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

04-El Cerrito-1

Countermeasures Used:

R37: Install sidewalk/pathway (to avoid walking along roadway)
NS18: Install pedestrian crossing (with enhanced safety features / curb-extensions)
R30: Install dynamic/variable speed warning signs

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

- Multiple countermeasures, including both roadway segment countermeasures and intersection countermeasures, were applied along a corridor
- Agency hired an engineering consultant to complete the collision data analysis and at least part of the application
- Applicant clearly explained the logic behind each countermeasure in the narrative questions
- Collision diagram illustrated individual movements/impacts of each collision. This is not a requirement for HSIP/HR3 applications, but can be very useful for agencies as they select their proposed countermeasures
- In general, Caltrans encourages agencies to analyze their overall roadway network for high crash concentrations as part of their process for selecting proposed projects to submit applications for. This application is a good example of how some potential projects can be identified primarily by community input and still be effective safety projects with high B/C ratios

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

- The crash summary page should show the total number of collisions; the extra crashes not used in the application should be crossed out of the CHP reports

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: 04-El Cerrito-1

Submitted By (Agency):
El Cerrito

Caltrans District	Application Number	Out of
04	1	1

Project Location

Intersection of Arlington Boulevard and Brewster Drive (south) in El Cerrito and 350 feet in both directions from center of intersection.

Project Description

Construct curb, gutter, sidewalk, curb ramps, & curb extensions; Install speed feedback, curve, PED XING, & advisory speed signs; Stripe crosswalks, shoulder, and sharrows; Install botts dots; Restripe center lines, edge lines

Countermeasure 1: R37: Install sidewalk/pathway (to avoid walking along roadway)

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

Countermeasure 3: R30: Install dynamic/variable speed warning signs

Total Expected Benefit 10,459,301 **Total Project Cost** $264,400.00

B/C Ratio: **39.56**

I. Basic Project Information

Date: Jul 18, 2012 | Caltrans District: 04 | MPO: MTC

Agency: El Cerrito | County: Contra Costa 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*): Ortiz, Yvetteh

Position/Title of Contact Person: Engineering Manager

Email: yortiz@ci.el-cerrito.ca.us | Telephone: (510) 215-4345 | Extension:

Address: 10890 San Pablo Avenue

City: El Cerrito | Zip Code: CA 94530 (Enter only a 5-digit number.)

Project Information

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

Intersection of Arlington Boulevard and Brewster Drive (south) in El Cerrito and 350 feet in both directions from center of intersection.

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

Construct curb, gutter, sidewalk, curb ramps, & curb extensions; Install speed feedback, curve, PED XING, & advisory speed signs; Stripe crosswalks, shoulder, and sharrows; Install botts dots; Restripe center lines, edge lines

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

CRS Map ID (e.g. 08E14): 05K53

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?

☐ 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? Spot location

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?

Stakeholder, Community or Outside Specialists

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 50 %

6. Approximate percentage of project cost going to improvements related to **non-motorized** travel 50 %

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

Intersection

Number of Intersections 1

8. Posted Speed Limit (mph) 25

9. Average Daily Traffic *(See Instructions)*

ADT (Major Road)	ADT (Minor Road)	Year Collected
5,196	300	2005

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)

The Project addresses over 15 years of community concerns at the Brewster Drive/Arlington Boulevard intersection and along the Arlington Boulevard corridor, shown in Exhibit 1. Arlington Boulevard is a minor arterial that carries regional traffic through the El Cerrito, Kensington, and Berkeley hills. Arlington Boulevard is also an important north-south connection for bicyclists and pedestrians and is designated as a pedestrian and bicycle route in the Circulation Plan for Bicyclists and Pedestrian (2007).

In response to neighborhood concerns as well as prevailing speeds and known roadway design concerns at several intersections and curves, the City retained a consultant in 2004 to conduct a data-driven, safety evaluation of the Arlington Boulevard corridor. The report identified the intersections at Brewster Drive (Project Site) and nearby Moeser Lane as top priorities. Collision rates on the corridor were on par with state averages, but the report and community raised specific concerns about speeds and sight-lines at the Brewster Drive/Arlington Boulevard intersection. The report recommended delineators to narrow the travel away on Arlington Boulevard near Brewster Drive and that the stop bar at Brewster be moved forward to increase sight-distance. Implemented measures, however, consisted of converting the crosswalk south of the intersection to a ladder-style crossing and striping edge lines on Arlington Boulevard. Additional steps were taken in 2008 in response to community concern about pedestrian safety to the north and south of the intersection, near the park and at the marked crossing 50 feet south of the intersection at Brewster Drive. This crosswalk serves the existing community staircase/path through the neighborhood. The improvements included widening the ladder crosswalk and adding cross-hatching to the shoulder.

In July 2012, following a fatal pedestrian-bicycle collision at the intersection, the City again met with community representatives. The community reiterated concerns about limited visibility of crossing pedestrians, lack of marked crosswalks at the intersections, high-speed vehicles, vehicles crossing into the oncoming lane around the curve, and near-miss incidents. In response, the City and Police Department conducted speed surveys to determine the appropriate advisory speed for the corridor. They also retained Fehr & Peers to conduct a safety analysis at the intersection. The recommendations presented in this grant application are the conclusions of that analysis, which received community support at a final public meeting in July 2012, which is summarized on Exhibit 2.

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.

