

ACTIVE TRANSPORTATION PROGRAM CYCLE 1 APPLICATION

Project name:

Florence Avenue Pedestrian Improvement Project, City of Bell

For Caltrans use only: TAP STP RTP SRTS SRTS-NI SHA
 DAC Non-DAC Plan

Table of Contents

Section

Section I:	General Information	1
Section II:	Project Information.....	3
Section III:	Screening Criteria.....	4
Section IV:	Narrative Questions: Q1 – Q8.....	6
Section V:	Project Programming Request (PPR)	22
Section VI:	Additional Information	27
Section VII:	Non-Infrastructure Schedule Information	28
Section VIII:	Application Signatures	29
Section IX:	Attachments.....	30

Attachments

Attachment 1: Project Vicinity Map.....	30
Attachment 2: Project Area Photos	32
Attachment 3: Project Area Map: Community Features	47
Attachment 4: La Campana Local Bus Route Map.....	49
Attachment 5: Safety Calculator.....	51
Attachment 6: Crash Location Map	54
Attachment 7: Letters of Support and Public Involvement Materials.....	56
Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool	66
Attachment 9: CES Score Map	90
Attachment 10 Median Household Income Map	92
Attachment 11: Free or Reduced-Price School Lunch Map.....	94
Attachment 12: Disadvantaged Community Combined Criteria Map	96
Attachment 13: Email communication requesting CCC participation	98
Attachment 14: Email communication requesting CALCC participation	101

I. GENERAL INFORMATION

Project name: Florence Avenue Pedestrian Improvement Project, City of Bell

(fill out all of the fields below)

1. APPLICANT (Agency name, address and zip code) <small>City of Bell 6330 Pine Avenue Bell, CA 90201</small>	2. PROJECT FUNDING ATP funds Requested \$ _____ 1,924,000.00 Matching Funds \$ _____ 481,000.00 (If Applicable) Other Project funds \$ _____ TOTAL PROJECT COST \$ _____ 2,405,000.00
3. APPLICANT CONTACT (Name, title, e-mail, phone #) Dahi Lee, City Engineer dlee@cityofbell.org (323) 588-6211 x 293	5. PROJECT COUNTY(IES): <p style="text-align: center;">Los Angeles County</p>
4. APPLICANT CONTACT (Address & zip code) <small>6330 Pine Avenue Bell, CA 90201</small>	7. Application # _____ of _____ (in order of agency priority)
6. CALTRANS DISTRICT #- Click Drop down menu below District 7	

Area Description:

8. Large Metropolitan Planning Organization (MPO)- Select your "MPO" or "Other" from the drop down menu>	SCAG Southern California Association of Governr
9. If "Other" was selected for #8- select your MPO or RTPA from the drop down menu>	
10. Urbanized Area (UZA) population (pop.)- Select your UZA pop. from drop down menu>	Within a Large MPO (Pop > 200,000)

Master Agreements (MAs):

11. Yes, the applicant has a FEDERAL MA with Caltrans. N/A

12. Yes, the applicant has a STATE MA with Caltrans. N/A

13. If the applicant does not have an MA. Do you meet the Master Agreement requirements? Yes No
 The Applicant MUST be able to enter into MAs with Caltrans

Partner Information:

14. Partner Name*: N/A	15. Partner Type
16. Contact Information (Name, phone # & e-mail)	17. Contact Address & zip code

Click here if the project has more than one partner; attach the remaining partner information on a separate page

*If another entity agrees to assume responsibility for the ongoing operations and maintenance of the facility, documentation of the agreement must be submitted with the application, and a copy of the Memorandum of Understanding or Interagency Agreement between the parties must be submitted with the request for allocation.

Project Type: (Select only one)

18. Infrastructure (IF) 19. Non-Infrastructure (NI) 20. Combined (IF & NI)

Project name: Florence Avenue Pedestrian Improvement Project, City of Bell

I. GENERAL INFORMATION-continued

Sub-Project Type (Select all that apply)

21. Develop a Plan in a Disadvantaged Community (select the type(s) of plan(s) to be developed)
- Bicycle Plan Safe Routes to School Plan Pedestrian Plan
 Active Transportation Plan

(If applying for an Active Transportation Plan- check any of the following plans that your agency already has):

- Bike plan Pedestrian plan Safe Routes to School plan ATP plan

22. Bicycle and/or Pedestrian infrastructure
- Bicycle only: Class I Class II Class III
Ped/Other: Sidewalk Crossing Improvement Multi-use facility

Other:

23. Non-Infrastructure (Non SRTS)
24. Recreational Trails*- Trail Acquisition

***Please see additional Recreational Trails instructions before proceeding**

25. Safe routes to school- Infrastructure Non-Infrastructure

If SRTS is selected, provide the following information

26. SCHOOL NAME & ADDRESS:
27. SCHOOL DISTRICT NAME & ADDRESS:

28. County-District-School Code (CDS)	29. Total Student Enrollment	30. Percentage of students eligible for free or reduced meal programs **
31. Percentage of students that currently walk or bike to school	32. Approximate # of students living along school route proposed for improvement	33. Project distance from primary or middle school

**Refer to the California Department of Education website: <http://www.cde.ca.gov/ds/sh/cw/filesafdc.asp>

- Click here if the project involves more than one school; attach the remaining school information including school official signature and person to contact, if different, on a separate page

II. PROJECT INFORMATION

(Please read the "ATP instructions" document prior to attaching your responses to all of the questions in Sections II. Project Information, Section III. Screening Criteria and Section IV. Narrative Questions - 20 pages max)

1. Project Location

Florence Avenue (I-710 to Salt Lake Ave), Bell, California (See Attachment 1)

2. Project Coordinates

Latitude

N 33.9701877128

(Decimal degrees)

Longitude

W 118.187063221

(Decimal degrees)

3. Project Description

The City of Bell proposes to make comprehensive pedestrian-focused improvements along a 2.12 mile stretch of Florence Avenue between I-710 and Salt Lake Avenue, enhancing pedestrian and bicycle safety, multi-modal travel, and aesthetics. Florence Avenue is a four-lane roadway with 80 to 90-ft wide intersections, heavy traffic, and minimal lighting. The City of Bell is a disadvantaged community, and many residents depend on walking and transit for their daily transport, including 6,000 students at three public schools located on or near Florence Avenue. The proposed project would include enhanced paving at crosswalks, sidewalk paving improvements, installation of pedestrian signal countdown heads at key intersections, planting treatments including a green canopy for shade, street furniture and aesthetic improvements, and improved lighting along Florence Avenue. Attachments 1 and 3 include vicinity and project area maps; Attachment 3 shows the different types of nodes.

These improvements directly relate to the ATP program goals, in particular the following: Increase the proportion of biking and walking trips, increase safety for non-motorized users, increase mobility for non-motorized users, and ensure disadvantaged communities fully share in program benefits. The project will also support regional greenhouse gas reduction and safety goals identified in established plans.

4. Project Status

The project is in the conceptual design phase; NEPA and CEQA documentation have not been completed. The City of Bell will, with the potential assistance of consultants, complete design and obtain the required regulatory clearances after the receipt of grant funds.

The NEPA and CEQA documentation is anticipated to be straightforward and can be accomplished within the proposed schedule because Categorical Exemption/Categorical Exclusion documents are anticipated. The

project improvements will be entirely within the existing right-of-way. Per the Code of Federal Regulations Title 40: Protection of Environment, §1508.4 Categorical Exclusions, and Title 23: Highways, Part 771-Environmental Impact and Related Procedures, §771.117 FHWA Categorical Exclusions, the proposed project is a Class II action which is categorically excluded. Per California Code of Regulations, Title 14 Natural Resources, Division 6 Resources Agency, Chapter 3 Guidelines for Implementation of the California Environmental Quality Act, Article 19 Categorical Exemptions, the proposed project is categorically exempt. The applicant agency will prepare preliminary plans and documentation of the National Environmental Policy Act Categorical Exclusion and California Environmental Quality Act Categorical Exemption and submit them to Caltrans.

The City of Bell is fully committed to the completion of the project in a timely and efficient manner. The proposed schedule allows for sufficient time to complete additional public outreach and all design and engineering work prior to the project commencement date. Currently, all site studies and preliminary design plans have been completed. It is anticipated that project construction commencement will occur in September 2016, this is consistent with the requested funding year, the Project Financial Plan, and with MTA, state, and federal Lapsing Policies.

III. SCREENING CRITERIA

1. Demonstrated Needs of the Applicant
Describe the need for the project and/or funding

The City of Bell is a 2.2 square mile city that has 1 square mile dedicated to an industrial park, which means that 35,000 residents live, work, and play within - 1.2 square miles. This extreme density in a small city setting creates a unique set of problems, especially with pedestrian traffic. Florence Avenue is the primary artery for transient vehicle traffic to get to and from LAX and to the 710 Freeway. Over 50,000 cars travel on Florence Avenue daily through the City of Bell. At the same time, residents are often dependent on walking, biking, and transit modes. Additionally, nearly 12,000 students attend schools within ½ mile of Florence Avenue. Many of these students walk to school and need to traverse or cross Florence Avenue in their daily travels.

Florence Avenue has substantial pedestrian safety issues. Bell is ranked the fourth worst city of 93 cities of similar size for pedestrian-involved traffic accidents, according to the California Office of Traffic Safety. Since 2006,

126 children have been injured or have died on the streets of Bell due to pedestrian/bicycle and vehicle crashes. Between 2008 and 2012, there were 45 reported injury accidents on or adjacent to Florence Avenue. Based on statistics from the City of Bell Police Department, every two weeks a bicyclist is hit by a car or truck, and a minimum of one child per month is hit by a moving vehicle in Bell. The City of Bell's children need safer ways to cross a street. Florence Avenue is not a pedestrian and bicycle friendly street; it is a freeway in the middle of a densely populated urban city. We need to make necessary traffic enhancements and pedestrian safety improvements to keep our children and other residents safe. Replacing motorized vehicle trips with bicycle and pedestrian trips in this area would also reduce greenhouse gas emissions.

The City of Bell, and the project area in particular, are considered disadvantaged communities in every way measured in the application (household median income, percent school children receiving free or reduced cost lunch, CES scores). Additionally, they face health challenges common to disadvantaged communities, namely, higher than average rates of obesity, diabetes, and asthma. The City of Bell was also subject to a financial scandal by the previous administration, which left the City with exceptionally challenging budget conditions and a backlog of maintenance and improvement needs. The City is committed to moving forward and to putting safety at the top of the list of priorities.

Key improvements are planned at two primary and four secondary nodes along Florence Avenue: I-710/LA River, Atlantic Avenue ("primary" nodes), Salt Lake Avenue, California Avenue, Otis Avenue, and Wilcox Avenue ("secondary" nodes). The primary nodes are key intersections and would have additional improvements in future phases. Additional improvements to enhance the visibility of crosswalks would be made at all feeder streets along Florence Avenue (pedestrian nodes marked on the maps).

This entire project will be constructed entirely within the public of the right-of-way, consisting of the street and sidewalk along Florence Avenue. This will help avoid increased costs and scheduling delays. Attachment 2 describes the proposed project improvements and illustrates some of the challenges faced by pedestrians in Bell.

- 2. Consistency with Regional Transportation Plan (100 words or less)**
Explain how this project is consistent with your Regional Transportation Plan (if applicable).
Include adoption date of the plan.

This project supports regional transportation goals of SCAG & Metro. The 2012 SCAG Regional Transportation Plan has the following goals: 1 - Decrease Bicyclist and Pedestrian Fatalities and Injuries, 2 - Develop an Active Transportation-Friendly Environment throughout the SCAG Region, and 3 - Increase Active Transportation Usage in the SCAG Region.¹ The 2009 Metro Long Range Transportation Plan states that bicycle and pedestrian programs are critical components of a successful transportation system.²

IV. NARRATIVE QUESTIONS

- 1. POTENTIAL FOR INCREASED WALKING AND BICYCLING, ESPECIALLY AMONG STUDENTS, INCLUDING THE IDENTIFICATION OF WALKING AND BICYCLING ROUTES TO AND FROM SCHOOLS, TRANSIT FACILITIES, COMMUNITY CENTERS, EMPLOYMENT CENTERS, AND OTHER DESTINATIONS; AND INCLUDING INCREASING AND IMPROVING CONNECTIVITY AND MOBILITY OF NON-MOTORIZED USERS. (0-30 POINTS)**

- A. Describe how your project encourages increased walking and bicycling, especially among students.**

Under the current conditions, pedestrians are discouraged by the inadequate sidewalk and crosswalk conditions. High traffic volumes on Florence Avenue further discourage pedestrian travel creating a barrier to greater mobility. By improving the safety and aesthetics of the pedestrian environment, more people will be encouraged to walk to their destinations, and those who are already walking to destinations in and around the city will be able to do so more safely and comfortably. Transit users will find safer access and conditions at bus stops along Florence Avenue. The city plans to add new shade structures, bus stops and new trees to help create a green canopy which will reduce the heat island affects currently felt on Florence Ave. The new trees and shade structures will have pedestrian scale accent lighting and up lighting installed so that pedestrians can enjoy a safe walking path on Florence Avenue during early morning and evening hours. Street trees also add a visual buffer between the vehicles and pedestrians providing an added sense of safety. As noted above, the project will also improve ADA ramps, bulb-outs where appropriate, and pedestrian signal countdown timers, as well as new safety

¹ SCAG Regional Transportation Plan – Active Transportation Appendix, 2012. http://rtpscsc.scag.ca.gov/Documents/2012/final/SR/2012IRTP_ActiveTransportation.pdf

² Metro Long Range Transportation Plan, 2009. http://media.metro.net/projects_studies/images/final-2009-LRTP.pdf

and flashing lights at the crosswalk signals. The new crosswalk signals will be synchronized providing for a smoother and safer traffic flow.

Related to students, Florence Avenue is within 0.5 mile of 9 schools that serve nearly 12,000 students. The City of Bell's schools operate on a year-round schedule, which means children are exposed to the traffic on the busy streets throughout the year. There aren't school buses to transport the children from home to school, so they are either walking or getting rides to school in private vehicles. Improving the safety of key intersections will encourage shorter trips to be completed by foot or bike, as opposed to by car.

B. Describe the number and type of possible users and their destinations, and the anticipated percentage increase in users upon completion of your project. Data collection methods should be described.

The Project directly supports transit use and pedestrian access to and from the existing bus stops, shown on Attachment 3. Within a ½-mile radius of the project, there are approximately 51,000 residents and 12,000 students. One-half mile was selected as the area of analysis for the pedestrian project, providing a conservative estimate on the residents who will benefit from the project. Within one mile there are 128,852 residents. The potential for increasing pedestrian and transit use is hampered by the existing conditions within the project area, hence the need for the project.

According to the 2010 American Community Survey, mode share for non-auto trips accounts for approximately 10 percent of total work trips in the project area. Existing and future PM period volumes come from the Southern California Association of Governments' travel demand model and are adjusted to estimate ADT based on average 24-hour volume distribution patterns. Total mode share percentages from commute data in the US Census American Community Survey (2008-2012) indicates that approximately 3-4% percent of commute trips in the surrounding areas are made by foot. Due to the proximity of schools on or near Florence Avenue and the transit stops located through the corridor, it is estimated that the total mode share of pedestrian traffic is closer to 10% when including students and transit trips beginning by foot. The area already has high pedestrian volumes on the existing facility and so it is unlikely to increase dramatically after implementation of the project, however, safety improvements such as those included in the project can affect people's willingness to travel the corridor by foot and

may encourage increases in pedestrian users by 2-5%. The improvements would also provide greater opportunity for additional walking trips to local destinations, enhancing public health.

Existing Pedestrian Activity

In addition to the people traveling through Bell for work, errands, and personal activities, there are also thousands of students traveling by foot or bicycle every school day. Florence Avenue is a major pedestrian thoroughfare for not only Bell residents but for children of Bell Gardens, Huntington Park and Cudahy. Local schools, especially Bell High School, serve as feeder schools for Los Angeles Unified School District (LAUSD), which means that it is a large regional school with nearly 4,000 students, many of whom walk to and from school every day using Florence Avenue as the main artery to get home or to access local public transportation. The eight other schools within ½ mile have another approximately 8,000 students. In total, 12,000 students are traveling to and from school each day in close proximity to the proposed project.

The major corridors identified in this project are well traveled by pedestrians and are served by major bus lines connecting the residents to downtown Los Angeles, communities to the east, west and north. The City of Bell also operates the La Campana bus service, which serves 5,000-7,000 riders a month, including students. The route of the La Campana bus service is included as Attachment 4.

Future Conditions with the Project

As described above, pedestrian use is high within the project area and there are many key destinations in the vicinity of the project area that attract pedestrians, bicyclists, and transit users. However, the existing conditions of the five intersections proposed for improvements, as currently configured, act as a deterrent to increased bicycle and pedestrian use. When construction is complete, the improvements will make the project area safer by increasing pedestrian visibility at key intersections and will help pedestrians navigate the area more safely with improved lighting and pedestrian countdown signal heads.

