St
4. Highland Ave at 17th St
5. Highland Ave at 18th St
6. Highland Ave at 19th St
7. Highland Ave at 32nd St
8. Ingleside Dr at 5th St
9. Ingleside Dr at 6th St
10. Manhattan Ave at 10th St
11. MBB at Harkness Ave
12. MBB at Highland Ave
13. MBB at Manhattan Ave
14. Peck Ave at 10th St
15. Peck Ave at Ruhland Ave
16. Poinsettia Ave at 8th St
17. Rosecrans Ave at Highland Ave
18. Rosecrans Ave at Manhattan Ave
19. Rosecrans Ave at Oak Ave
20. Rosecrans Ave at Village Dr
21. Rowell Ave at MBB
22. Highland Ave at 40th St

Project Map
Locations 3, 10, 12 and 13
Highland Ave at 11th St
Manhattan Ave at 10th St
MBB at Highland Ave
MBB at Manhattan Ave
Install countdown pedestrian signals
Install high visibility crosswalks on all legs
Install high visibility crosswalks on all legs
Install pedestrian actuated flashers
12TH ST
CENTER PL
MANHATTAN BEACH BLVD
HIGHLAND AVE
MORNINGSIDE DR
11TH ST
CREST DR
BAYVIEW DR
11TH PL
10TH PL
10TH ST
OCEAN DR
THE STRAND
MANHATTAN AVE
9TH PL
9TH ST

Project Map
Location s 7, 17 and 18
Highland Ave at 32nd St
Rosecrans Ave at Highland Ave
Rosecrans Ave at Manhattan Ave

Project Map
Location 15
Peck Ave at Ruhland Ave

Collision Diagrams
Locations 10, 12 and 13
Manhattan Ave at 10th St
MBB at Highland Ave
MBB at Manhattan Ave

Collision Diagrams
Locations 17 and 18
Rosecrans Ave at Highland Ave
Rosecrans Ave at Manhattan Ave

Collision Diagrams
Location 15
Peck Ave at Ruhland Ave

Primary Rd PECK AV | Distance (ft) 0 | Direction | Secondary Rd 10TH ST | NCIC 1944 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Manhattan Beach | County Los Angeles | Population 4 | Rpt Dist | Beat 001 | Type 0 | CalTrans | Badge 324 | Collision Date 20110207 | Time 0740 | Day MON
Primary Collision Factor STOP SGN|SIG | Violation 22450A | Collision Type BROADSIDE | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20120416
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With BICYCLE | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	BICY	17	F	A	HNBD		PROC ST	S	L	0400	-	-	3	N	-	-	-
2	DRVR	75	F	W	HNBD		PROC ST	E	A	0100	FORD	2009	3	N	-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
BICY	COMP PN	17	F	1	3	-	-

This report is accepted subject to the Terms of Use. Due to collision records processing backlogs, SWITRS data is typically seven months behind. Data requested for dates seven months prior to the current date will be incomplete.

Primary Rd HIGHLAND AV | Distance (ft) 0 | Direction | Secondary Rd 40TH ST | NCIC 1944 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City Manhattan Beach | County Los Angeles | Population 4 | Rpt Dist | Beat 003 | Type 0 | CalTrans | Badge 315 | Collision Date 20110305 | Time 1052 | Day SAT
Primary Collision Factor R-O-W AUTO | Violation 21801A | Collision Type BROADSIDE | Severity INJURY | #Killed 0 | #Injured 1 | Tow Away? N | Process Date 20120503
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Vehicle Involved With BICYCLE | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	22	M	W	HNBD		LFT TURN	N	A	0100	HONDA	2009	- 3	N		-	M	G
2	BICY	27	M	W	HNBD		PROC ST	S	L	0400	-		- 3	N		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
BICY	COMP PN 27	M	9	3	-	-	

This report is accepted subject to the Terms of Use. Due to collision records processing backlogs, SWITRS data is typically seven months behind. Data requested for dates seven months prior to the current date will be incomplete.