The primary causes of collisions and related community concerns include unsafe speeds and limited sight lines. Sight-lines are limited for north-south traffic on Arlington Boulevard, as the intersection is located at a low-point along on a compound curve. Neighborhood traffic frequently makes the northbound-left turn onto Brewster Drive. This forces drivers to stop in the low point of the hill and in the curve as they wait for a gap in oncoming southbound traffic, making those vehicles largely not visible to approaching northbound traffic. The roadway curvatures also limit sight lines for eastbound right-turning drivers from Brewster onto Arlington. The large turning radius on the southwest corner of the intersection enables eastbound right-turning drivers to frequently ignore the existing STOP-control, coming around the curve quickly to get up to speed on Arlington. The wide eastbound right-turns also block the de facto pedestrian space in the roadway as well as the preferred pedestrian crossing point at the south leg of the intersection.

Exhibit 3 shows the collision summary diagram for the last 10 years at the intersection. The horizontal and vertical curvatures of the arterial roadway, Arlington Boulevard, cannot be altered readily due to surrounding private residential development, drainage, and construction impact concerns. However, several traffic safety elements could be installed to effectively change the geometry of the intersection and approaching roadway segments and, in doing so, slow vehicles, clearly communicate the presence of the pedestrian crossing, and create an overall safer environment. The following countermeasures are proposed.

Countermeasure 1 (R37: Install sidewalk/pathway (to avoid walking along roadway) improves sightlines at the pedestrian crossings and relocates pedestrians away from the travel lane. This countermeasure will install sidewalk on the west side of Arlington Boulevard between the community staircase/path and Brewster Drive. Currently, to reach the crossing location with the best sight lines (at Brewster Drive), pedestrians must walk in the roadway. New sidewalk would also be built on the west side north of the intersection, providing better connections to the bus stops, park, and on-street parking.

Countermeasure 2 (NS18: Install pedestrian crossing (with enhanced safety features / curb extensions), in combination with Countermeasure 1, consolidates all pedestrian crossing activity to a single location with the best visibility and shortest crossing distance, reduces speed at the point of pedestrian/vehicle and pedestrian/bicycle conflict, and highlights these locations for pedestrians and drivers. The countermeasure would stripe a high-visibility pedestrian crosswalk across Arlington Boulevard and a standard crosswalk across Brewster Drive at the intersection. Curb extensions would also be provided at the northwest and southwest corners, including curb ramps. The relocation of this crosswalk, along with the sidewalk installation, responds directly to the sight distance concerns at this location, improving sight lines for all users. Additionally, a contributing factor of the fatal pedestrian-bicyclist collision could have been a failure to understand the right-of-way. The pedestrian killed in the collision crossed at the south leg of the intersection, not the existing marked crosswalk 50 feet to the south. The existing marked crosswalk to the south does not accommodate all pedestrian desire lines at the intersection, especially those going to the park and bus stop, which may confuse drivers and bicyclists who would expect to see pedestrians in the marked crosswalk. This countermeasure will consolidate all pedestrian desire lines at the intersection and clearly establish pedestrian right-of-way at those locations.
Curb extensions will be constructed on the northwest and southwest corners of the intersection, which reconfigure the intersection as a 90-degree “T” intersection. This will improve sight-lines of pedestrians in the new marked crosswalk (Countermeasure 2) and increase compliance with the STOP sign, thereby reducing eastbound right-turn vehicle speeds.

Countermeasure 3 (R30: Install dynamic/variable speed warning signs) addresses speed concerns on the Arlington Boulevard approaches to the intersection. This countermeasure would install speed feedback signs in the northbound and southbound directions in advance of the intersection. These will help to slow drivers and bicyclists as they approach the intersection.

Exhibit 4 shows the three proposed countermeasures and additional intersection treatments, and Exhibit 5 presents existing site photos. Exhibit 6 presents the Transportation Injury Mapping Systems (TIMS) benefit-cost ratio calculations.

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)

Crash data for the Brewster Drive (south)/Arlington Boulevard intersection was pulled from SWITRS and the El Cerrito Police Department for the 10 years prior to the most recent collision. Because the three countermeasures apply to the intersection and immediate area only, only reported collisions that occurred within 250' of the intersection were included. Only the 2012 bicyclist/pedestrian collision was applied to Countermeasure 1 (R37: Install sidewalk/pathway (to avoid walking along roadway) and Countermeasure 2 (NS18: Install pedestrian crossing (with enhanced safety features / curb extensions), as they would improve pedestrian safety by providing a space to safely wait for a gap in traffic as well as a high-visibility crosswalk meeting all of the pedestrian desire lines and with improved sightlines for approaching vehicles, respectively. However, collision # 08-20307 in the El Cerrito Police Department Report (Exhibit 7) was not applied to these countermeasures, as the primary cause of the collision was due to failure to negotiate the curve at high speeds.

All of the collisions that occurred within 100 feet of the intersection were applied to Countermeasure 3 (R30: Install dynamic/variable speed warning signs), as multiple collisions at the intersection and immediately adjacent were due to high-speed vehicles (autos and bicyclists) and poor sightlines or failure to negotiate the roadway curvature. Therefore collision # 09-19693, a rear-end collision on Brewster Drive due to blinding sunlight, listed in the El Cerrito Police Department report was not included in the collision summary diagram or the cost-benefit ratio calculations.