As part of the application process, several methodologies were developed to identify the potential impact the project would have on bicycle and pedestrian activity after the project was completed. The results of that modeling, taking into account the key improvements and existing vehicle, bicycle, transit, and pedestrian counts,

current mode share, and demographics, indicates that the project will have a beneficial effect on pedestrian and bicycle mobility in the area. Attachment 8 provides a benefit-cost calculator and estimated trips in the study area. Future pedestrian counts will be established using pedestrian counters. The City proposes to install two pyro box counters from EcoCounter as part of this project; installing counters immediately will provide the city with data from the baseline conditions as well as for project post-completion.

Along Florence Avenue, lack of safe crossings is a deterrent for pedestrian travel. These improvements to improve safety and visibility provide a great benefit for area residents and employees traveling by bus, bike and as a pedestrian. Motorists will have improved visual cues indicating when pedestrians are crossing intersections, which will reduce vehicle/pedestrian accidents.

C. Describe how this project improves walking and bicycling routes to and from, connects to, or is part of a school or school facility, transit facility, community center, employment center, state or national trail system, points of interest, and/or park.

The project provides much needed pedestrian improvements within an area where there are multiple schools, community facilities and access to transit services. Of particular importance is improving safety for local connections from residential areas located adjacent to Florence Avenue and the schools, community centers, colleges, and health clinics that serve the community.

Transit users would benefit from the project in terms of their pedestrian experience getting to and from the bus stops along Florence Avenue. There are 7 transit lines operated by Metro and local routes operated by the cities of Bell, Bell Gardens, and Cudahy that serve the project area. Average boarding and alighting rates for the seven Metro routes within ½ mile of the project totals over 23,000 riders per day. The City of Bell's La Campana local bus service carries an average of 5,266 people per day of operation.

In addition to supporting pedestrians and transit users (by promoting access to bus stops), the proposed project would directly link a Class 1 bike facility along the LA River that extends for several miles from Atlantic Blvd to Imperial Hwy. See Attachment 3 for a map showing community features and the bike facility.

The project is not dependent on any other projects for completion. It will occur fully within the right-of-way and will not require access modifications. No additional property acquisition is needed in association with this ATP

grant request. This project is a critical first step toward other improvements planned for Florence Avenue. Future plans include median treatments, removal of the middle turn lane along much of the roadway, and additional planting and aesthetic improvements.

D. Describe how this project increases and/or improves connectivity, removes a barrier to mobility and/or closes a gap in a non-motorized facility.

This project will reduce the barriers to mobility for those who are intimidated to walk or bicycle the corridor under current conditions.

By improving the pedestrian environment along and connecting to Florence Avenue, this project will resolve a key deficiency. Florence Avenue serves numerous MTA bus lines that lead to many regional destinations. The project will promote intermodal integration by encouraging the use of bus transit and increasing security at bus stops with better lighting and increased amenities to make using transit and walking safer and more comfortable for the residents of Bell. In addition, improved pedestrian crossings will promote the use of bus transit if people can safely and conveniently walk to the bus stops.

Under the current conditions, pedestrians are discouraged by the inadequate sidewalk and crosswalk conditions. As for residents and business owners in the area, many otherwise walkable trips are made with vehicles due to less desirable conditions such as inadequately marked crosswalks and difficult road crossings. Those without vehicles are left with the choice of staying home or taking risks in navigating this area.

The key elements of the Project are intended to not only improve pedestrian safety, but to beautify the street. The increased landscaping, pedestrian-level lighting, and artistic features will draw many residents to the area, which will help support the local businesses.

2. POTENTIAL FOR REDUCING THE NUMBER AND/OR RATE OF PEDESTRIAN AND BICYCLIST FATALITIES AND INJURIES, INCLUDING THE IDENTIFICATION OF SAFETY HAZARDS FOR PEDESTRIANS AND BICYCLISTS. (0-25 POINTS)

A. Describe the potential of the project to reduce pedestrian and/or bicycle injuries or fatalities.

The project area has a high rate of pedestrian and bicycle accidents, including fatalities. Between 2008 and 2012, there were 27 bicycle and 18 pedestrian accidents within 200 feet of Florence Avenue, with three pedestrians

suffering severe injuries. Overall, the City of Bell ranks as 4th (worst) out of 93 cities of similar size for pedestrian-involved traffic accidents, according to the California Office of Traffic Safety.

To determine the potential for reducing injuries or fatalities, crash reduction factors (CRF) were developed for each corridor utilizing the methodology as outlined in the “Local Roadway Safety Manual for California Local Road Owner’s”, and detailed in Attachment 5, The CRF were developed based on proposed signalized intersection countermeasures, un-signalized intersection countermeasures, roadway countermeasures, and other traffic calming improvements. Based on the analysis it is anticipated that an overall crash reduction of approximately 25% could be expected annually for the project corridor. When applied to historical crash data this would equate to an annual crash reduction of approximately 2 crashes within the project corridor, from an average of 9 per year to 7 or fewer accidents per year (a 22% projected reduction in crashes).

Additional benefits are anticipated with the improved pavement markings, bulb-out corners where appropriate and improved lighting proposed for the project.

B. Describe if/how your project will achieve any or all of the following:

o **Reduces speed or volume of motor vehicles**

Enhancements create an improved bicycle–pedestrian environment, which will encourage mode shift that has the potential to result in a reduced volume of traffic. Use of bulb-outs (as appropriate) is also shown to act as a traffic calming measure.

o **Improves sight distance and visibility**

Use of bulb-outs (as appropriate) along with high-visibility crosswalks will both calm traffic and increase visibility of pedestrians and bicyclists. Lighting, pavement markings, way finding, and warning signs along the route will raise the awareness of motorists as they are driving along a bicycle route and should use caution.

o **Improves compliance with local traffic laws**

Improved visibility of crosswalks will better alert drivers of the presence of the crosswalks and thus will improve compliance with local traffic laws.

- **Eliminates behaviors that lead to collisions**

Countdown signals will warn pedestrians of light changes, and enhanced paving and lighting will alert vehicles of the presence of pedestrians.

- **Addresses inadequate traffic control devices**

Per above, pedestrian countdown signals have potential to reduce accidents by 25%.

- **Addresses inadequate bicycle facilities, crosswalks or sidewalks**

Enhanced paving and markings, pedestrian signal countdown timers will improve the existing conditions along Florence Avenue. Installation of benches, plantings, and improved lighting will further enhance the pedestrian (and bicyclist) experience.

C. Describe the location's history of events and the source(s) of data used (e.g. collision reports, community observation, surveys, audits) if data is not available include a description of safety hazard(s) and photos.

Crash data within 200-feet of each corridor was extracted from the UC Berkeley SafeTREC Transportation Injury Mapping System (TIMS). Based on this information, these corridors have experienced a fairly high rate of reported pedestrian and bicycle injury accidents between the years of 2008 – 2012. During this time there were a reported 18 pedestrian accidents and 27 bicycle accidents. A map of the accident locations along with accident summaries can be found in Attachment 6.

Observations in the project area to support these accident statistics and indicate the risks pedestrians and bicyclists take during their daily travels include reports from business owners and community members of watching semi-trucks blocking the crosswalks, and then seeing students run underneath the trucks to cross the street (instead of waiting for the next light cycle, or for the truck to proceed through the intersection) and people jaywalking because they are impatient for the light to change (a countdown timer could mitigate this by telling them how long to wait).

3. PUBLIC PARTICIPATION and PLANNING (0-15 POINTS)

A. Describe the community based public participation process that culminated in the project proposal or plan, such as noticed meetings/public hearings, consultation with stakeholders, etc.

The City has held meetings and outreach conversations to obtain support from a variety of entities that will be affected by the implementation of the Project. These include: adjacent cities, such Bell Gardens, Huntington Park, Cudahy; local businesses; the Chamber of Commerce; Bicycle Casino; Bell High School and the local elementary schools; California Department of Transportation; adjacent cities; MTA; and community organizations.

Specific interactions included:

- During the development of the La Campana Fixed Route, staff spent two weeks, during October and November 2012, on Florence Avenue at the crossings of Atlantic and Wilcox avenues talking to pedestrians about traffic and about what their mode of transportation would be. Many of these pedestrians complained about the traffic and were excited about the development of the La Campana System. They also gave feedback to the staff on how they wished the streets would be improved for pedestrian safety. The respondents asked for nicer bus stops, better lit sidewalks, lit bus stops, and they asked for new traffic signals with speakers so you could hear the countdown so you knew how long you had left to cross the street.
- During January to April 2013, the City of Bell met on over 10 different occasions with the Bell High School Art Teacher in order to get the students involved in the development of the art work for the La Campana vehicle. The Director simultaneously worked with the Video Teacher and students to create a video that was mass produced to advertise the new launch of the shuttle service. During all of these outreach meetings, the students expressed their desire for better and safer streets especially on Florence Ave.
- Cal State University San Luis Obispo did a 3-month long study in 2013 in the City of Bell. During an all-day Saturday outreach event in March 2013, residents were asked to come and engage in a conversation regarding how they wanted Bell to look in the future. One key component of the University Students' outreach covered transportation and the development of safer streets for the residents of Bell. The ideas were preliminary but helped substantiate the need that residents are requesting safer streets and a better multi-modal experience in Bell. (See Attachment 7 for flier for this event.)

The participation of local stakeholders, adjacent communities, and school groups will help with project implementation. The City of Bell will work with local businesses to ensure their continued operation with minimal interruption during construction. Additional communication has involved discussions with community organization leaders, including those indicated on the attached letters of support (see Attachment 7).

The City will continue outreach efforts with each support agency prior to the commencement date for the Project. In addition, the City will hold public meetings to disseminate information and hear the concerns of those who may be impacted by the Project. To ensure maximum participation, notifications will be distributed in English and Spanish to residents and businesses along the Florence Avenue corridor from the west to east city limits, a distance of approximately 2 miles. Input will be sought to help minimize the impacts of the project during construction. In addition, the City will hold ongoing public meetings during construction to provide the community with updates and obtain input.

The project is also consistent with the City of Bell's General Plan, adopted in 2010. The circulation element of the plan addresses safety, specifically: Policy 14. Continue to promote the separation of pedestrian, bicycle, and motor vehicle traffic, and Program 9. Continue to implement a bicycle and pedestrian safety program (See City of Bell, 2010 General Plan, <http://cityofbell.org/home/showdocument?id=714>). The project also supports regional greenhouse gas emission reduction and safety goals identified in established plans.

B. Describe the local participation process that resulted in the identification and prioritization of the project:

The residents of Bell have developed a distrust of their government due to the scandal they suffered in 2010. The previous administration did not create programs or plans to put money towards making the streets safer for the children. The previous administration has been replaced and the new City Council and administration are focused on creating positive changes in the city beginning by making pedestrian safety a #1 priority. The City has worked with neighboring cities to secure support for the project (see Attachment 7 including letters of support from the cities of Huntington Park, Bell Gardens, and Cudahy), and also has letters of support from Bell High School and local businesses (see also Attachment 7). Additionally, City staff have attended LA Metro meetings to develop skills on the importance of incorporating Complete Streets Concepts into the City's General Plan.

In March 2014, the City issued an RFP to develop a bicycle and pedestrian plan, and this plan will include public outreach elements in its development. Proposals are currently under review. The proposed pedestrian improvements for Florence Avenue will be part of this plan.

The Project has been conceptually designed by the firm of Urban Arena to maximize compatibility with and enhancement of the surrounding community. Urban Arena has worked with neighboring cities in the area on similar projects that promote positive vehicular and pedestrian interactions. On Florence Avenue, the primary, secondary, and pedestrian nodes are intended to serve as both focal points along the street, as well as connectors into the residential neighborhoods and region as a whole.

C. Is the project cost over \$1 Million? Yes

If Yes- is the project Prioritized in an adopted city or county bicycle transportation plan, pedestrian plan, safe routes to school plan, active transportation plan, trail plan, circulation element of a general plan, or other publicly approved plan that incorporated elements of an active transportation plan? Y

The proposal is consistent with the City's Adopted General Plan (2010), Circulation Element, specifically: Policy 14. Continue to promote the separation of pedestrian, bicycle, and motor vehicle traffic, and Program 9. Continue to implement a bicycle and pedestrian safety program.

4. COST EFFECTIVENESS (0-10 POINTS)

A. Describe the alternatives that were considered. Discuss the relative costs and benefits of all the alternatives and explain why the nominated one was chosen.

The City of Bell has a larger plan for pedestrian improvements along Florence Avenue, but needed to prioritize elements for this first phase. The elements represented in this proposal are those that are anticipated to deliver short-term, high-benefit improvements and build the base for future improvements. The pedestrian improvements that are planned are described above throughout the application. Improving safety for pedestrians and bicyclists traveling along and across Florence Avenue is the main priority of the proposed project. The program elements proposed for this project with the greatest potential quantifiable benefit are 1) the addition of pedestrian signal countdown heads and 2) pedestrian crossing improvements (e.g., curb extensions and addition of safety features). Both of these safety improvements have been demonstrated to reduce pedestrian and bicycle accidents by up to 25 and 37%, respectively. These benefits would not occur if the project is not built. Additionally, as

mentioned above, the city plans to continue making improvements to Florence Avenue after this critical set of improvements are complete, and those improvements (e.g., median treatments) will create additional safety and mobility benefits.

B. Calculate the ratio of the benefits of the project relative to both the total project cost and funds requested (i.e., $\frac{\text{Benefit*}}{\text{Total Project Cost}}$ and $\frac{\text{Benefit*}}{\text{Program Funds Requested}}$).

A cost-benefit calculator was created for the ATP grant applications. Attachment 8 explains the methodology in developing the calculator, includes pedestrian forecasts used in the analysis, and illustrates the results generated by the calculator itself. Using the available data on project type, existing and forecasted demand, project area of influence (i.e., distance of average pedestrian trips), pedestrian and bike crash history, and project costs, the Benefit-Cost ratio provides a monetization of congestion reduction and increased health and safety compared to the capital and operating costs. The ratio is the estimated benefits from active transportation and potential crash reductions divided by the project cost/program funds requested. To determine the potential for reducing injuries or fatalities, crash reduction factors (CRF) were developed for each corridor utilizing the methodology as outlined in the "Local Roadway Safety Manual for California Local Road Owner's." Based on the analysis it is anticipated that an overall crash reduction of approximately 25% could be expected annually for study area, which at a minimum equates to two pedestrian/bicycle related crashes per year.

This project's Benefit-Cost ratio is equal to 1.30 when including the total project cost and 1.62 when including only the cost of grant request which indicates that its positive impacts would outweigh the project costs (ratio > 1).

5. IMPROVED PUBLIC HEALTH (0-10 points)

A. Describe how the project will improve public health, i.e. through the targeting of populations who have a high risk factor for obesity, physical inactivity, asthma, or other health issues.

The project will improve public health by providing safer pedestrian facilities such as improved street crossings and other infrastructure including lighting and sidewalk improvements that will encourage pedestrian activity in the surrounding socioeconomically disadvantaged community. According to the Center for Disease Control, physical inactivity is a high risk factor that can lead to obesity and type 2 diabetes (Center for Disease

Control , Physical Inactivity Estimates, by County , <http://www.cdc.gov/Features/dsPhysicalInactivity/>, Accessed April 24, 2014). In the Service Planning Area 7 (SPA 7) of Los Angeles County (SPA 7 includes the City of Bell), 12 percent of adults do not engage in physical activity and 10 percent of children ages 6 to 17 are inactive (LA County Health Department).

Health data provided by LA County Health Department identifies overweight and obesity health issues in the project area. Approximately 39 percent of adults are overweight and 27 percent obese (compared to 36 and 22 percent in LA County). Additionally, 26 percent of children in grades 5, 7, and 9 are obese. Obesity is a major burden to the healthcare system and contributes to a number of chronic diseases, including coronary heart disease, type 2 diabetes, cancer, high blood pressure, high cholesterol, and stroke (CDC, 2009). In addition, it is known to contribute to mental health conditions such as depression, bipolar disorder and low self-esteem. The promotion of physical activity is a major component of current public health campaigns to reduce the prevalence of obesity. One of the key actions outlined in The Surgeon General's Vision for a Healthy and Fit Nation, states that "Communities should consider.building and enhancing infrastructures to support more walking and bicycling, and improving the safety of neighborhoods to facilitate outdoor physical activity. (U.S. Department of Health and Human Services, The Surgeon General's Vision for a Healthy and Fit Nation Fact Sheet http://www.surgeongeneral.gov/initiatives/healthy-fit-nation/obesityvision_factsheet.html", Accessed April 24, 2014). The project improvements fulfill this by providing safer and improved pedestrian facilities. The poor sidewalk conditions impede opportunities for exercise such as walking, running, skateboarding, and rollerblading.