Benefit / Cost Calculation Result

1. Project Information

Application ID	07-Manhattan Beach-2	Version	1

2. Countermeasures and Crash Data

- **Install pedestrian crossing (new signs and markings only)**

CM Number	Project Type	Crash Type	CRF	Life
NS17	Ped and Bike	Ped & Bike	25	10

Crash Type	Fatality (Death)	Severe Injury	Injury - Other Visible	Injury - Complaint of Pain	Property Damage Only	Total
Ped & Bike	0	0	5	0	0	5

Annual Benefit	$19,750
Life Benefit	$197,500
Cost	$ 49,720
B/C Ratio	**3.97**

- **Install pedestrian crossing (with enhanced safety features / curb-extensions)**

CM Number	Project Type	Crash Type	CRF	Life
NS18	Ped and Bike	Ped & Bike	35	20

Crash Type	Fatality (Death)	Severe Injury	Injury - Other Visible	Injury - Complaint of Pain	Property Damage Only	Total
Ped & Bike	0	0	6	0	0	6

Annual Benefit	$33,180
Life Benefit	$663,600
Cost	$ 149,160
B/C Ratio	**4.45**

- **Install pedestrian countdown signal heads**

CM Number	Project Type	Crash Type	CRF	Life
S19	Ped and Bike	Ped & Bike	25	20

Crash Type	Fatality (Death)	Severe Injury	Injury - Other Visible	Injury - Complaint of Pain	Property Damage Only	Total
Ped & Bike	0	0	9	0	0	9

Annual Benefit	$35,550
Life Benefit	$711,000
Cost	$ 49,720
B/C Ratio	**14.30**

3. Benefit Cost Result

Total Benefit	$1,572,100

Total Cost	$248,600
B/C Ratio	6.32

Safety Practitioner / Engineer: Jack Rydell

Signature:

By signing this B/C Calculation Result, you are attesting to your authority / responsibility at your local agency for this work and you are attesting to the accuracy of the values on this page and that they have been entered into the HSIP Application Form correctly, DO NOT SIGN if any of this is not the case.

Detailed Engineer's Estimate
For Construction Items Only

Agency: City of Manhattan Beach | **Application ID:** 07-Manhattan Beach-2 | **Date:** 7/10/12

Project Description: Install marked crosswalks and signage; construct bulb-outs; install flashing beacons; install countdown pedestrian signals.

Project Location: 22 intersections throughout City

Prepared by: Jack Rydell

Item No.	Item Description	Quantity	Units	Unit Cost	Total	% to CM #1 %	% to CM #1 $	% to CM #2 %	% to CM #2 $	% to CM #3 %	% to CM #3 $
1	Install Thermoplastic High Visibility White Crosswalk	34	EA	$750.00	$25,500	100	$25,500				
2	Install Concrete Curb Extensions with New Gutter and ADA Compliant Curb Ramp	2	EA	$5,000.00	$10,000			100	$10,000		
3	Install ADA Curb Ramp with Detectable Warning Surface	4	EA	$1,000.00	$4,000	90	$3,600	10	$400		
5	Install LED Countdown Pedestrian Head	36	EA	$1,000.00	$36,000					100	$36,000
6	Install Pedestrian Crossing Signage	6	EA	$250.00	$1,500	100	$1,500				
7	Install Flashing Beacon System	6	EA	$15,000.00	$90,000			100	$90,000		
8	Traffic Control	1	Lump	$10,000.00	$10,000	75	$7,500	25	$2,500		
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30	**Sub Total of Construction Items:**				$177,000		$38,100		$102,900		$36,000
31	**Construction Item Contingencies** (% of Con Items) :			15	$26,600	22% CM #1		58% CM #2		20% CM #3	

Total Construction Items: $203,600

Note: 1. "Preliminary Engineering", "Right of Way", and "Construction Engineering" costs are accounted for in the Application Form.

2. See the Application Instructions for more details on the requirement that all Countermeasures (CM) used in the Benefit / Cost ratio calculations represent a minimum of 20% of the total cost of the Construction Items. The Engineer's Estimate will be used to verify this.