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)

In response to the many community concerns that have arisen in the last 15 years, the City has installed multiple small-scale countermeasures along the corridor to reduce speeds and improve pedestrian safety at the Brewster Drive/Arlington Boulevard intersection and on the larger Arlington Boulevard corridor. Exhibit 8 lists the outcomes of prior requests for safety improvements on the Arlington Boulevard corridor. In 2004, the City installed multiple countermeasures along the corridor, including a multi-way stop at Arlington Boulevard/Moeser Lane, crosswalk and signage at Arlington Boulevard/Buckingham Avenue, and pedestrian signage adjacent to the park. At Brewster Drive/Arlington Boulevard, the City enhanced the signing and striping of the 8-footwide crosswalk at the existing location south of the intersection. Curve warning signs with a 15MPH speed advisory signs in both directions as well as a shoulder striping were included as part of the effort.

Additional community concerns were raised in 2008 about the marked crosswalk 50 feet south of the intersection. Residents requested improvements to the crosswalk. In response, the City widened the crosswalk to the current 14.5-foot width and added cross-hatching to the southbound shoulder between the intersection at Brewster Drive and the community staircase/path. Recent speed surveys conducted by the City and the Police Department have shown a slight decrease in speeds from 33MPH to 30MPH over the last 10 years, which may be influenced by these additional treatments. However, speeds remain significantly higher than the advisory speed limit of 15MPH through the curve and pedestrian, bicyclist, and motorist safety remains a concern.

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.

The City retained a consultant in 2012 to prepare conceptual design drawings for the project. These preliminary drawings were used to estimate the quantities and items required for construction of the project. Cost estimates were then prepared using information available from recently constructed project in the District 4 area. Contingencies for drainage, environmental, and traffic are assumed in the cost estimates. Exhibit 9 presents the Detailed Engineers Estimate.

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	$0	$0	$0	
	PS&E	$42,400	$4,800	$47,200	
	PE Subtotal(2)	**$42,400**	**$4,800**	**$47,200**	**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	$0	$0	$0	
	Appraisals, Acquisitions & Utilities	$0	$0	$0	
	ROW Subtotal(3)	**$0**	**$0**	**$0**	**0%**
Construction Engineering & Construction	Construction Engineering(4)	$25,400	$2,900	$28,300	**90%**
	Construction(1)	$170,000	$18,900	$188,900	**90%**
	CON Subtotal	**$195,400**	**$21,800**	**$217,200**	
	Total Cost(5)(6)(7)	**$237,800**	**$26,600**	**$264,400**	

(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)	4	Month(s) (0 - 6)	
Time to prepare environmental studies request	1	Month(s)	
Time to complete CEQA/NEPA studies/approvals	2	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	4	Month(s)	
Other	1	Month(s)	
Expected Completion Date for the PE Phase:	**04/02/2014**		
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:	**08/01/2014**		**(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)	4	Month(s)	
Time to complete construction	2	Month(s)	
Time included for closing the CON contract	1	Month(s)	
Other	1	Month(s)	
Expected Completion Date for the CON Phase:	**05/01/2015**		
Time to complete the project close-out process	3	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:	**10/30/2015**		**(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: **04-El Cerrito-1** (This ID is generated by this form. TIMS Application ID must match this ID.)

Version (from TIMS) : **1**

Total Project Cost: $264,400 (This must match the total project cost in Section III.)

Countermeasure Information

Number of countermeasures utilized: 3

	Countermeasure	% of Total Project Cost
#1:	R37: Install sidewalk/pathway (to avoid walking along roadway)	50 (%)
#2:	NS18: Install pedestrian crossing (with enhanced safety features / curb-extensions)	30 (%)
#3:	R30: Install dynamic/variable speed warning signs	20 (%)

B/C Ratio Calculation

	Expected Benefit (Life)	Expected Cost	Resulting B/C
Countermeasure #1	$6,407,382	$132,200	48.47
Countermeasure #2	$2,803,427	$79,320	35.34
Countermeasure #3	$1,248,492	$52,880	23.61
Project's Total (Overall)	**$10,459,301**	**$264,400**	**39.56**

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)*: Bradshaw, Jerry

Title: Public Works Director, City of El Cerrito

Engineer License Number: C48845

Signature*: 

Date: Jul 20, 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.

Figure 1. Context Map

Brewster Avenue/Arlington Boulevard, El Cerrito

FEHR & PEERS

July 2012

Exhibit 2.

Brewster Drive/Arlington Boulevard Public Workshop Summary

July, 2012

City of El Cerrito Public Works Department held a community meeting on July 10, 2012 to discuss potential traffic safety improvements on Arlington Boulevard after the most recent collision at the intersection. Over 50 community members and members of the El Cerrito Police Department attended. The City hired transportation consultants Fehr & Peers to prepare conceptual design drawings for the intersection.

At the meeting, City staff and the consultants presented conceptual designs for potential treatments at the intersection of Brewster Drive and Arlington Boulevard. Community members were able to voice their ideas for the intersection and register concerns about high speeds and inadequate pedestrian conditions. The community members were largely in favor of the proposal presented by City staff and the consultant team.