Obesity is also a risk factor for the development of asthma (CDC, Asthma Stats, http://www.cdc.gov/asthma/asthma_stats/default.htm, Accessed April 24, 2014). In the project area, 10.2 percent of children ages 0-17 have asthma and 11.8 percent of people report having diabetes. According to the Mayo Clinic, exercise is an important part of diabetes treatment plan; exercise can help improve blood sugar control (Mayo Clinic Staff, Diabetes and exercise: When to monitor your blood sugar, <http://www.mayoclinic.org/diseases-conditions/diabetes/in-depth/diabetes-and-exercise/ART-20045697>, Accessed April 24, 2014). Especially in

disadvantaged communities, pedestrian infrastructure provides no cost exercise opportunities in the immediate community. Physical activity reduces BMI and decreases prevalence of obesity.

The California Environmental Screening tool presents the nation's first comprehensive screening methodology to identify California communities that are disproportionately burdened by multiple sources of pollution and presents the statewide results of the analysis using the screening tool. Based on the results of that tool, the Florence Avenue study area shows a high burden of pollution and related health effects. A map showing the CES scores for the project area is included as Attachment 9.

Nearly a third of the monetized benefits associated with this project would accrue due to the benefits of increased walking and physical activity. As described above in question 4B and documented in Attachment 8, the benefit-cost analysis showed a positive net benefit from the project.

6. BENEFIT TO DISADVANTAGED COMMUNITIES (0-10 points)

A. I. Is the project located in a disadvantaged community? Yes

II. Does the project significantly benefit a disadvantaged community? Yes

a. Which criteria does the project meet? (Answer all that apply)

- **Median household income for the community benefited by the project: \$39,191**

All census tracts adjacent to the project have median incomes below 80% of the state-wide median household income. The range is \$28,560 to \$48,969. The average for all census tracts within 0.5-mile of the project is \$39,191. See Attachment 10 for a map of median incomes reported in the project area. (Data Source: 2008-2012 American Community Survey (ACS) 5-year Estimates. Based on the 2012 ACS, the state wide median household income is \$61,400. 80% of that income is \$49,120.)

- **California Communities Environmental Health Screen Tool (CalEnvironScreen) score for the community benefited by the project: 38.53 – 51.18**

The project area has two different CES scores (Cities of Bell/Cudahy and Huntington Park) reporting two scores for communities within ½ mile. City of Bell and Cudahy have a combined score of 51.18 which is in the 96-100% percentile range for this measure (Huntington Park, within the 1/2-mile area surrounding the proposed project, scores a slightly better 38.53, which is in the 91-95 percentile range). See Attachment 9 for a map of CES scores in the project area.

- **For projects that benefit public school students, percentage of students eligible for the Free or Reduced Price Meals Programs:** 79.27 – 99.2 %

There are nine public schools and one private school within 0.5 mile of the proposed project, serving approximately 12,000 students. All nine of the public schools have high numbers of students eligible for free or reduced priced meal programs. The average percent of students eligible for free or reduced priced meals in these schools is 87.5%. See Attachment 11 for a map of the schools and reduced and free lunch use in the project area.

- b. Should the community benefitting from the project be considered disadvantaged based on criteria not specified in the program guidelines? If so, provide data for all criteria above and a quantitative assessment of why the community should be considered disadvantaged.**

The community is considered disadvantaged based on all three criteria above. Maps showing the data for the project area are included as Attachments 9, 10, and 11, and combined on Attachment 12. No additional criteria were investigated for this application.

- B. Describe how the project demonstrates a clear benefit to a disadvantaged community and what percentage of the project funding will benefit that community, for projects using the school based criteria describe specifically the school students and community will benefit.**

This question is addressed throughout this application. To summarize, the project provides direct benefits to the residents of Bell by improving the pedestrian environment and ability to navigate through the City of Bell. In particular, the project is designed to benefit the many school children in the area who walk across or along Florence Avenue on their way to or from school and other local destinations. In addition to the school children, the adult population in Bell is challenged by poor health and low-incomes; improving the walking environment will benefit them directly by providing safer and low-cost means of travel within the city.

7. USE OF CALIFORNIA CONSERVATION CORPS (CCC) OR A CERTIFIED COMMUNITY CONSERVATION CORPS (0 to -5 points)

The applicant must send the following information to the CCC and CALCC prior to application submittal to Caltrans:

Project Description
Project Map

Detailed Estimate
Preliminary Plan

Project Schedule

The corps agencies can be contacted at:
California Conservation Corps at: www.ccc.ca.gov
Community Conservation Corps at: <http://callocalcorps.org>

- A. The applicant has coordinated with the CCC to identify how a state conservation corps can be a partner of the project. Yes**

a. Name, e-mail, and phone # of the person contacted and the date the information was submitted to them

Virginia Clark, Region Deputy, Region 1, virginia.clark@ccc.ca.gov, 916-341-3147,
1719 24th St, Sacramento, CA 95816

B. The applicant has coordinated with a representative from the California Association of Local Conservation Corps (CALCC) to identify how a certified community conservation corps can be a partner of the project. Yes

a. Name, e-mail, and phone # of the person contacted and the date the information was submitted to them

Cynthia Vitale, Cynthia@csgcalifornia.com, 916-558-1516,
1100 11th St., Ste 200, Sacramento, CA 95816

C. The applicant intends to utilize the CCC or a certified community conservation corps on all items where participation is indicated? Yes

I have coordinated with a representative of the CCC; and the following are project items that they are qualified to partner on:

Installing street furniture, sculptures, and landscaping (per email from Virginia Clark, 4/23/2014). See Attachment 13.

I have coordinated with a representative of the CALCC; and the following are project items that they are qualified to partner on:

Contact re-initiated on 4/22/2014, CALCC responded on 4/22 (See Attachment 14), but has not yet replied regarding specific items for partnership (as of 5/8/2014). Previous coordination with Connie Callippi of CALCC on 1/24/2013 indicated participation with street furniture, landscaping, and artistic shade structures.

Points will be deducted if an applicant does not seek corps participation or if an applicant intends not to utilize a corps in a project in which the corps can participate*.

**If the applicant has indicated intended use of the CCC or CALCC in the approved application, a copy of the agreement between the implementing agency and the CCC or CALCC must be provided by the implementing agency, and will be incorporated as part of the original application, prior to request for authorization of funds for construction.*

8. APPLICANT'S PERFORMANCE ON PAST GRANTS (0 to -10 points)

A. Describe any of your agency's ATP type grant failures during the past 5 years, and what changes your agency will take in order to deliver this project.

The City of Bell does not have ATP grant failures to report. The City does not have ATP grant experience in the past 5 years. Other grants received by the city have been successfully performed.

No performance issues are anticipated. The City of Bell has an administrative team that consists of highly experienced municipal executives who have managed federal grants for over 20 years. Josh Betta, Finance Director, Joe Perez, Community Development Director, Pamela Yugar, Director of Community Services and Terry Rodrigue, City Engineer. Mr. Rodrigue has successfully overseen a myriad of federal and state funded street and other transit related grants projects that require extensive oversight, grant administration which includes following the strict funding requirements for both agencies.

Project name: Florence Avenue Pedestrian Improvement Project, City of Bell

V. PROJECT PROGRAMMING REQUEST

Applicant must complete a Project Programming Request (PPR) and attach it as part of this application. The PPR and can be found at http://www.dot.ca.gov/hq/transprog/allocation/ppr_new_projects_9-12-13.xls

PPR Instructions can be found at <http://www.dot.ca.gov/hq/transprog/ocip/2012stip.htm>

Notes:

- Fund No. 1 must represent ATP funding being requested for program years 2014/2015 and 2015/2016 only.
- Non-infrastructure project funding must be identified as Con and indicated as "Non-infrastructure" in the Notes box of the Proposed Cost and Proposed Funding tables.
- Match funds must be identified as such in the Proposed Funding tables.

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2013)

General Instructions

<input checked="" type="checkbox"/> New Project					Date: 5/7/14	
District	EA	Project ID	PPNO	MPO ID	TCRP No.	
07						
County	Route/Corridor	PM Bk	PM Ahd	Project Sponsor/Lead Agency		
LA				City of Bell		
				MPO	Element	
					Local Assistance	
Project Manager/Contact		Phone		E-mail Address		
Dahi Lee		(323)588-6211		dllee@cityofbell.org		
Project Title						
FLORENCE AVENUE PEDESTRIAN IMPROVEMENT PROJECT						
Location, Project Limits, Description, Scope of Work						<input type="checkbox"/> See page 2
<p>The project is located entirely on the public right-of-way along Florence Avenue within the City boundaries, Los Angeles River to Salt Lake Ave. This project will install street furniture, pedestrian oriented lighting, enhanced paving to improve pedestrian safety at each intersections, countdown pedestrian signal heads, sculptures and landscaping.</p>						
<input type="checkbox"/> Includes ADA Improvements			<input checked="" type="checkbox"/> Includes Bike/Ped Improvements			
Component	Implementing Agency					
PA&ED	City of Bell					
PS&E	City of Bell					
Right of Way	City of Bell					
Construction	City of Bell					
Purpose and Need						<input type="checkbox"/> See page 2
<p>The purpose of the Project is to improve conditions for pedestrians in order to increase pedestrian safety, especially for the thousands of students who walk to and from the two local schools each day. The Project is also intended to improve the pedestrian environment in order to promote walking as a viable form of transportation, and encourage the use of public transit.</p>						
Project Benefits						<input type="checkbox"/> See page 2
<p>This Project will reduce the number of pedestrian related vehicle collisions, and lead to increase safety for drivers. The heavy traffic and high pedestrian activity along Florence Avenue have led to unsafe conditions that will continue to worsen if they are not addressed.</p>						
<input type="checkbox"/> Supports Sustainable Communities Strategy (SCS) Goals			<input checked="" type="checkbox"/> Reduces Greenhouse Gas Emissions			
Project Milestone						Proposed
Project Study Report Approved						
Begin Environmental (PA&ED) Phase						06/01/15
Circulate Draft Environmental Document				Document Type	CE/CE	07/01/15
Draft Project Report						
End Environmental Phase (PA&ED Milestone)						09/01/15
Begin Design (PS&E) Phase						12/01/15
End Design Phase (Ready to List for Advertisement Milestone)						06/01/16
Begin Right of Way Phase						
End Right of Way Phase (Right of Way Certification Milestone)						
Begin Construction Phase (Contract Award Milestone)						09/01/16
End Construction Phase (Construction Contract Acceptance Milestone)						12/01/17
Begin Closeout Phase						
End Closeout Phase (Closeout Report)						

ADA Notice For individuals with sensory disabilities, this document is available in alternate formats. For information call (916) 654-6410 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2013)

Date: 5/7/14

District	County	Route	EA	Project ID	PPNO	TCRP No.
07	LA					
Project Title: FLORENCE AVENUE PEDESTRIAN IMPROVEMENT PROJECT						

Proposed Total Project Cost (\$1,000s)									Notes
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E		75	153					228	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			2,177					2,177	
TOTAL		75	2,330					2,405	

Fund No. 1:	ATP funds								Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E			62					62	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			1,862					1,862	
TOTAL			1,924					1,924	

Fund No. 2:	Gas Tax or Prop C								Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E		75	91					166	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			315					315	
TOTAL		75	406					481	

Fund No. 3:									Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2013)

Date: 5/7/14

District	County	Route	EA	Project ID	PPNO	TCRP No.
07	LA					
Project Title: FLORENCE AVENUE PEDESTRIAN IMPROVEMENT PROJECT						

Fund No. 4:									Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									

Fund No. 5:									Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									

Fund No. 6:									Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									

Fund No. 7:									Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2013)

Date: 5/7/14

District	County	Route	EA	Project ID	PPNO	TCRP No.
07	LA					
Project Title: FLORENCE AVENUE PEDESTRIAN IMPROVEMENT PROJECT						

Fund No. 8:									Program Code
Proposed Funding (\$1,000s)									
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									

Fund No. 9:									Program Code
Proposed Funding (\$1,000s)									
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									

Fund No. 10:									Program Code
Proposed Funding (\$1,000s)									
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									

Project name: Florence Avenue Pedestrian Improvement Project, City of Bell

VI. ADDITIONAL INFORMATION

Only fill in those fields that are applicable to your project

FUNDING SUMMARY

ATP Funds being requested by Phase (to the nearest \$1000)	Amount
PE Phase (includes PA&ED and PS&E)	\$ 62,000
Right-of-Way Phase	\$
Construction Phase-Infrastructure	\$ 1,862,000
Construction Phase-Non-infrastructure	\$
Total for ALL Phases	\$ 1,924,000

All Non-ATP fund types on this project* (to the nearest \$1000)	Amount
Gas Tax or Prop C, PS&E Component (matching)	\$ 166,000
Gas Tax or Prop C, Construction Component (matching)	\$ 315,000
	\$
	\$
	\$
	\$

*Must indicate which funds are matching

Total Project Cost	\$ 2,405,000
Project is Fully Funded	No

ATP Work Specific Funding Breakdown (to the nearest \$1000)	Amount
Request for funding a Plan	\$ 0
Request for Safe Routes to Schools Infrastructure work	\$ 0
Request for Safe Routes to Schools Non-Infrastructure work	\$ 0
Request for other Non-Infrastructure work (non-SRTS)	\$ 0
Request for Recreational Trails work	\$ 0

ALLOCATION/AUTHORIZATION REQUESTS SCHEDULE

	Proposed Allocation Date	Proposed Authorization (E-76) Date
PA&ED or E&P	05/01/2015	06/01/2015
PS&E	11/01/2015	12/01/2015
Right-of-Way		
Construction	08/01/2016	09/01/2016

All project costs MUST be accounted for on this form, including elements of the overall project that will be, or have been funded by other sources.

Project name: Florence Avenue Pedestrian Improvement Project, City of Bell

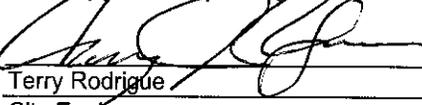
VIII. APPLICATION SIGNATURES

Applicant: The undersigned affirms that the statements contained in the application package are true and complete to the best of their knowledge.

Signature: 
Name: Dahi Lee
Title: Assistant Engineer

Date: May 15, 2014
Phone: (323) 588-6211 x 293
e-mail: dlee@cityofbell.org

Local Agency Official (City Engineer or Public Works Director): The undersigned affirms that the statements contained in the application package are true and complete to the best of their knowledge.

Signature: 
Name: Terry Rodriguez
Title: City Engineer

Date: May 15, 2014
Phone: (323) 588-6211 x 228
e-mail: trodrigue@cityofbell.org

School Official: The undersigned affirms that the school(s) benefited by this application is not on a school closure list.

Signature: _____
Name: _____
Title: _____

Date: _____
Phone: _____
e-mail: _____

Person to contact for questions:

Name: Dahi Lee
Title: Assistant Engineer

Phone: (323) 588-6211 x 293
e-mail: dlee@cityofbell.org

Caltrans District Traffic Operations Office Approval*

If the application's project proposes improvements on a freeway or state highway that affects the safety or operations of the facility, it is required that the proposed improvements be reviewed by the district traffic operations office and either a letter of support or acknowledgement from the traffic operations office be attached () or the signature of the traffic personnel be secured below.

Signature: _____
Name: _____
Title: _____

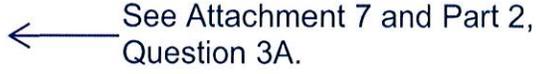
Date: _____
Phone: _____
e-mail: _____

*Contact the District Local Assistance Engineer (DLAE) for the project to get Caltrans Traffic Ops contact information. DLAE contact information can be found at <http://www.dot.ca.gov/hq/LocalPrograms/dlae.htm>

Project name:
Florence Avenue Pedestrian Improvement Project, City of Bell

VIII. ADDITIONAL APPLICATION ATTACHMENTS

Check all attachments included with this application.