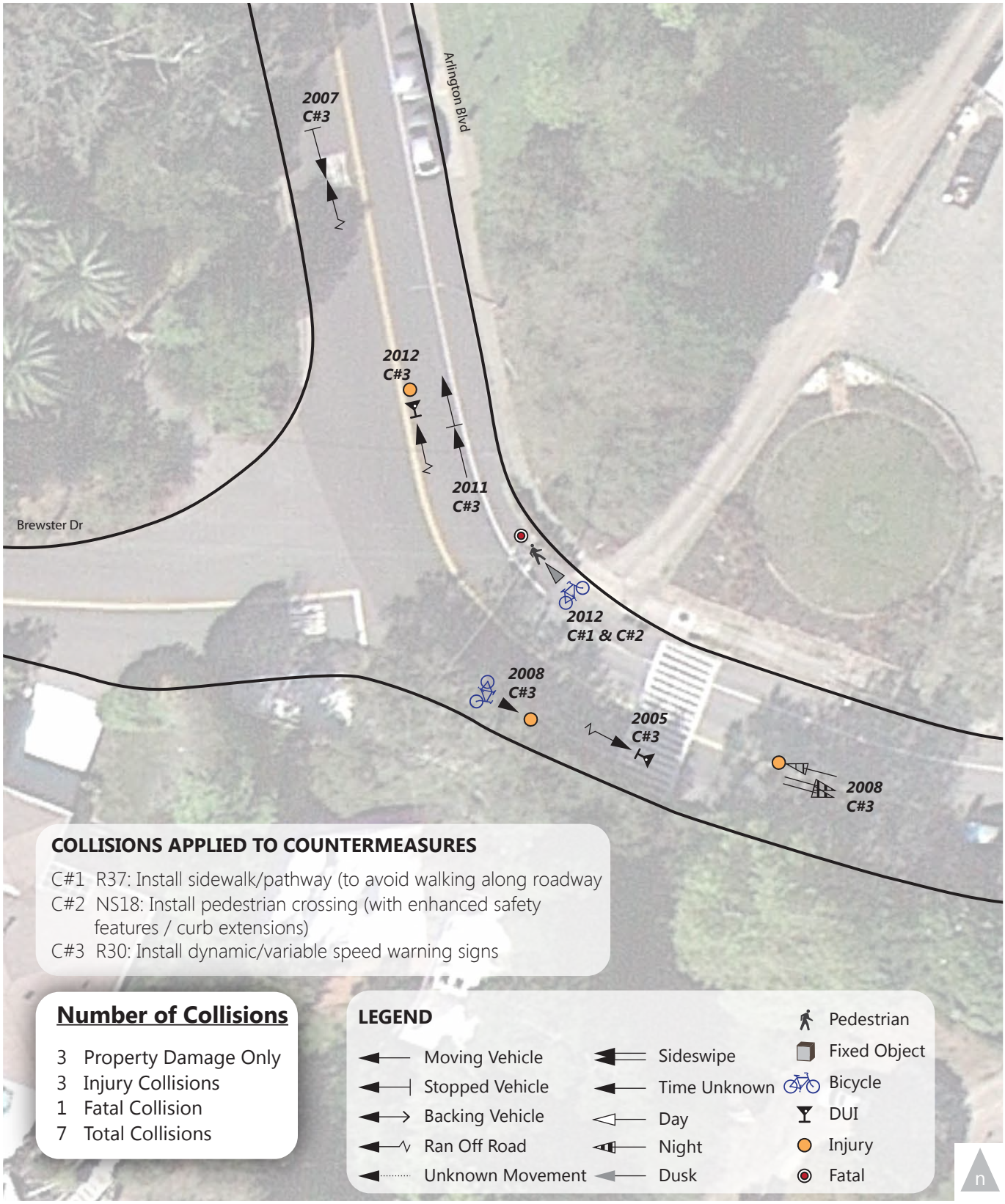


Exhibit 3
Collision Diagram

Exhibit 4 Concept Design

Brewster Avenue/Arlington Boulevard, El Cerrito

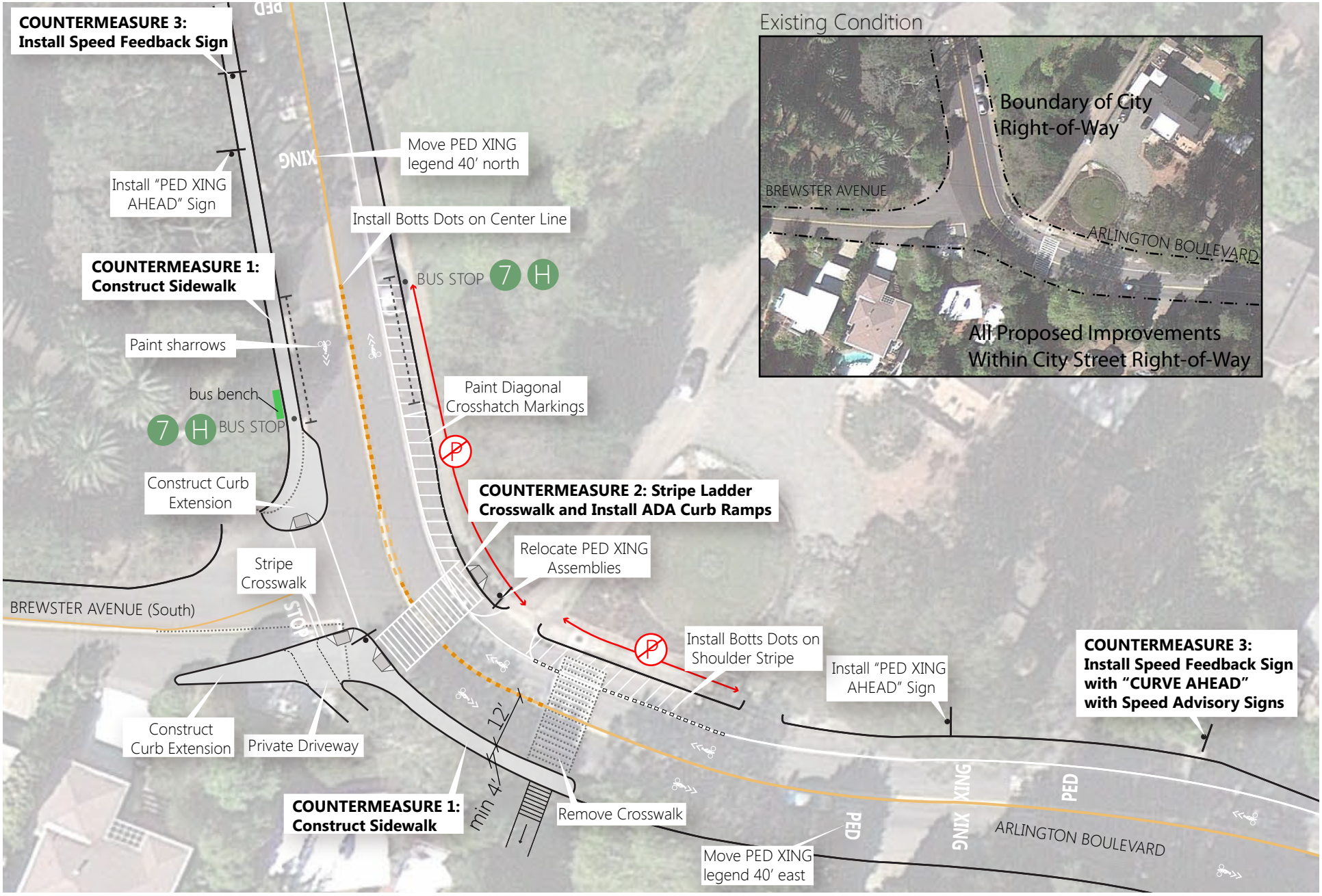
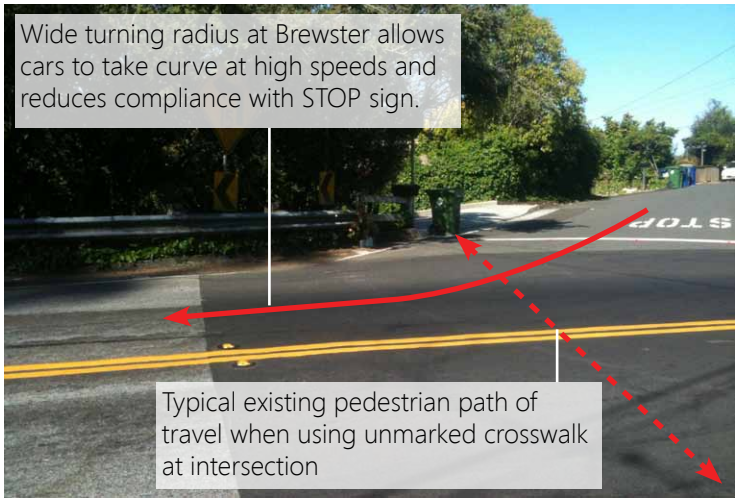


Figure 5 Brewster Drive/Arlington Boulevard Site Photos



Benefit / Cost Calculation Result

1. Project Information

Application ID	04-El Cerrito-1	Version	1

2. Countermeasures and Crash Data

• Install sidewalk / pathway (to avoid walking along roadway)

CM Number	Project Type	Crash Type	CRF	Life
R37	Ped and Bike	Ped & Bike	80	20

Crash Type	Fatality (Death)	Severe Injury	Injury - Other Visible	Injury - Complaint of Pain	Property Damage Only	Total
Ped & Bike	1	0	0	0	0	1

Annual Benefit	$320,392
Life Benefit	$6,407,832
Cost	$ 132,200
B/C Ratio	**48.47**

• 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	1	0	0	0	0	1

Annual Benefit	$140,171
Life Benefit	$2,803,427
Cost	$ 79,320
B/C Ratio	**35.34**

• Install dynamic / variable speed warning signs

CM Number	Project Type	Crash Type	CRF	Life
R30	Operation / Warning	All	30	10

Crash Type	Fatality (Death)	Severe Injury	Injury - Other Visible	Injury - Complaint of Pain	Property Damage Only	Total
All	1	0	0	3	3	7

Annual Benefit	$124,849
Life Benefit	$1,248,492
Cost	$ 52,880
B/C Ratio	**23.61**

3. Benefit Cost Result

Total Benefit	$10,459,751
Total Cost	$264,400
B/C Ratio	**39.56**

Safety Practitioner / Engineer: Jerry Bradshaw

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.

EXHIBIT 7

EL CERRITO POLICE DEPARTMENT

10900 SAN PABLO AVENUE • EL CERRITO, CA 94530-2391
TEL (510) 215-4400 • FAX (510) 235-6618

Sylvia M. Moir, Chief of Police

Sylvia Fung
Caltrans District 4 Local Assistance Engineer
111 Grand Avenue
Oakland, CA 94612

July 19, 2012

Dear Ms. Fung:

The El Cerrito Police Department supports the City of El Cerrito's Caltrans Highway Safety Improvement Program (HSIP) grant application. The project would contribute to improved safety for all roadway users at the intersection of Arlington Boulevard and Brewster Drive (the Project Site location).

I confirm that the total number of collisions between 06/06/2002 and 06/06/2012 at or immediately adjacent to intersection of Arlington and Brewster is eight (8). Please refer to the attached collision summary. The summary includes two collision records currently in the Statewide Integrated Traffic Records System (SWITRS) in addition to six (6) other collisions, including a 2012 bicyclist-pedestrian collision that resulted in a pedestrian fatality.