- Vicinity/Location Map- **REQUIRED for all IF Projects** 
 - North Arrow
 - Label street names and highway route numbers
 - Scale
- Photos and/or Video of Existing Location- **REQUIRED for all IF Projects** 
 - Minimum of one labeled color photo of the existing project location
 - Minimum photo size 3 x 5 inches
 - Optional video and/or time-lapse
- Preliminary Plans- **REQUIRED for Construction phase only**
 - Must include a north arrow
 - Label the scale of the drawing
 - Typical Cross sections where applicable with property or right-of-way lines
 - Label street names, highway route numbers and easements
- Detailed Engineer's Estimate- **REQUIRED for Construction phase only**
 - Estimate must be true and accurate. Applicant is responsible for verifying costs prior to submittal
 - Must show a breakdown of all bid items by unit and cost. Lump Sum may only be used per industry standards
 - Must identify all items that ATP will be funding
 - Contingency is limited to 10% of funds being requested
 - Evaluation required under the ATP guidelines is not a reimbursable item
- Documentation of the partnering maintenance agreement- Required with the application if an entity, other than the applicant, is going to assume responsibility for the operation and maintenance of the facility
- Documentation of the partnering implementation agreement-Required with the application if an entity, other than the applicant, is going to implement the project.
- Letters of Support from Caltrans (Required for projects on the State Highway System(SHS))
- Digital copy of or an online link to an approved plan (bicycle, pedestrian, safe routes to school, active transportation, general, recreation, trails, city/county or regional master plan(s), technical studies, and/or environmental studies (with environmental commitment record or list of mitigation measures), if applicable. Include/highlight portions that are applicable to the proposed project.
- Documentation of the public participation process (required) 
- Letter of Support from impacted school- when the school isn't the applicant or partner on the application (required)
- Additional documentation, letters of support, etc (optional) 

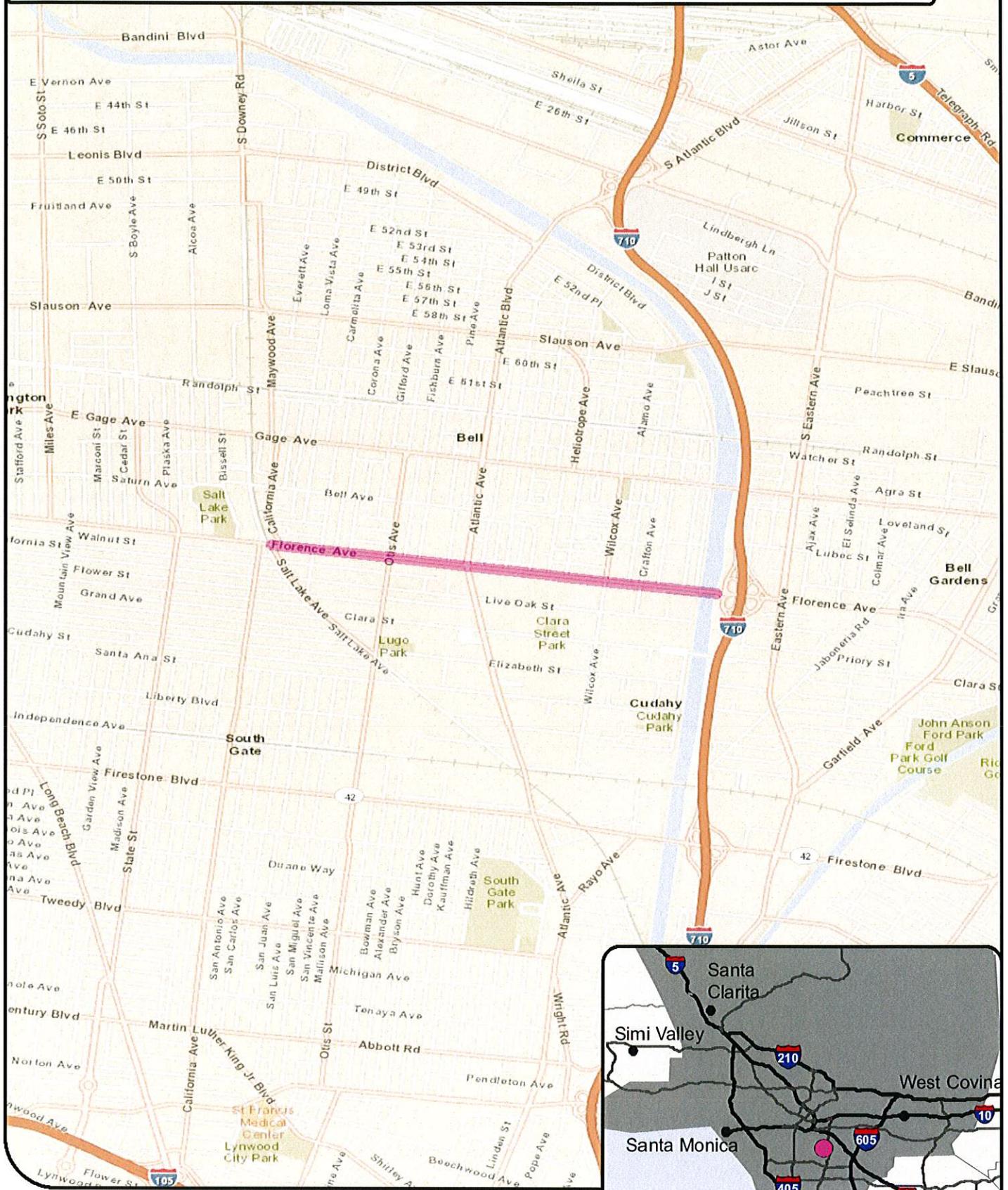
See Part 2, Question 3A (City of Bell 2010 General Plan).

Attachment 1
Project Vicinity Map

Attachment 1 - Vicinity Map

Florence Avenue Pedestrian Improvement Project, City of Bell

Jurisdiction: BELL

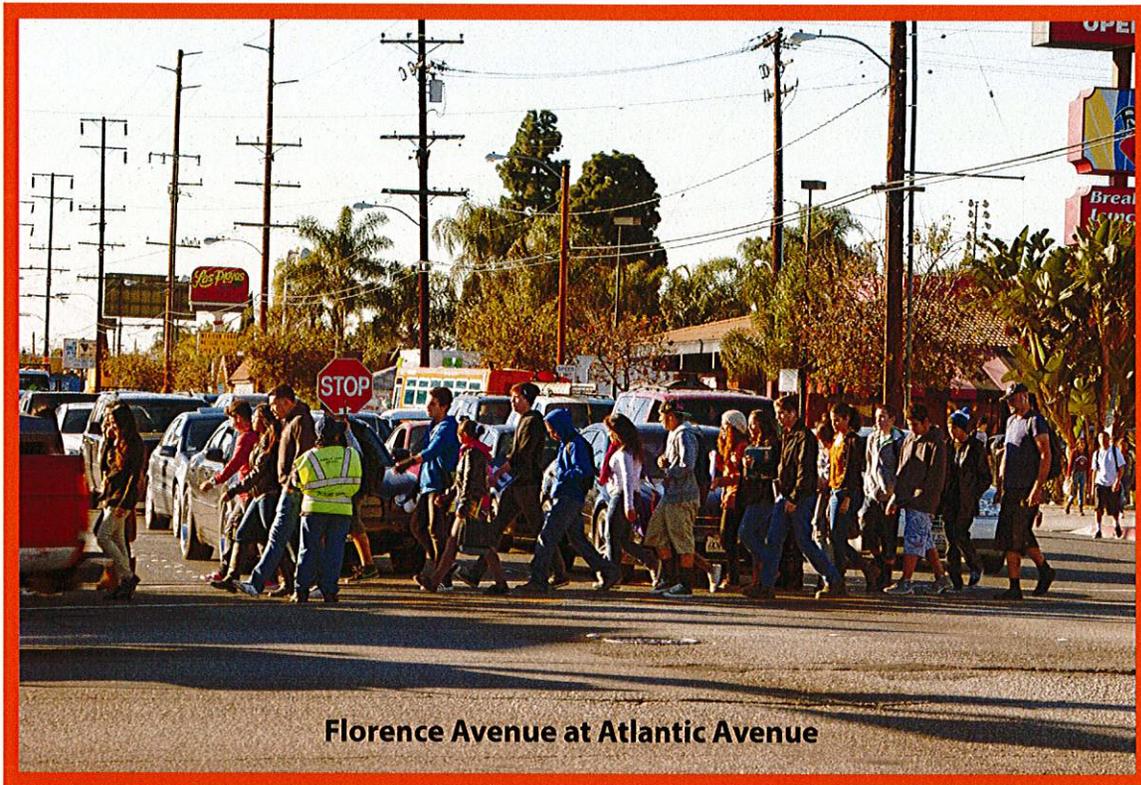


 Project Area



1 in = 0.68 miles
0 1,800 3,600 Feet

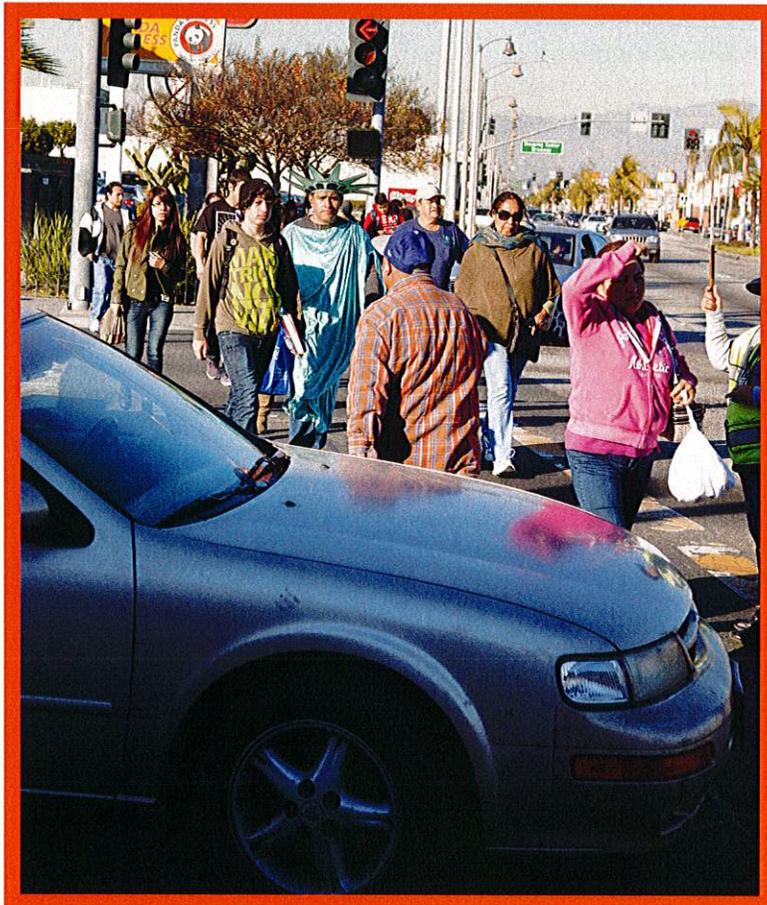
Attachment 2
Project Area Photos



Florence Avenue at Atlantic Avenue

Students crossing Florence Avenue at Atlantic Avenue after the end of a school day.

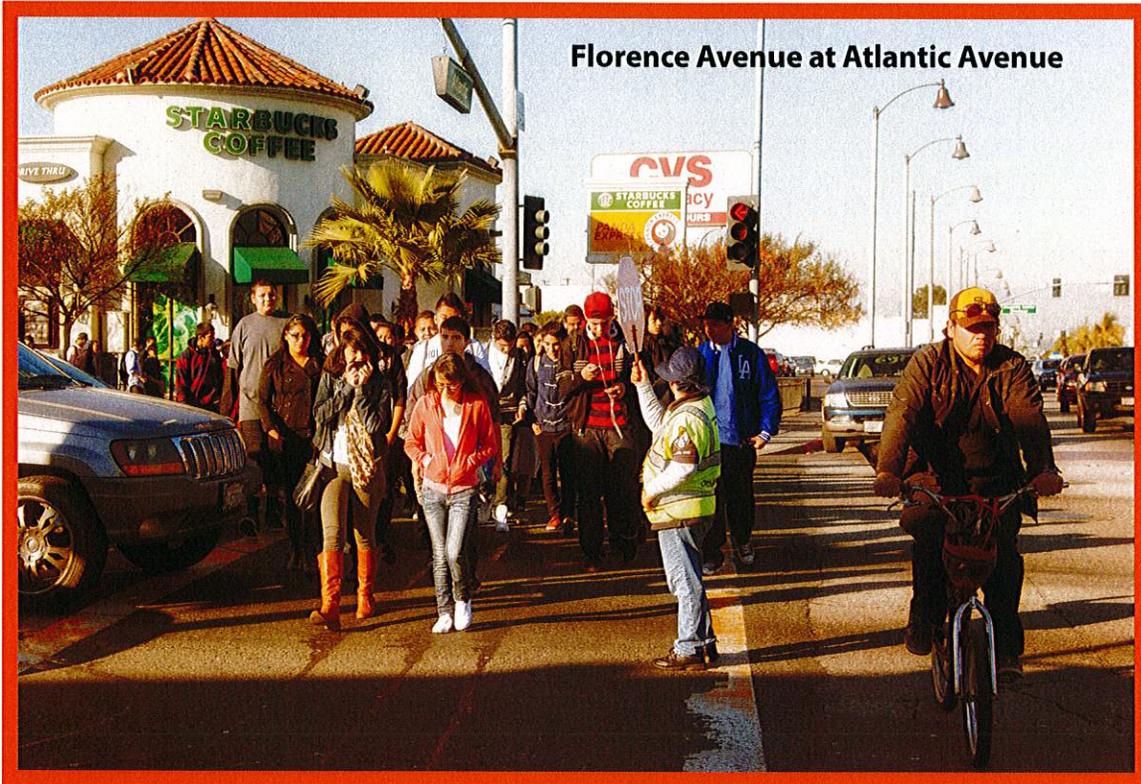
Over 4,000 students attend Bell High School. Many of them must cross Florence Avenue to and from school. Unfortunately, this is the City's busiest intersection and the location of many accidents. Recent data shows that a minimum of one child per month is hit by a car in Bell. Between 2006 and 2010, 126 children were injured or killed due to traffic accidents.



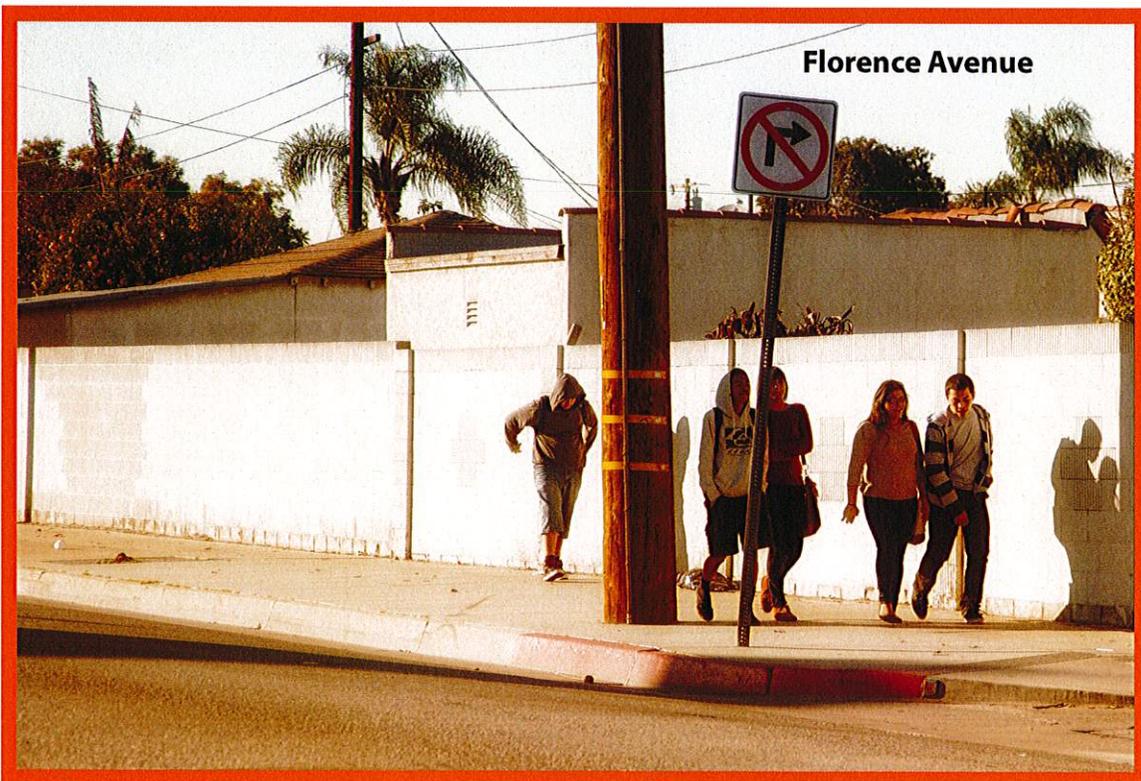
Florence Avenue at Atlantic Avenue

Because of the high traffic volume on Florence Avenue, the intersection at Atlantic Avenue is often crowded with children, adults, and cars. A moment of carelessness is all it takes to turn this scene into one of tragedy.

ATTACHMENT 2 - Project Photos

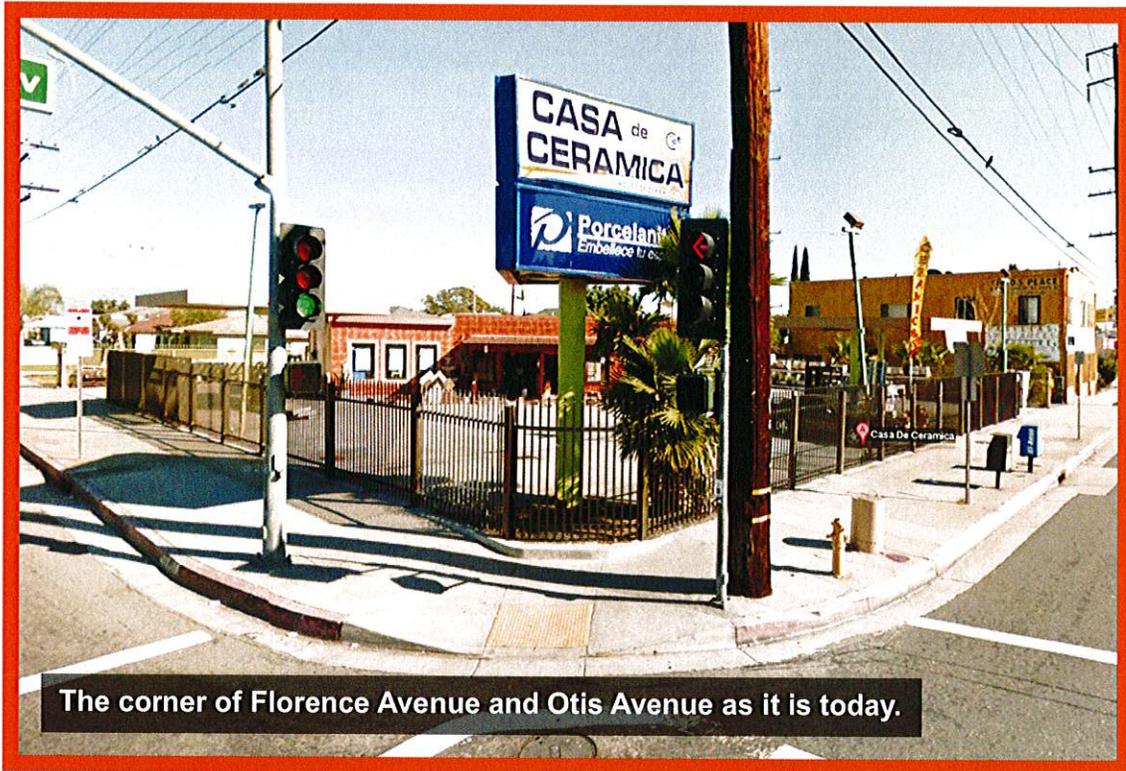


Even with the help of a crossing guard, students and bicyclists crossing Florence Avenue at Atlantic Avenue are highly vulnerable to speeding or absent-minded drivers.



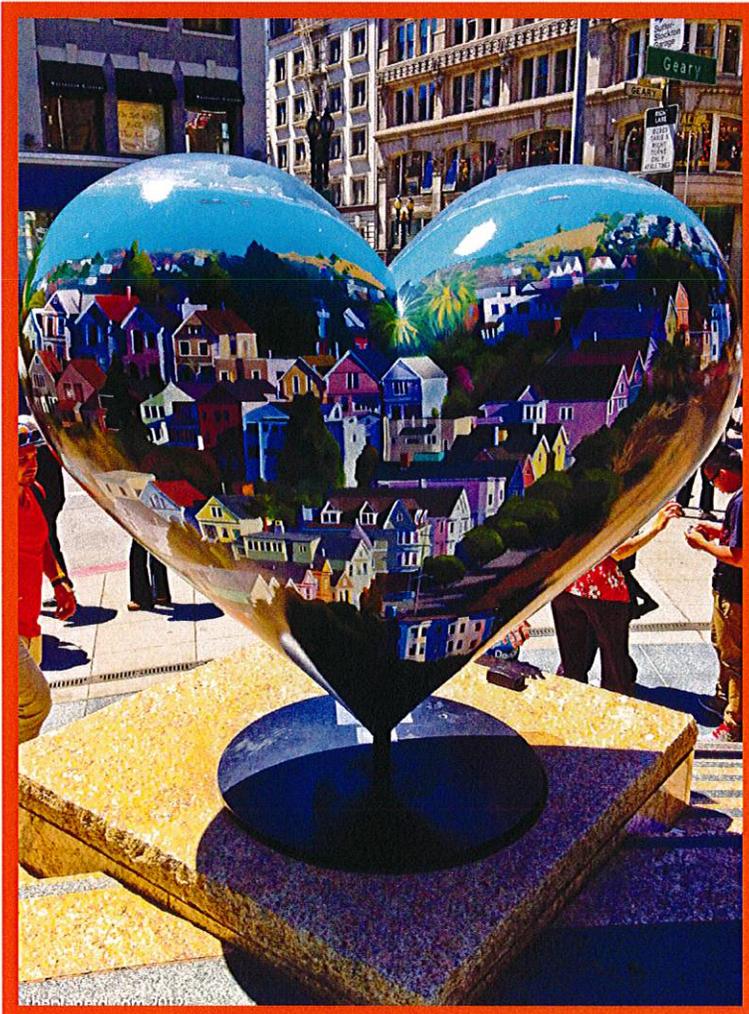
Many students have to walk long stretches of Florence Avenue going to and from school. In addition to busy intersections, students must navigate many smaller street crossings.

Corner of Florence Avenue and Otis Avenue



The concept for this corner and others throughout the project is to add a “bulb out” of beautifully landscaped area. This element, along with the new parkways and colorful trees, is not only attractive, but also enhances pedestrian safety. Street crossing distance is decreased from 90 feet to about 70 feet thanks to the “bulb outs.” They also serve as added filtration systems, reducing pollutants going into storm drains. These public improvements also have the potential to attract private development as illustrated above.

Local Art



This project will create many open, green spaces along the Florence corridor. These spaces offer great opportunities to employ local artists to create art that truly reflects this region. The art can also reflect the industrial nature of Bell and its surrounding communities by focusing on metal or other materials widely used in the commercial and industrial sector.



Intersection of Florence and Wilcox Avenues. *This photo shows a secondary node proposed for improvements. Crossing guards are paid to help students cross the street during busy school hours. Other residents benefit from this service as well.*



Typical Bus Stop on Florence Avenue. *When surveyed, residents asked for improved lighting at crosswalks and bus stops.*

ATTACHMENT 2 - Project Photos



Florence Avenue and Atlantic Avenue. *This primary node would benefit from the addition of pedestrian signal countdown timers (with sound), realigned ADA ramps, planting to soften the intersection approaches for pedestrians, and improved sidewalks and pavement marking.*

ATTACHMENT 2 - Project Photos



Intersection of Bell and Otis Avenue. Note the wide street, and lighting scaled for vehicular instead of pedestrian traffic. This crossing is a secondary node proposed for improvements at the crosswalk, including lighting, planting, and possible bulb-out curbs.

ATTACHMENT 2 - PROJECT PHOTOS



Typical Side Street Entrance to Florence Avenue. *Navigating the curb cuts can be a challenge for pedestrians.*



Florence Avenue and California Avenue. *This secondary node would be improved with pedestrian signal countdown heads, better markings, and sidewalk improvements.*

ATTACHMENT 2 - Project Photos



Florence Avenue and California Avenue. *This photo shows an example of typical challenges at pedestrian crossings on Florence Avenue: a missing countdown signal, non-distinct pavement marking , and an ADA ramp leading to middle of intersection rather than directing users into established crosswalks. The proposed project would address these challenges.*

ATTACHMENT 2 - Project Photos



Florence Avenue and Salt Lake Avenue. *The railroad crossing in the sidewalk creates challenges for mobility.*

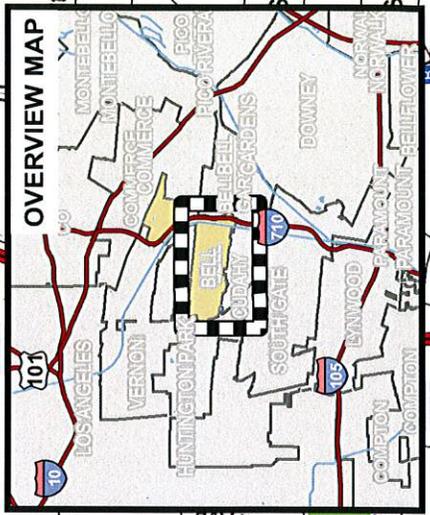
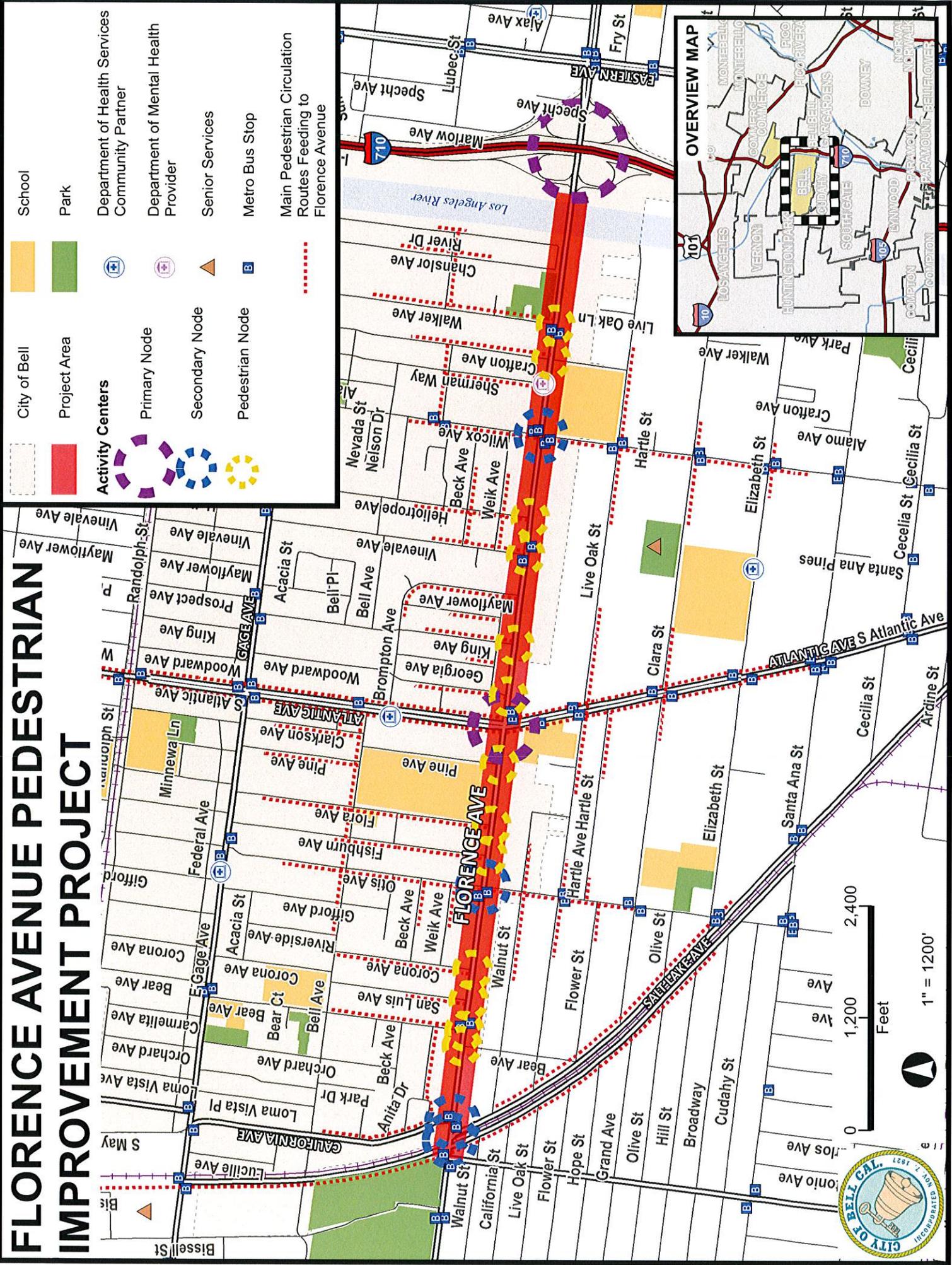
ATTACHMENT 2 - Project Photos



Florence Avenue and Salt Lake Avenue. *Pavement markings and the sidewalk would be improved at this intersection.*

Attachment 3
Project Area Map: Community Features

FLORENCE AVENUE PEDESTRIAN IMPROVEMENT PROJECT



City of Bell

Project Area

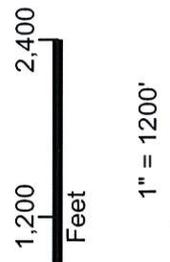
Activity Centers

- School
- Park
- Department of Health Services Community Partner
- Department of Mental Health Provider
- Senior Services
- Metro Bus Stop
- Main Pedestrian Circulation Routes Feeding to Florence Avenue

Primary Node

Secondary Node

Pedestrian Node

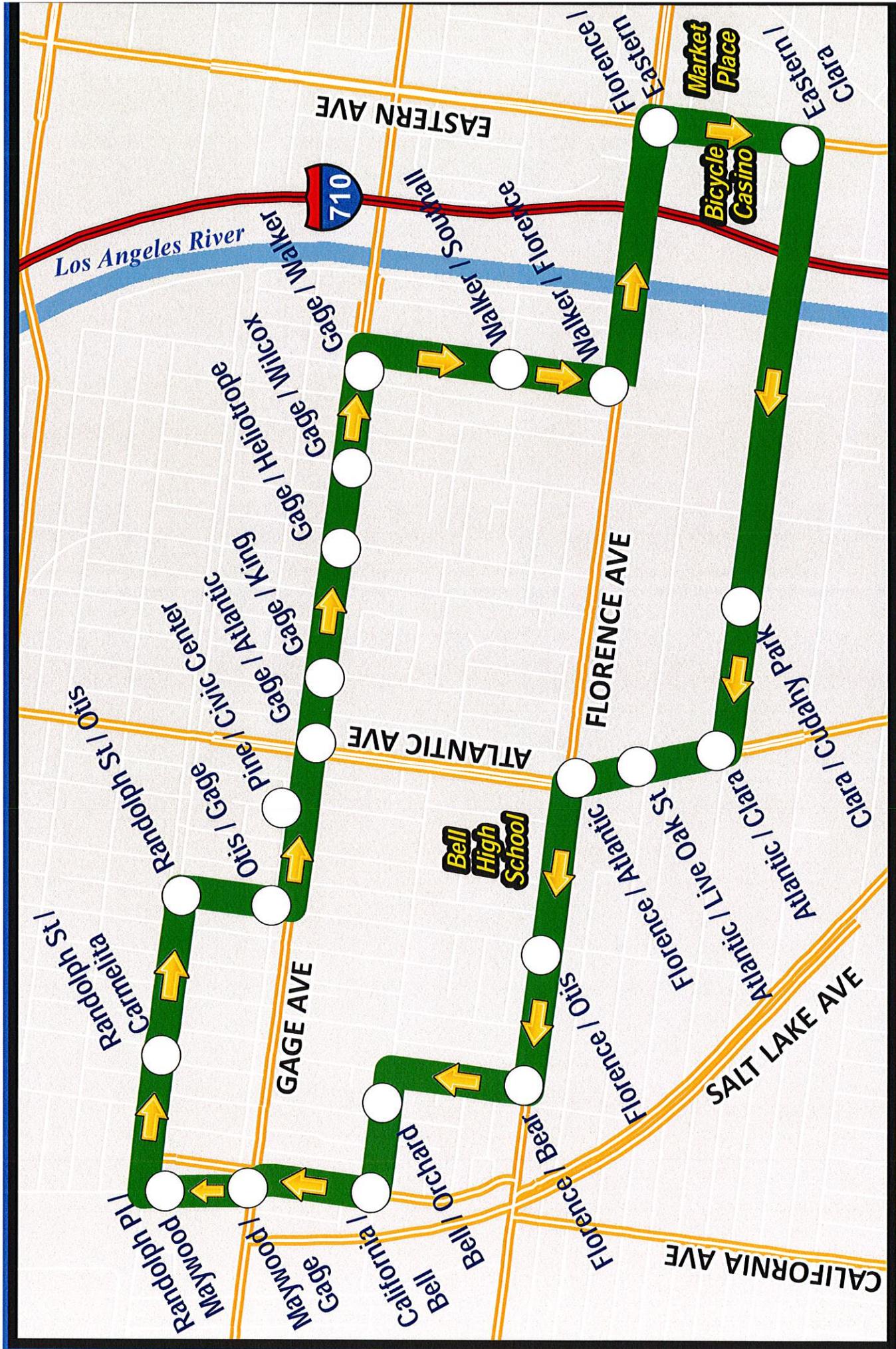


1" = 1200'



Attachment 4
La Campana Local Bus Route Map

Attachment 4: La Campana Local Bus Route Map



**Attachment 5
Safety Calculator**

ATTACHMENT 5 - Safety Calculator

ATP - LA Metro Grants

ESTIMATED ANNUAL CRASH REDUCTION BY COUNTERMEASURE TYPE

	SIGNALIZED INTERSECTION COUNTERMEASURES				UNSIGNALIZED INTERSECTION COUNTERMEASURES				ROADWAY COUNTERMEASURES				Other
	Install pedestrian countdown signal heads	Install advance stop bar before crosswalk (Bicycle Box)	Install pedestrian overpass/underpass	Install raised medians/ refuge islands	Install pedestrian crossing (new signs and markings only)	Install pedestrian crossing (with enhanced safety features/ curb extensions)	Install pedestrian signal	Install bike lanes along roadway	Install sidewalk/ pathway (to avoid walking along roadway)	Install pedestrian crossing (with enhanced safety features)	Install raised pedestrian crossing		
Applicable Countermeasure?	Y	N	N	N	N	N	N	N	N	N	N	N	
Fatal Crashes	25%	15%	75%	45%	25%	35%	55%	35%	80%	30%	35%	0%	
Injury Crashes	45												
Years of Data	5												
Total Fatal and Injury Crashes	9	0	0	0	0	0	0	0	0	0	0	0	0
Annual Crash Reduction	2.25	0	0	0	0	0	0	0	0	0	0	0	2.25