Sincerely,

Sylvia M. Moir
Chief of Police

Attachment – Collision Summary

El Cerrito Police Department Collision Summary
For Arlington Boulevard at Brewster Drive (South)
6/6/2002 to 6/6/2012

12-09623 6/6/2012 Bicycle / Pedestrian 1 Fatal / 1 Injured (Minor)
Pedestrian crossing west to east mid curve, not in crosswalk. Bicyclist northbound on shoulder.

12-02671 2/17/2012 Solo DUI Crash 1 Injured Passenger (Minor)
Vehicle northbound on Arlington failed to negotiate the curve and skidded into the landscaping at the northwest corner.

11-10310 6/9/2011 Two Vehicle Rear-end No Injuries
Arlington at Brewster – Vehicle stopped suddenly for "small animal crossing the roadway", other vehicle following too closely rear-ended.

~~09-19693 10/16/2009 Two Vehicle Rear-end No Injuries~~ **Not Included in Analysis**
1121 Brewster Dr – Vehicle rounding the bend on Brewster West of Arlington – Driver blinded by sun struck parked car.

08-11662 6/14/2008 Two Vehicles Broadside 1 Injured Passenger (Minor)
Arlington 28 feet south of Brewster – Driver southbound bent over to retrieve a piece of toast and vehicle crossed double yellow line, struck northbound vehicle.

08-20307 10/8/2008 Solo Bicycle (Fell Over) Injured Rider (Minor)
This 14 feet south of Brewster. A bicyclist riding southbound fell in the turn.

07-05942 3/30/2007 Two Vehicles No Injuries
This was in front of Arlington Park 105 feet north of Brewster. Vehicle was northbound on Arlington and went through the curve too fast. Fishtailed and struck a southbound vehicle.

05-18970 11/4/2005 Solo DUI Crash No Injuries
This was 28 feet south of Brewster at the guard rail. DUI driver crashed into the guard rail after failing to negotiate the curve.

STATE OF CALIFORNIA

DEPARTMENT OF CALIFORNIA HIGHWAY PATROL

REPORT 8 - TOTAL COLLISIONS

Quarterly 01/01/2008 thru 12/31/2008 *Total Count: 375* Jurisdiction(s): ALL

Include State Highways cases *Report Run On: 11/02/2009*

Primary Rd: A ST	Distance (ft): 100	Direction: W	Secondary Rd: ASHBURY AV	NCIC: 705	State Hwy?: N	Route:	Postmile Prefix:	Postmile:	Side of Hwy:
City: El Cerrito	County: Contra Costa	Population: 3	Rpt Dist:	Beat: 0X0	Type: 0	CalTrans:	Badge: 18	Collision Date: 20081028	Time: 2500 Day: TUE
Primary Collision Factor: STRTNG|BCKNG	Violation: 22106	Collision Type: BROADSIDE	Severity: PDO	#Killed: 0	#Injured: 0	Tow Away?: N	Process Date: 20090518		
Weather1: CLEAR	Weather2:	Rdwy Surface: DRY	Rdwy Cond1: NO UNUSL CND	Rdwy Cond2:	Spec Cond: 0				
Hit and Run:	Motor Vehicle Involved With: PKD MV	Lighting: DAYLIGHT	Ped Action:	Cntrl Dev: NT PRS/FCTR	Loc Type:	Ramp/Int:			

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF	Viol	OAF2	Safety Equip		ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	998	-		IMP UNK	IMP UNK	BACKING	W	-	9900	-		-	-	N	-	-	-								
2	PRKD	998	-				PARKED	W	A	0100	TOYOT	1991	-	3	N	-	-	-								

Primary Rd: ALVA AV	Distance (ft): 0	Direction:	Secondary Rd: JORDAN AV	NCIC: 705	State Hwy?: N	Route:	Postmile Prefix:	Postmile:	Side of Hwy:
City: El Cerrito	County: Contra Costa	Population: 3	Rpt Dist:	Beat: 012	Type: 0	CalTrans:	Badge: 86	Collision Date: 20080504	Time: 1411 Day: SUN
Primary Collision Factor: R-O-W AUTO	Violation: 21802A	Collision Type: BROADSIDE	Severity: PDO	#Killed: 0	#Injured: 0	Tow Away?: Y	Process Date: 20081202		
Weather1: CLEAR	Weather2:	Rdwy Surface: DRY	Rdwy Cond1: NO UNUSL CND	Rdwy Cond2:	Spec Cond: 0				
Hit and Run:	Motor Vehicle Involved With: OTHER MV	Lighting: DAYLIGHT	Ped Action:	Cntrl Dev: FNCTNG	Loc Type:	Ramp/Int:			

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF	Viol	OAF2	Safety Equip		ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	56	M	W	HNBD		PROC ST	S	-	-00	HONDA	1999	-	3	N	-	M	G								
2	DRVR	61	F	W	HNBD		PROC ST	W	A	0100	VOLVO	1995	-	3	N	-	M	G								

Primary Rd: ARLINGTON BL	Distance (ft): 21	Direction: S	Secondary Rd: BREWSTER DR	NCIC: 705	State Hwy?: N	Route:	Postmile Prefix:	Postmile:	Side of Hwy:
City: El Cerrito	County: Contra Costa	Population: 3	Rpt Dist:	Beat: 012	Type: 0	CalTrans:	Badge: E086	Collision Date: 20080614	Time: 0803 Day: SAT
Primary Collision Factor: WRONG SIDE	Violation: 21460A	Collision Type: BROADSIDE	Severity: INJURY	#Killed: 0	#Injured: 1	Tow Away?: Y	Process Date: 20081226		
Weather1: CLOUDY	Weather2:	Rdwy Surface: DRY	Rdwy Cond1: NO UNUSL CND	Rdwy Cond2:	Spec Cond: 0				
Hit and Run:	Motor Vehicle Involved With: OTHER MV	Lighting: DAYLIGHT	Ped Action:	Cntrl Dev: NT PRS/FCTR	Loc Type:	Ramp/Int:			