Countermeasures to Improve Bicycle and Pedestrian Safety

Project Type	Countermeasure	Opportunity to Implement using a Systematic Approach	General Values for Agency's Internal Use		Values for Caltrans Statewide Programs		
			Primary Crash Types	Range of Crash Reduction Factors	Crash Type	CRF	Service Life
INTERSECTION COUNTERMEASURES							
SIGNALIZED							
S19	Ped and Bike	Install pedestrian countdown signal heads	Pedestrian, Bicycle	25%	P & B	25	20
S20	Ped and Bike	Install Pedestrian crossing (S.I.)	Pedestrian, Bicycle	25%	P & B	25	20
S21	Ped and Bike	Install advance stop bar before crosswalk (Bicycle Box)	Pedestrian, Bicycle	35%	P & B	15	10
S22	Ped and Bike	Install pedestrian overpass/underpass	Pedestrian, Bicycle	5-100%	P & B	75	20
NON-SIGNALIZED							
NS16	Ped and Bike	Install raised medians/refuge islands (NS.I)	Pedestrian, Bicycle	30-56%	P & B	45	20
NS17	Ped and Bike	Install pedestrian crossing (new signs and markings only)	Pedestrian, Bicycle	0.25	P & B	25	10
NS18	Ped and Bike	Install pedestrian crossing (with enhanced safety features/curb extensions)	Pedestrian, Bicycle	37%	P & B	35	20
NS19	Ped and Bike	Install pedestrian signal	Pedestrian, Bicycle	15-69%	P & B	55	20
ROADWAY COUNTERMEASURES							
R36	Ped and Bike	Install bike lanes	Pedestrian, Bicycle	0-53%	P & B	35	20
R37	Ped and Bike	Install sidewalk/pathway (to avoid walking along roadway)	Pedestrian, Bicycle	65-89%	P & B	80	20
R38	Ped and Bike	Install pedestrian crossing (with enhanced safety features)	Pedestrian, Bicycle	8-56%	P & B	30	10
R 39	Ped and Bike	Install raised pedestrian crossing	Pedestrian, Bicycle	30-46%	P & B	35	10

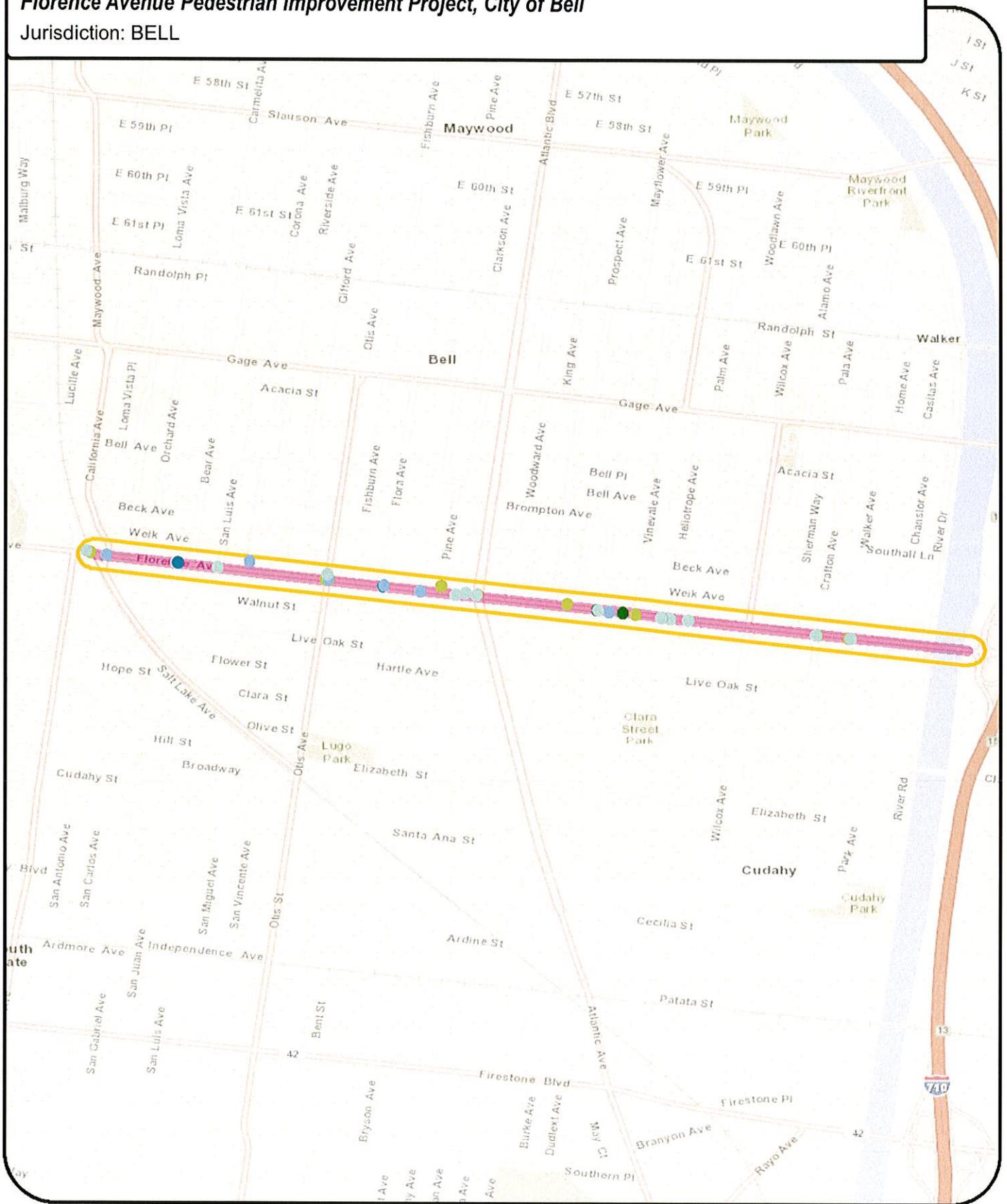
Source: "Local Roadway Safety, Version 1.1, April 2013" by Caltranshttp://www.dot.ca.gov/hq/LocalPrograms/HSP/Programs/HSP/CA_SM4LROV11.pdf

Attachment 6
Crash Location Map

Attachment 6 - 2008-2012 Bike and Pedestrian Crash Data

Florence Avenue Pedestrian Improvement Project, City of Bell

Jurisdiction: BELL



- Project Area
- Distance from Project 200 Feet
- Bicycle Collisions (by severity)**
- Injury (Severe)
- Injury (Other Visible)
- Injury (Complaint of Pain)
- Pedestrian Collisions (by severity)**
- Injury (Severe)
- Injury (Other Visible)
- Injury (Complaint of Pain)



1 in = 0.35 miles

0 1,000 2,000 Feet

Attachment 7
Letters of Support and Public Involvement Materials

Attachment 7 - Letters of Support and Public Involvement Materials

Letters of Support and Public Involvement Documentation

Letters of Support:

1. City of Huntington Park
2. City of Bell Gardens
3. City of Cudahy
4. Bell High School
5. The Bicycle Casino
6. LA Metro

Public Involvement Materials:

Public Flier Used for Pedestrian Survey Work in 2013

LOS ANGELES UNIFIED SCHOOL DISTRICT

Bell High School

4328 BELL AVENUE, BELL, CALIFORNIA 90201
TELEPHONE: (323)832-4700 FAX: (323) 560-7874



John E. Deasy, Ph.D.
Superintendent of Schools
Dr. Robert Bravo, Ed. D
Superintendent Service Learning South
Rafael L. Balderas
Principal

January 18, 2013

Metropolitan Transportation Authority
One Gateway Plaza, Parking Level P1 Mail Room
Los Angeles, CA 90012

SUBJECT: METRO CALL FOR PROJECTS GRANT APPLICATION

Dear Grant Administrator:

On behalf of Bell High School and our students, it is with great enthusiasm that I submit this letter in support of the efforts of the City of Bell to improve Florence Avenue through the Call for Projects Grant program.

I believe the proposed project and the implementation of the transportation enhancements will be beneficial for Bell and the region as a whole. Needless to say, the safety of motorists and pedestrians, such as the students who walk to and from school every day, is a top priority for our community and the area would benefit greatly from the added safety features along Florence Avenue. In addition, the project will provide for convenient access to a variety of transportation modes and will make the community a better place overall.

Collaborative efforts and strong partnerships between area cities, public agencies, community organizations, and businesses are key to the success of our community. I look forward to working cooperatively with the City of Bell in this endeavor.

If I can answer any questions or provide additional information, please do not hesitate to contact me at (323) 832-4700.

Sincerely,

Rafael L. Balderas,
Principal

MISSION: The mission of Bell High School is to educate all students to the highest degree of their abilities socially, academically, and technologically so that they become contributing members of society.... **MISIÓN:** La misión de Bell High School es educar a todos los estudiantes al grado más alto de sus habilidades social, académica, y tecnológicamente para que ellos se conviertan en miembros contribuyentes de la sociedad....



City of
HUNTINGTON PARK California

RENÉ BOBADILLA, P.E.
CITY MANAGER

January 11, 2013

Metropolitan Transportation Authority
One Gateway Plaza, Parking Level P1 Mail Room
Los Angeles, CA 90012

SUBJECT: METRO CALL FOR PROJECTS GRANT APPLICATION

Dear Grant Administrator:

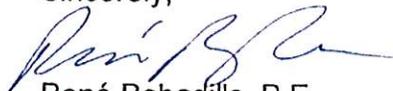
On behalf of the City of Huntington Park and our residents, it is with great enthusiasm that I submit this letter in support of the efforts of the City of Bell to implement much needed vehicular and pedestrian safety improvements to the Florence Avenue corridor.

I have reviewed the project concept proposed by Bell for the 2013 Call for Projects Grant application and believe the proposed project and the implementation of the transportation enhancements will be beneficial for Bell and the region as a whole. This corridor is heavily traveled by commuters, pedestrians, and public transit operators that would benefit from the added safety features along Florence Avenue. In addition, the project will provide for convenient access to a variety of transportation modes and is a great "quality of life" improvement to the overall area. The City of Huntington Park welcomes the opportunity to implement similar improvements on this street through our city if and when the funding opportunity arises.

Collaborative efforts and strong partnerships between area cities, public agencies, community organizations, and businesses are key to the success of our community. I look forward to working cooperatively with the City of Bell on this project.

Please call me at (323) 584-6222, if I can be of any further assistance on this matter.

Sincerely,


René Bobadilla, P.E.
City Manager



January 15, 2013

Metropolitan Transportation Authority
One Gateway Plaza, Parking Level P1 Mail Room
Los Angeles, CA 90012

SUBJECT: METRO CALL FOR PROJECTS GRANT APPLICATION

Dear Grant Administrator:

On behalf of the City of Bell Gardens and our residents I submit this letter in support of the efforts of the City of Bell to improve Florence Avenue through the Call for Projects Grant program.

I believe the proposed project and the implementation of the transportation enhancements will be beneficial for Bell and the region as a whole. Needless to say, the safety of motorists and pedestrians, such as the students who walk to and from school every day, is a top priority for our community and the area would benefit greatly from the added safety features along Florence Avenue. In addition, the project will provide for convenient access to a variety of transportation modes and will make the community a better place overall.

Collaborative efforts and strong partnerships between area cities, public agencies, community organizations, and businesses are key to the success of our community. I look forward to working cooperatively with the City of Bell in this endeavor.

If I can answer any questions or provide additional information, please do not hesitate to contact me at

Sincerely,

A handwritten signature in black ink, appearing to be "PA".

Pedro Aceituno
Mayor

c: Ali Saleh, Mayor, City of Bell
Philip Wagner, City Manager, City of Bell Gardens
Doug Willmore, City Manager, City of Bell



CITY OF CUDAHY CALIFORNIA

Incorporated November 10, 1960

P.O. Box 1007
5220 Santa Ana Street
Cudahy, California 90201-6024
(323) 773-5143
Fax: (323) 771-2072

January 11, 2013

Los Angeles County Metropolitan Transportation Authority
One Gateway Plaza
Los Angeles, CA 90012

SUBJECT: METRO CALL FOR PROJECTS GRANT APPLICATION

Dear Grant Administrator:

On behalf of the City of Cudahy and our residents, it is with great enthusiasm that I submit this letter in support of the efforts of the City of Bell to improve Florence Avenue through the Call for Projects Grant program.

The City of Bell and Cudahy is bordered by Florence Avenue. I believe the proposed project and the implementation of the transportation enhancements will be beneficial for Bell and the region as a whole. Needless to say, the safety of school children, motorists and pedestrians, is a top priority for our communities and the area would benefit greatly from the added safety features along Florence Avenue. In addition, the project will provide for convenient access to a variety of transportation modes and will make the community a better place overall.

Collaborative efforts and strong partnerships among area cities, public agencies, community organizations, and businesses are key to the success of our community. I look forward to working cooperatively with the City of Bell in this endeavor.

If I can answer any questions or provide additional information, please do not hesitate to contact me at 323-773-5143 extension 226

Sincerely,


Hector Rodriguez
City Manager, City of Cudahy

THE BICYCLE CASINO

January 17, 2013

Metropolitan Transportation Authority
One Gateway Plaza, Parking Level P1 Mail Room
Los Angeles, CA 90012

Re: **Metro Call for Projects Grant Application**

Dear Grant Administrator:

On behalf of The Bicycle Casino, it is with great enthusiasm I submit our letter of support for the efforts by the City of Bell to improve Florence Avenue through the Call for Projects Grant program.

I believe the proposed project and the implementation of the transportation enhancements will be beneficial for Bell and its surrounding neighbors. Needless to say, the safety of motorists and pedestrians, such as the students who walk to and from school every day, is a top priority for our community and the area would benefit greatly from the added safety features along Florence Avenue. In addition, the project will provide for convenient access to various transportation modes and will make the community a better place overall.

Collaborative efforts and strong partnerships between area cities, public agencies, community organizations, and businesses are key to the success of our community. I look forward to working cooperatively with the City of Bell in this endeavor.

If I can answer any questions or provide additional information, please do not hesitate to contact me at

Sincerely,


Hashem Minaiy
General Managing Partner & CEO



Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

Arthur T. Leahy
Chief Executive Officer
213.922.6888 Tel
213.922.7447 Fax
metro.net

Metro

May 12, 2014

Malcolm Dougherty
Director
California Department of Transportation
P.O. Box 942873
Sacramento, CA 94273-0001

**RE: Letter of Support for Florence Avenue Pedestrian Improvement Project
Active Transportation Program (ATP) Application**

Dear Director Dougherty:

The Los Angeles County Metropolitan Transportation Authority (Metro) is pleased to support the Active Transportation Program (ATP) funding request for the Florence Avenue Pedestrian Improvement Project in the City of Bell. Metro is committed to promoting sustainability through direct actions to implement policies, programs and projects as well as through collaboration with local jurisdictions and agencies to meet the mandate to reduce greenhouse gas emissions as well as to increase mobility, safety and the social and economic vitality of our communities.

Active transportation is a key planning priority within Metro and aligns with regional mobility strategies and plans. The 2012-2035 Regional Transportation Plan/Sustainable Communities Strategies (RTP/SCS) adopted by the Southern California Association of Governments (SCAG) identifies active transportation as a key component. In furthering regional goals, Metro has developed multiple initiatives and programs to systematically address the challenges associated with bicycling and walking trips, including the Countywide Sustainability Planning Policy, the First/Last Mile Strategic Plan, the Safe Routes to School Pilot program and through financial commitments as part of the Long Range Transportation Plan (LRTP) and the bi-annual Call for Projects process which funds local bicycle and pedestrian projects that are consistent with both local and regional plans.

We find this project to be consistent with the SCAG RTP/SCS and the LRTP and endorse the City of Bell's efforts and contribution towards a sustainable transportation future. We respectfully request a favorable consideration of the Florence Avenue Pedestrian Improvement Project for the ATP grant.

Sincerely,

Arthur T. Leahy
Chief Executive Officer



¡Ayuda a Formar el Futuro de la Ciudad de Bell!

La Ciudad de Bell esta actualizando su Plan General y queremos escuchar de usted! Por favor ayúdanos compartiendo sus sugerencias y opiniones.

Taller Comunitario

23 de Febrero

1:30-3pm

Bell Community Center
6250 Pine Ave.
Bell, CA, 90201

Por medio de nuestra encuesta electronica:
<https://www.surveymonkey.com/s/bellgeneralplan/espanol>



Más información sobre el Plan General está disponible en <http://bellgeneralplan.wordpress.com/espanol/> o llame 805-756-2285 o bellgeneralplan@gmail.com.



CRP CAL POLY
CITY & REGIONAL PLANNING
SAN LUIS OBISPO



Shape the City of Bell's Future!

The City of Bell is updating their General Plan and we want to hear from you! Please help us by sharing your thoughts and opinions.

Community Workshop

February 23, 2013

1:30-3pm

Bell Community Center
6250 Pine Ave.
Bell, CA, 90201

through an online survey:
<https://www.surveymonkey.com/s/bellgeneralplan>



For additional information about the General Plan and our work, check out <http://bellgeneralplan.wordpress.com> or call 805-756-2285 or bellgeneralplan@gmail.com.



CRP CAL POLY
CITY & REGIONAL PLANNING
SAN LUIS OBISPO



Shape the City of Bell's Future!

The City of Bell is updating their General Plan and we want to hear from you! Please help us by sharing your thoughts and opinions.

Community Workshop

February 23, 2013

1:30-3pm

Bell Community Center
6250 Pine Ave.
Bell, CA, 90201

through an online survey:

<https://www.surveymonkey.com/s/bellgeneralplan>



For additional information about the General Plan and our work, check out <http://bellgeneralplan.wordpress.com> or call 805-756-2285 or bellgeneralplan@gmail.com.



¡Ayuda a Formar el Futuro de la Ciudad de Bell!

La Ciudad de Bell esta actualizando su Plan General y queremos escuchar de usted! Por favor ayúdanos compartiendo sus sugerencias y opiniones.

Taller Comunitario

23 de Febrero

1:30-3pm

Bell Community Center
6250 Pine Ave.
Bell, CA, 90201

Por medio de nuestra encuesta electronica:
<https://www.surveymonkey.com/s/bellgeneralplan/espanol>



Más información sobre el Plan General está disponible en <http://bellgeneralplan.wordpress.com/espanol/> o llame 805-756-2285 o bellgeneralplan@gmail.com.



Attachment 8
Cost Effectiveness / Cost Benefit Methodology and Calculator Tool

Cost Effectiveness and Cost Benefit: a Primer

Background

The cost effectiveness portion of the Active Transportation Program (ATP) grant application accounts for up to ten points and must **include a description of the alternatives that were considered and a discussion of the relative costs and benefits of all the alternatives and explain why the nominated one was chosen.**

Calculate the ratio of the benefits of the project relative to both the total project cost and funds requested (i.e., $\frac{\text{Benefit*}}{\text{Total Project Cost}}$ and $\frac{\text{Benefit*}}{\text{Program Funds Requested}}$).

The following questions should be addressed in the application:

- Were there any alternatives that were considered?
- Why was this project chosen over the alternatives?
- Why were other alternatives rejected?
- Look at it from cost, mobility and safety aspect.
- Can you show that this was examined in the plan?
- Be sure to mention any match or additional match if applicable

To maximize points for cost-effectiveness it is imperative to use more than one measure. For example, when estimating cost effectiveness for infrastructure projects will:

1. Tie it to safety. Use Safety data to estimate benefits. See SCAG's active transportation page and see the links to SWITRS, TIMS, etc. Tie to the SHSP Challenge areas to (see CA 7, 8, and 13)
2. Tie it to improved air quality
3. Tie it to increased numbers of cyclists and pedestrians.

For Non-Infrastructure, Safe Routes to School, or education projects, you can use similar criteria as for infrastructure projects if you are expecting a similar outcome (e.g. an education program that would increase rates of cycling could share metrics with a bike lane project). In addition, you can estimate the number of persons you are expected to contact/educate as a performance measure.

Additionally, a list of assumptions and data sources used to quantify benefits must be included in the application.

Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool

Benefit-Cost Calculator¹

This Benefit-Cost Calculator uses the travel characteristics for an infrastructure project and provides an overall ratio of benefit-to-cost that can be directly inserted into your grant application. As per ATP guidelines, the Benefit-Cost calculator expresses the project benefits in terms of the ATP goals such as:

- Increasing mode share for pedestrians and cyclists
- Congestion reduction, pollution reductions, and energy conservations
- Increasing safety
- Fitness and health
- Equity

On the Data tab, all yellow cells will need to be populated with the available information you have about the following:

- Project type (walking or cycling)
- Existing and forecasted demand (person daily trips)
- Project length (miles)
- Pedestrian and bike crash history (if available)
- Project costs (both capital and annual operations/maintenance costs)
- Beginning Construction year
- Opening year

The benefits, in terms of active transportation and potential crash reduction, are available in the second and third tabs. These benefits will be automatically calculated based on the information provided in the first Data tab. Costs are represented in the fourth tab and consider the construction, operation, maintenance, and user costs associated with the project. Similar to the Benefits calculation, the Costs are calculated automatically using the data provided in the first tab.

The fifth tab, B-C Summary, shows the Benefit-Cost Ratio for the entire project and should be used in your grant application.

Background Information on Benefit-Cost Estimation

The following example sources for quantifying project benefits may be of assistance in writing the grant applications.

1. Evaluating Active Transport Benefits and Costs²

This report describes the impacts of policies and projects that improve active transportation conditions to increase active mode use. The report discusses the factors that affect the benefits and costs of active transportation and describing methods for quantifying/monetizing them. The report includes examples of performance indicators to evaluate the quality of walking and biking conditions, encouragement

¹File Name BC Calculator_DRAFT_041614.xlsx located at <ftp://lametro25@ftp2.deainc.com/Resource%20Library/Cost-Effectiveness%20White%20Paper%20&%20Calculator/>

²<http://vtpi.org/nmt-tdm.pdf>

Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool

strategies, active planning resources, benefit and cost categories (as outlined in the table above), monetization methods, user benefits, and more evaluation methods.

Because some impacts of active transportation are non-market goods, it's important to allocate a monetary value to safer pedestrian environments, cleaner air, and more active people. Monetization methods, as outlined in the file *MonetizationMethods_LitmanReport.jpg*³, include the following:

- User savings
- Social cost savings – that is, active improvements that reduce costs to government or businesses.
- Control costs - that is, the cost of prevention
- Contingent valuation surveys
- Revealed preference survey
- Hedonic pricing surveys
- Compensation rates

Due to the high number of grant applications that must be completed, an analysis of user savings will likely be the most appropriate monetary measure of a project's benefit.

Benefits

The following table shows the various benefits and costs of active transportation.

Table ES-1 Active Transportation Benefits and Costs

	Improved Active Travel Conditions	Increased Active Transport Activity	Reduced Automobile Travel	More Compact Communities
Potential Benefits	<ul style="list-style-type: none"> • Improved user convenience and comfort • Improved accessibility for non-drivers, which supports equity objectives • Option value • Supports related industries (e.g., retail and tourism) • Increased security 	<ul style="list-style-type: none"> • User enjoyment • Improved public fitness and health • Increased community cohesion (positive interactions among neighbors due to more people walking on local streets) which tends to increase local security 	<ul style="list-style-type: none"> • Reduced traffic congestion • Road and parking facility cost savings • Consumer savings • Reduced chauffeuring burdens • Increased traffic safety • Energy conservation • Pollution reductions • Economic development 	<ul style="list-style-type: none"> • Improved accessibility, particularly for non-drivers • Transport cost savings • Reduced sprawl costs • Openspace preservation • More livable communities • Higher property values • Improved security
Potential Costs	<ul style="list-style-type: none"> • Facility costs • Lower traffic speeds 	<ul style="list-style-type: none"> • Equipment costs (shoes, bikes, etc.) • Increased crash risk 	<ul style="list-style-type: none"> • Slower travel 	<ul style="list-style-type: none"> • Increases in some development costs

Source: "Evaluating Active Transport Benefits and Costs" by Todd Litman <http://vtpi.org/nmt-tdm.pdf>

³File located at <ftp://lametro25@ftp2.deainc.com/Resource%20Library/Cost-Effectiveness%20White%20Paper%20&%20Calculator>

Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool

User Benefits

“Improving active mode conditions (better sidewalks, crosswalks, paths, bike parking, traffic speed reductions, etc.) directly benefits *existing users* (people who would walk or bicycle even without improvements) and *new users* (people who increase walking or cycling in response to improvements).” The user benefits of improving active mode conditions, including a number of studies that find increased property values, can be evaluated based on avoided costs, contingent valuation (user surveys), and hedonic pricing.

Option Value

Option value refers to the value people may place on having an option available that they do not currently use and because walking and cycling can serve various roles in a transport system, including basic mobility for non-drivers, affordable transport, recreation and exercise, their potential option value is high.

Equity benefits

Equity benefits refer to the distribution of impacts and the degree that they are considered appropriate and fair. Equity includes horizontal equity (that is, people should bear similar costs and receive a similar share of public resources), vertical equality with regard to income, and vertical equity with regard to transportation ability and needs. Evaluating equity can be completed with an analysis of the amount spent of active transportation projects versus the percentage of users, cost allocation equity, impact compensation, and vertical equity.

Physical Fitness and Health

This robust section of the Litman report that includes a number of studies that show the health benefits of active transportation and the incremental benefits of improving existing active transportation facilities.

The report outlines other measures of impacts from active transportation, including reduced chauffeuring burdens, congestion reduction, barrier effects, roadway cost savings, parking cost savings, traffic safety impacts, security impacts, energy conservation, pollution reduction, land use impacts, and economic development.

Costs

The various costs associated with active transportation are outlined in the report.

- Facility costs
- Vehicle traffic impacts
- Equipment fuel costs
- User travel
- Time costs

The following table outlines the potential benefits and costs of active transportation.

Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool

Table 13 Summary of Active Transport Benefits and Costs

Impact Category	Description
Improve NMT Conditions	<i>Benefits from improved walking and cycling conditions.</i>
User benefits	Increased user convenience, comfort, safety, accessibility and enjoyment
Option value	Benefits of having mobility options available in case they are ever needed
Equity objectives	Benefits to economically, socially or physically disadvantaged people
Increase NMT Activity	<i>Benefits from increased walking and cycling activity</i>
Fitness and health	Improved public fitness and health
Reduced Vehicle Travel	<i>Benefits from reduced motor vehicle ownership and use</i>
Vehicle cost savings	Consumer savings from reduced vehicle ownership and use
Avoided chauffeuring	Reduced chauffeuring responsibilities due to improved travel options
Congestion reduction	Reduced traffic congestion from automobile travel on congested roadways
Reduced barrier effect	Improved active travel conditions due to reduced traffic speeds and volumes
Roadway cost savings	Reduced roadway construction, maintenance and operating costs
Parking cost savings	Reduced parking problems and facility cost savings
Energy conservation	Economic and environmental benefits from reduced energy consumption
Pollution reductions	Economic and environmental benefits from reduced air, noise and water pollution
Land Use Impacts	<i>Benefits from support for strategic land use objectives</i>
Pavement area	Can reduce road and parking facility land requirements
Development patterns	Helps create more accessible, compact, mixed, infill development (smart growth)
Economic Development	<i>Benefits from increased productivity and employment</i>
Increased productivity	Increased economic productivity by improving accessibility and reducing costs
Labor productivity	Improved access to education and employment, particularly by disadvantaged workers.
Shifts spending	Shifts spending from vehicles and fuel to goods with more regional economic value
Support specific industries	Support specific industries such as retail and tourism
Costs	<i>Costs of improving active mode conditions</i>
Facilities and programs	Costs of building non-motorized facilities and operating special programs
Vehicle traffic impacts	Incremental delays to motor vehicle traffic or parking
Equipment	Incremental costs to users of shoes and bicycles
Travel time	Incremental increases in travel time costs due to slower modes
Accident risk	Incremental increases in accident risk

Acronym: NMT = Non-Motorized Transportation

Source: "Evaluating Active Transport Benefits and Costs" by Todd Litman <http://vtpi.org/nmt-tdm.pdf>

Evaluation Matrix

Table 15 from the report outlines a matrix that can be used to begin summarizing the benefits and impacts of the project. "For example, to evaluate sidewalk improvements, indicate how much it improves walking and cycling conditions and who benefits; how much it will increase NMT activity; how much it reduces automobile travel; and how much it will change land use patterns."

Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool

Table 15 Active Transportation Evaluation Framework

	NMT Conditions	NMT Activity	Automobile Travel	Land Use
	<i>Is walking and cycling easier or safer?</i>	<i>Does walking or cycling activity increase?</i>	<i>Does automobile travel decline?</i>	<i>Does it strategic meet planning objectives?</i>
Describe impact				
How much				
Who is affected				

Acronym: NMT = Non-Motorized Transportation

Source: "Evaluating Active Transport Benefits and Costs" by Todd Litman <http://vtpi.org/nmt-tdm.pdf>

Quantifying Project Benefits and Costs

Another resource provided in the report is a series of tables that can be used to quantify benefits and costs. These tables have been combined into a single reference table below. Costs are presented in mills which are thousandths of a dollar.

Active Transportation – Benefits and Costs

Impact Category	Urban Peak	Urban Off-Peak	Rural	Overall Average	Comments
BENEFITS					
Improved Active Travel Conditions - Table 16 Improving Walking and Cycling Conditions (Per Person Mile)					
User benefits	\$0.250	\$0.250	\$0.250	\$0.250	The greater the improvement, the greater this value.
Option value	\$.035	\$.035	\$.035	\$.035	Half of diversity value*.
Equity objectives	\$.035	\$.035	\$.035	\$.035	Half of diversity value*. Higher if a project significantly benefits disadvantaged people.
Increased Active Travel Activity - Table 17 Improving Walking and Cycling Conditions (Per Person Mile)					
Fitness and health – walking	\$0.500	\$0.500	\$0.500	\$0.500	Benefits are larger if pedestrian facilities attract at-risk users.
Fitness and health – cycling	\$0.200	\$0.200	\$0.200	\$0.200	Benefits are larger if cycling facilities attract at-risk users.
Reduced Automobile Travel - Table 18 Typical Values – Reduced Motor Vehicle Travel (Per Reduced Vehicle Mile)					
Vehicle cost savings	\$0.250	\$0.225	\$0.20	\$0.225	This reflects vehicle operating cost savings. Larger savings result if some households can reduce vehicle ownership costs.
Avoided chauffeuring driver's time	\$0.700	\$0.600	\$0.500	\$0.580	Based on \$9.00 per hour driver's time value.
Congestion reduction	\$0.200	\$0.050	\$0.010	\$0.060	
Reduced barrier effect	\$0.010	\$0.010	\$0.010	\$0.010	
Roadway cost savings	\$0.050	\$0.050	\$0.030	\$0.042	
Parking cost savings	\$0.600	\$0.400	\$0.200	\$0.360	Parking costs are particularly high for commuting and lower for errands which require less parking per trip.
Energy conservation	\$0.030	\$0.030	\$0.030	\$0.030	
Pollution reductions	\$0.100	\$0.050	\$0.010	\$0.044	

Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool

Active Transportation – Benefits and Costs

Impact Category	Urban Peak	Urban Off-Peak	Rural	Overall Average	Comments
Land Use Impacts - Table 19 More Walkable and Bikeable Community (Per Measure Unknown)					
Reduced pavement	\$0.010	\$0.005	\$0.001	\$0.002	Specific studies should be used when possible.
Increased accessibility	\$0.080	\$0.060	\$0.030	\$0.051	Specific studies should be used when possible.
COSTS					
Active Transport Costs - Table 20 Typical Values – Walking and Cycling Costs (Per Person Mile)					
Facilities and programs					Highly variable.
Vehicle traffic impacts					Highly variable.
Equipment	\$0.080	\$0.070	\$0.060		Depends on assumption, such as whether food consumption is a benefit or cost.
Travel time					Highly variable depending on conditions and user preferences.
Accident risk					

* The “Transport Diversity Value” chapter of *Transportation Cost and Benefit Analysis* (Litman 2009) estimates that improvements in affordable alternative modes can be valued at 7¢ per passenger-mile, although this value can vary significantly depending on conditions and assumptions. Source: “Evaluating Active Transport Benefits and Costs” by Todd Litman <http://vtpi.org/nmt-tdm.pdf>

2. Local Roadway Safety Manual for California Local Road Owners⁴

This report provides a framework for identifying and analyzing locations with roadway safety issues. It encourages a routine and systematic assessment of the roadway safety to proactively identify areas with high crash risks and countermeasures that can address or improve the conditions leading to crashes.

The process is based on a quantitative analysis of available crash data but also encourages a qualitative assessment of conditions that might lead to crashes. The number of bicycle and pedestrian crashes for roadway system is relatively low, which can make quantitative assessments more difficult. Furthermore, the specific locations are somewhat random and do not necessarily indicate that these sites carry higher risk than other sites. A qualitative assessment of the facilities from the perspective of pedestrians and bicyclists can identify system characteristics that do not support safe travel for these vulnerable users.

The report lists countermeasures that can improve the safety of pedestrians and bicyclists on the roadway network. Appendix B of the report provides additional information about how the countermeasures are estimated. These measures are listed in the following table.