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF	Viol	OAF2	Safety Equip		ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	52	F	W	HNBD		OPPOS LN	S	A	0100	MAZDA	2005	-	3	N	-	M	G	PASS		41	F	3	0	M	G
2	DRVR	34	F	O	HNBD		PROC ST	N	A	0100	NISSA	1992	-	3	N	-	M	G	DRVR	COMP PN	34	F	1	0	M	G

Primary Rd: ARLINGTON BL	Distance (ft): 125	Direction: N	Secondary Rd: CUTTING BL	NCIC: 705	State Hwy?: N	Route:	Postmile Prefix:	Postmile:	Side of Hwy:
City: El Cerrito	County: Contra Costa	Population: 3	Rpt Dist: BAY	Beat: 012	Type: 0	CalTrans:	Badge: E135	Collision Date: 20080526	Time: 2322 Day: MON
Primary Collision Factor: DRVR ALC|DRG	Violation: 23152A	Collision Type: HEAD-ON	Severity: PDO	#Killed: 0	#Injured: 0	Tow Away?: Y	Process Date: 20081124		
Weather1: CLEAR	Weather2:	Rdwy Surface: DRY	Rdwy Cond1: NO UNUSL CND	Rdwy Cond2:	Spec Cond: 0				
Hit and Run: MSDMNR	Motor Vehicle Involved With: FIXED OBJ	Lighting: DARK - ST	Ped Action:	Cntrl Dev: NT PRS/FCTR	Loc Type:	Ramp/Int:			

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF	Viol	OAF2	Safety Equip		ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1	DRVR	35	M	A	HBD-UI		PROC ST	S	A	0100	ACURA	1995	-	3	N	-	M	B	PASS		22	M	3	0	M	G

Primary Rd: ARLINGTON BL	Distance (ft): 0	Direction:	Secondary Rd: MADERA DR	NCIC: 705	State Hwy?: N	Route:	Postmile Prefix:	Postmile:	Side of Hwy:
City: El Cerrito	County: Contra Costa	Population: 3	Rpt Dist:	Beat: X12	Type: 0	CalTrans:	Badge: E120	Collision Date: 20080930	Time: 1535 Day: TUE
Primary Collision Factor: R-O-W AUTO	Violation: 21802A	Collision Type: BROADSIDE	Severity: PDO	#Killed: 0	#Injured: 0	Tow Away?: N	Process Date: 20090415		
Weather1: CLEAR	Weather2:	Rdwy Surface: DRY	Rdwy Cond1: NO UNUSL CND	Rdwy Cond2:	Spec Cond: 0				
Hit and Run:	Motor Vehicle Involved With: OTHER MV	Lighting: DAYLIGHT	Ped Action:	Cntrl Dev: FNCTNG	Loc Type:	Ramp/Int:			

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF	Viol	OAF2	Safety Equip		ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
1F	DRVR	26	F	H	HNBD		RGT TURN	S	-	--	HONDA	1989	-	3	F	-	M	G								

BLAKE ST 0 BART PATH 0705 N
El Cerrito Contra Costa 3 BAY 011 0 E135 20090310 1826 TUE
R-O-W PED 21963 AUTO/PED INJURY 0 1 N 20091113
CLEAR DRY NO UNUSL CND 0
FELONY PED DAYLIGHT X-WLK AT FNCTNG

1F	DRVR	998	-		IMP UNK	IMP UNK	PROC ST	W	A	0100	TOYOT	-	3	N	-	-	-									
2	PED	28	M	A	HNBD		PROC ST	S	N	6000	-	-	3	N	-	-	-	PED	OTH VIS	28	M	9	3	-	-

BLAKE ST 50 E LIBERTY ST 0705 N
El Cerrito Contra Costa 3 0705 011 0 E159 20090813 1515 THU
IMPROP TURN 22107 SIDESWIPE PDO 0 0 Y 20100426
CLEAR DRY NO UNUSL CND 0
PKD MV DAYLIGHT NT PRS/FCTR

1F	DRVR	67	M	W	HNBD		PROC ST	W	D	2200	CHEVR	2007	-	3	F	-	P	G								
2	PRKD	998	-				PARKED	W	A	0100	NISSA	2002	-	3	N	-	-	-								

BREWSTER DR 0 ARLINGTON BL 0705 N
El Cerrito Contra Costa 3 012 0 154 20091016 0859 FRI
IMPROP TURN 22107 REAR END PDO 0 0 Y 20100707
CLEAR DRY NO UNUSL CND 0
PKD MV DAYLIGHT NT PRS/FCTR

1F	DRVR	72	M	W	HNBD		UNS TURN	E	A	0100	BMW	2002	-	3	E	-	M	G								
2	PRKD	998	-				PARKED	E	A	0100	TOYOT	1986	-	-	N	-	-	-								

BREWSTER DR 69 N BETTY LN 0705 N
El Cerrito Contra Costa 3 0705 012 0 E117 20090318 0500 WED
UNKNOWN REAR END PDO 0 0 N 20091107
CLEAR DRY NO UNUSL CND 0
PKD MV DARK - ST NT PRS/FCTR

1	DRVR	87	M	B	HNBD		UNS TURN	S	A	0100	LINDE	1995	-	3	N	-	M	H								
2	PRKD	998	-				PARKED	S	A	0100	HONDA	2008	-	-	N	-	-	-								

CARLSON BL 20 S ADAMS ST 0705 N
El Cerrito Contra Costa 3 010 0 154 20090918 1655 FRI
IMPROP TURN 22107 SIDESWIPE PDO 0 0 Y 20100604
CLEAR DRY NO UNUSL CND 0
PKD MV DAYLIGHT NT PRS/FCTR

1F	DRVR	22	M	H	HNBD		UNS TURN	S	A	0100	VOLKS	2001	-	3	F	-	L	E								
2	PRKD	998	-				PARKED	S	A	0100	TOYOT	2009	-	-	N	-	-	-								

EXHIBIT 8. Arlington Blvd Traffic Improvements Background (Buckingham to Moeser)

2004 Recommendations/ Proposed Modifications	**Outcome**
Install a multiway stop at Arlington Blvd and Moeser Lane/Terrace Drive. Include advance warning "STOP AHEAD" signs on Arlington Blvd.	Installed per recommendation.
Install two-way delineators on the west side of Arlington Road from 150 to 300 feet north of the north crosswalk at Moeser Lane.	Edgeline installation
Install advance "LIMITED SIGHT DISTANCE, 15 MPH" warning signs on Arlington Blvd, for northbound traffic 200 feet south of Havens/Villa Nueva and 200 feet north of Brewster (S) for southbound traffic.	Installed curve warning symbol with 15 mph speed advisory signs (both directions) in general areas recommended by TJKM. Installed ladder crosswalk striping at Villa Nueva.
Install a multiway stop at Arlington Blvd at Rifle Range Road/Buckingham Ave. Include advance warning "STOP AHEAD" signs on Arlington Road.	Installed ladder crosswalk striping, double-sided crosswalk signs and shoulder striping; relocated limit lines on side streets; removed sight obstruction created by boulder.
Residents requested a multiway stop at Arlington Blvd at Brewster.	Installed ladder crosswalk striping, double-sided crosswalk signs and shoulder striping.
Residents requested additional road markers for curves, especially near Arbor Drive.	Installed 6 chevrons in the southbound direction near Arbor
2008 Detailed Traffic Orders	**Outcome**
Resident request for improvements to account for pedestrians crossing street from parked cars to park.	Installed Pedestrian symbol, Next ¼ Mile signs at park limits in both directions
Resident request for improvements to mid-block crosswalk south of Brewster Dr	Widened crosswalk striping and added cross-hatched shoulder, centerline striping on Arlington & Brewster

Detailed Engineer's Estimate Exhibit 9

For Construction Items Only

Agency: City of El Cerrito	**Application ID:**	04-El Cerrito-1	**Date:** 7/19/2012
Project Description	Brewster Drive/Arlington Boulevard Intersection Improvements		
Project Location	Brewster Drive/Arlington Boulevard, El Cerrito, CA		
Prepared by			

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	Remove Thermoplastic Striping	1750	LF	$3.00	$5,250	50	$2,625	50	$2,625		
2	Remove Thermoplastic Pavement Legends	22	SF	$5.00	$110	50	$55	50	$55		
3	Concrete Curb and Gutter (Curb Extensions)	375	LF	$40.00	$15,000	100	$15,000				
4	Concrete Sidewalk (Curb Extensions)	1900	SF	$10.00	$19,000	100	$19,000				
5	Accessible Ramp (Case E)	4	EA	$3,500.00	$14,000	75	$10,500	25	$3,500		
6	Drainage	1	LS	$40,000.00	$40,000	50	$20,000	50	$20,000		
8	4" Dashed Yellow Center Lines	30	LF	$8.00	$240	50	$120	50	$120		
9	4" Yellow Center Lines	670	LF	$8.00	$5,360	50	$2,680	50	$2,680		
10	4" White Edge Line	1050	LF	$8.00	$8,400	50	$4,200	50	$4,200		
11	Stripe Shoulder	900	LF	$8.00	$7,200			100	$7,200		
12	12" Thermoplastic Stop Bar	12	LF	$8.00	$96	50	$48	50	$48		
13	Sharrow Pavement Legend	140	SF	$8.00	$1,120	50	$560	50	$560		
14	STOP Pavement Legend	22	SF	$8.00	$176	50	$88	50	$88		
15	PED XING Pavement Legends	78	SF	$8.00	$624			100	$624		
16	High-Visibility Crosswalk Restriping	360	LF	$8.00	$2,880			100	$2,880		
17	Crosswalk Striping	48	LF	$8.00	$384			100	$384		
18	Botts Dots	190	LF	$4.50	$855	50	$428	50	$428		
19	Pedestrian Barricade	1	EA	$800.00	$800	50	$400	50	$400		
20	Paint Curb	555	LF	$2.00	$1,110	50	$555	50	$555		
21	Bus Benches	2	EA	$1,000.00	$2,000	100	$2,000				
22	Relocate PED XING Assemblies	2	EA	$200.00	$400			100	$400		
23	Install PED XING AHEAD Sign Assemblies	2	EA	$800.00	$1,600			100	$1,600		
24	Install CURVE AHEAD Sign	1	EA	$800.00	$800					100	$800
25	Speed Feedback Signs	2	EA	$15,000.00	$30,000					100	$30,000
26	**Sub Total of Construction Items:**				**$157,405**		$78,259		$48,347		$30,800
27	**Construction Item Contingencies** (% of Con Items)**:**			**20**	31,481	**50% CM #1**		**31% CM #2**		**20% CM #3**	
	Total Construction Items:				**188,886**						

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.