Countermeasures to Improve Bicycle and Pedestrian Safety

	Project Type	Countermeasure	Opportunity to Implement using a Systematic Approach	General Values for Agency’s Internal Use		Values for Caltrans Statewide Programs		
				Primary Crash Types	Range of Crash Reduction Factors	Crash Type	CRF	Service Life
SIGNALIZED INTERSECTION COUNTERMEASURES								
S19	Ped and Bike	Install pedestrian countdown signal heads	Very High	Pedestrian, Bicycle	25%	P & B	25	20

⁴ http://www.dot.ca.gov/hq/LocalPrograms/HSIP/Documents/hsip/CA_SM4LROv11.pdf

Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool

	Project Type	Countermeasure	Opportunity to Implement using a Systematic Approach	General Values for Agency's Internal Use		Values for Caltrans Statewide Programs		
				Primary Crash Types	Range of Crash Reduction Factors	Crash Type	CRF	Service Life
S20	Ped and Bike	Install Pedestrian crossing (S.I.)	High	Pedestrian, Bicycle	25%	P & B	25	20
S21	Ped and Bike	Install advance stop bar before crosswalk (Bicycle Box)	Very High	Pedestrian, Bicycle	35%	P & B	15	10
S22	Ped and Bike	Install pedestrian overpass/underpass	Low	Pedestrian, Bicycle	5-100%	P & B	75	20
NON-SIGNALIZED INTERSECTION COUNTERMEASURES								
NS16	Ped and Bike	Install raised medians/refuge islands (NS.I)	Medium	Pedestrian, Bicycle	30-56%	P & B	45	20
NS17	Ped and Bike	Install pedestrian crossing (new signs and markings only)	High	Pedestrian, Bicycle	25%	P & B	25	10
NS18	Ped and Bike	Install pedestrian crossing (with enhanced safety features/curb extensions)	Medium	Pedestrian, Bicycle	37%	P & B	35	20
NS19	Ped and Bike	Install pedestrian signal	Low	Pedestrian, Bicycle	15-69%	P & B	55	20
ROADWAY COUNTERMEASURES								
R36	Ped and Bike	Install bike lanes	High	Pedestrian, Bicycle	0-53%	P & B	35	20
R37	Ped and Bike	Install sidewalk/pathway (to avoid walking along roadway)	Medium	Pedestrian, Bicycle	65-89%	P & B	80	20
R38	Ped and Bike	Install pedestrian crossing (with enhanced safety features)	Medium	Pedestrian, Bicycle	8-56%	P & B	30	10
R39	Ped and Bike	Install raised pedestrian crossing	Medium	Pedestrian, Bicycle	30-46%	P & B	35	10

Source: "Local Roadway Safety, Version 1.1, April 2013" by Caltrans
http://www.dot.ca.gov/hq/LocalPrograms/HSIP/Documents/hsip/CA_SM4LROv11.pdf

If the project in the grant application is consistent with any of these countermeasures, then it can be considered to improve safety.

The document provides a process for calculating a benefit/cost ratio for safety improvement investments. The method (formulas from Appendix D of the report) is shown below. Current crash costs to be used in the equation can be found on Caltrans website for [Economic Parameters](#)⁵.

⁵ http://www.dot.ca.gov/hq/tpp/offices/eab/benefit_cost/LCBCA-economic_parameters.html

Safety Index Calculation Method

$$1) \text{Benefit (Annual)} = \frac{CRF \times \sum_{S=0}^4 (N_S \times CC_S)}{Y}$$

- *CRF*: Crash reduction factor in each countermeasure
- *S*: Severity (0:PDO, 1:Minor Injury, 2:Injury, 3:Severe Injury, 4:Fatal)
- *N_S*: Number of Crashes, in severity levels, related to selected countermeasure
- *Y*: Crash data time period (Year)
- *CC_S*: Crash costs in severity levels

Crash Severity **	Crash Cost *
Fatality (K)	\$4,008,900
Severe/Disabling Injury (A)	\$216,000
Evident Injury – Other Visible (B)	\$79,000
Possible Injury – Complaint of Pain (C)	\$44,900
Property Damage Only (O)	\$7,400

* The letters in parenthesis (K, A, B, C and O) refer to the KABCO scale; it is commonly used by law enforcement agencies in their crash reporting efforts and is further documented in the HSM.

** Highway Safety Manual (HSM), First Edition, 2010.

$$2) \text{Benefit (Life)} = \text{Benefit (annual)} \times \text{Years of service life}$$

$$3) \text{Benefit/Cost Ratio (each countermeasure): } \text{Benefit Cost Ratio}_{(CM)} = \frac{\text{Benefit (Life)}_{(CM)}}{\text{Total Project Cost}_{(CM)}}$$

$$4) \text{Benefit/Cost Ratio (project): } \text{Benefit/Cost Ratio (Project)} = \frac{\sum_{CM=1}^3 \text{Benefit (Life)}_{(CM)}}{\text{Total Project Cost}}$$

As noted previously, the process is based on calculating the benefits based on a potential reduction in the number of crashes for a given facility. Because many facilities have few bicycle or pedestrian crashes, it may not be possible to calculate a ratio.

3. Economic Analysis Primer⁶

This report is “intended to provide a foundation for understanding the role of economic analysis in highway decision making.” Among the topics discussed is how to integrate the principles of economic analysis into the calculation of the life cycle benefits and costs of transportation infrastructure.

⁶ <http://www.fhwa.dot.gov/infrastructure/asstmgmt/primer.pdf>

Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool

The document explains how important it is to calculate the net present value (NPV) of all benefits and costs over the life cycle of a project for use in calculating the benefit-cost ratio for a project. The key assumption in this calculation is the discount rate that is used to estimate the future value of a project feature in terms of present day value. The Caltrans website currently lists the discount rate at 4.0 percent ([Economic Parameters⁷](#)).

This paper also provides guidelines about what should be included as benefits (e.g. the numerator or top half of the B/C equation) and what should be included as costs (e.g. the denominator or bottom half of the B/C equation). “The Federal Highway Administration (FHWA) recommends that only the initial agency investment cost be included in the denominator of the ratio.” All other costs should be treated as negative benefits (i.e., subtracted from the estimate of benefits). Following this guidance allows for consistent project comparisons.

4. Guidelines for Analysis of Investments in Bicycle Facilities (TRB 2006)

8

The third chapter of this report, “Benefits Associated with the Use of Bicycle Facilities” is most salient to the cost effectiveness measurement. The purpose of this section of the report is twofold: The first is to review and interpret existing literature evaluating the economic benefits of bicycle facilities. The second is to suggest methods and strategies to create guidelines.

Because this is a literature review, it does not offer any specific information in addition to what we have outlined in previous sections of this white paper. That said, it outlines the following questions that must be answered to estimate biking benefits:

What is the geographic scale or type of facility?

“The first consideration pertains to the geographic scale of the inquiry or facility in question. Past work has analyzed the benefits of a specific greenway or active recreation trail, a specific trunk roadway, a region, an entire city, or an entire state. Some studies focus on a system of bicycle trails across the state. Others focus on the benefits of on-road versus off-road facilities. Different geographic scales demand different data requirements, ranging from individual counts of a facility to aggregated counts or numbers for a specific area extrapolated to an entire state.”

Who benefits from the facility?

- One report identifies three user groups impacted by cycling facilities: road users, non-road users (e.g., occupants of adjacent properties), and planning/financing agencies.
- The first group of road users includes all users, cyclists, motorists, pedestrians, horse riders, and public transport.
- Alternatively, some studies divide the benefits of non-motorized travel into internal versus external benefits.
 - Internal benefits include the financial savings, health benefits, increased mobility, and overall enjoyment for cyclists.

⁷ http://www.dot.ca.gov/hq/tpp/offices/eab/benefit_cost/LCBCA-economic_parameters.html

⁸ http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_552.pdf

Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool

- External benefits include the benefits to others, such as reduced (a) congestion, (b) road and parking facility expenses, (c) motor vehicle crashes, (d) air and noise pollution, and (e) natural resource consumption.

Which benefits apply to the facility?

- Which benefits are most important? Is it those that are accrued, those in which the sponsoring agency is primarily interested, or those for which there is available data?
- Reduced pollution, congestion, capital investments
- Increased livability, health, well-being, and quality of life?
- One study suggests seven benefits to consider when estimating the economic value of walking: livability, accessibility and transportation costs, health, external costs, efficient land use, economic development, and equity.
- Focusing just on greenways, there are six valued benefits: recreation, health/fitness, transportation, ecological biodiversity and services, amenity visual/aesthetic, and economic development

What units and methods are used?

Measuring benefits requires a unit by which each characteristic can be measured. "These range from simple counts (e.g., reduction of casualties) to decibels to monetary amounts (e.g., vehicle operating costs) to descriptive measures (e.g., overall convenience). More often, general measuring techniques are offered. For example, it is suggested that hedonic pricing could be used to measure livability or amenity visual/aesthetic values; economic input/output models could describe economic development; time could be used to measure transportation savings; and surveys of different kinds (e.g., contingent valuation) could be used to capture a host of values or benefits."

5. Costs for Bicycle and Pedestrian Infrastructure Improvements⁹

This report provides estimated capital costs for various bicycle and pedestrian infrastructure improvements such as crosswalks, bike lanes, multi-use paths, etc. While these cost estimates should already be provided by each municipality, this report offers an easy way to verify or cross-check provided cost estimates.

⁹ http://katana.hsrb.unc.edu/cms/downloads/Countermeasure%20Costs_Report_Nov2013.pdf

Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool

F7634

Commute Mode Share

Source: US Census, American Community Survey 5 Year 2008 - 2012, table B08301 (ModesShare_byProject.xlsx)

Row Labels	PublicTran	Sum of Bicycle	Sum of Walk
F7634	8.70%	0.80%	3.40%

Estimated Total Mode Share

From methodology cited in "Simple Techniques for Forecasting Bicycle and Pedestrian Demand" - Greg Griffin, AICP

Total pedestrian mode share = $2.2 * (\text{pedestrian commute mode share})$
 Total bicycle mode share = $0.3\% + 1.5 * (\text{bicycle commute share})$

	Est. total bike mode share (%)	Est. total ped. mode share (%)
F7634	1.50	7.48

Existing (2012) ADT from SCAG model output

Assume 4 hour PM peak is 30% of ADT

PM Peak Vol (3-7pm)	Link Volume	Link Distance (mi)	AAWT
	11733	0.21	38991
	12029	0.11	44438
	9830	0.21	30607
	8268	0.5	24763
	10448	0.15	34035
	12235	0.07	33012
	9618	0.26	26645

Weighted Average 9,874
Estimated 2012 ADT 33,000
 Person trips 36300 Assume 1.1 persons per vehicle

Population, Households, Employment

From 04-TAZLandUsebyProject.xlsx

Buffer	Sum of POP2008	Sum of Hholds08	Sum of Emp08	Sum of Pop2020	Sum of EMP2020	Sum of HHL2020	Sum of pop2035	Sum of Hhid2035	Sum of EMP2035
0.5 mile	51,053	12,611	7,764	53,087	13,040	8,107	55,677	13,514	8,420
1 mile	128,852	31,042	19,192	134,280	32,063	19,855	141,879	33,379	20,612
3 miles	446,954	111,034	175,877	466,965	115,349	179,748	503,085	122,608	185,713

Potential Pedestrian Trips based on influence area population (0.5 mile)

2009 NHTS Percent of Person Trips by Mode

Walk	10.4
Bike (Other)	4.2
Transit	1.9
Daily trips per person	3.79

Assume influence area of 0.5 mile for pedestrian trips, 3 miles for bike trips

Estimated Potential Daily Trips W/in Influence Area by Mode

	2008	2020	2035
Pedestrian (0.5 Mile)	20,123	20,925	21,945
Bike (3 Mile)	71,146	74,332	80,081

Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool

Future (2035) ADT from SCAG model output Assume 4 hour PM peak is 30% of ADT

PM Peak Vol (3-7pm) - weighted average by link distance	
Link Volume	Link Distance (mi)
12429	0.21
11437	0.3
12514	0.11
8929	0.5
10762	0.15

AAWT	
42336	
30500	
47305	
27761	Outlier, remove from avg.
35282	Less than existing, remove from avg.
	Less than existing, remove from avg.
	Less than existing, remove from avg.

Weighted Average 10,627
Estimated 2035 ADT 35,500
 Person trips 39050 Assume 1.1 persons per vehicle

SUMMARY TABLE

Existing Year Vehicular ADT	
ADT	33,000
Year	2012

Forecast Year Vehicular ADT	
ADT	35,500
Year	2035

Existing Demand (Daily Person Trips)	
	YEAR
No Build	3,630
Build	3,760
	Increase of 2-5% due to improvements
Forecast Demand (Daily Person Trips)	
	YEAR
No Build	3,910
Build	4,050
	Increase of 2-5% due to improvements

Notes:

Improvements include bus shelter shades, street trees, curb extensions, crosswalk improvements, pedestrian countdown timers. These improvements are primarily safety improvements which may increase pedestrian volumes 2-5%. The corridor is already heavily used by children walking to school, commuters, and transit users in the area.

PROJECT DESCRIPTION

Please note that only yellow cells should be modified

Name of Project

Project Location

Type of Project Enter: Walking (for Sidewalks or Multi-Use Path) or Cycling

Current Year

TRAVEL CHARACTERISTICS

	No Build	Build	Year	Annual Person Miles No Build	Build	Increased Person Miles	Reduced Vehicle Miles
Existing Demand (Daily Person Trips)	<input type="text" value="3630"/>	<input type="text" value="3760"/>	<input type="text" value="2012"/>	<input type="text" value="662,475"/>	<input type="text" value="686,200"/>	<input type="text" value="23,725"/>	<input type="text" value="71,175"/>
Forecast Demand (Daily Person Trips)	<input type="text" value="3910"/>	<input type="text" value="4050"/>	<input type="text" value="2035"/>	<input type="text" value="713,575"/>	<input type="text" value="739,125"/>	<input type="text" value="25,550"/>	<input type="text" value="76,650"/>
Length (miles)	<input type="text" value="0.5"/>			IPM:RVM ratio		<input type="text" value="1"/>	<input type="text" value="3"/>

PED/BIKE CRASH HISTORY

Crash Severity	Number of B/P Crashes	Existing Year Vehicular ADT	Forecast Year Vehicular ADT	Crash Countermeasures (Safety Improvements) Includes?	Project Includes?
Fatal Crashes	<input type="text" value="0"/>	<input type="text" value="33,000"/>	<input type="text" value="2012"/>	pedestrian countdown signal heads	<input type="text" value="Y"/>
Injury Crashes (Total)	<input type="text" value="45"/>			pedestrian crossing	<input type="text" value="N"/>
Injury Type A (severe)	<input type="text" value="5"/>			advance stop bar before crosswalk (bicycle box)	<input type="text" value="N"/>
Injury Type B (moderate)	<input type="text" value="13"/>			pedestrian overpass/ underpass	<input type="text" value="N"/>
Injury C (minor)	<input type="text" value="27"/>			raised medians/ refuge islands	<input type="text" value="N"/>
Property Damage Only (PDO)	<input type="text" value="27"/>			pedestrian crossing (new signs and markings only)	<input type="text" value="N"/>
Total	<input type="text" value="45"/>			pedestrian crossing (enhanced safety features/ curb extensions)	<input type="text" value="N"/>
Crash Analysis Period (Minimum 5 years)	<input type="text" value="5"/>			pedestrian signal	<input type="text" value="N"/>
				bike lanes	<input type="text" value="N"/>
				sidewalk/ pathway (to avoid walking along roadway)	<input type="text" value="N"/>
				pedestrian crossing (with enhanced safety features)	<input type="text" value="N"/>
				raised pedestrian crossing	<input type="text" value="N"/>

PROJECT COSTS

Capital Investment	\$ <input type="text" value="1,924,000"/>	Estimated Year Construction Begins	<input type="text" value="2016"/>	Discount Rate Used to calculate Net Present Value	<input type="text" value="4.0%"/>
Annual Operations/Maintenance Costs	<input type="text"/>	Estimated Opening Year	<input type="text" value="2017"/>		

Requested funds: \$ 1,924,000
Total Cost: \$ 2,405,000

LA Metro says do not include operations/maintenance costs

Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool

ESTIMATED BENEFITS FROM ACTIVE TRANSPORTATION

Year	Actual Year	Increased Person Miles		Reduced Vehicle Miles (RVM)		Increased Active Travel Activity		Land Use Impacts		Reduced Automobile Travel							Net Present Value		
		IPM	RVM	IPM	RVM	Fitness and health – walking	Fitness and health – cycling	Reduced pavement	Vehicle cost savings	Congestion reduction	Reduced barrier effect	Roadway cost savings	Parking cost savings	Energy conservation	Pollution reductions	Combined Benefits			
CONSTRUCTION																			
1	2016																		
2	0																		
3	0																		
4	0																		
5	0																		
OPENING YEAR																			
1	2017	24,120	72,360	\$12,060	\$0	\$16,281	\$4,342	\$724	\$3,039	\$26,050	\$2,171	\$3,184	\$70,020	\$62,248					
2	2018	24,199	72,598	\$12,100	\$0	\$16,335	\$4,356	\$726	\$3,049	\$26,135	\$2,178	\$3,194	\$70,251	\$60,051					
3	2019	24,279	72,837	\$12,139	\$0	\$16,388	\$4,370	\$728	\$3,059	\$26,221	\$2,185	\$3,205	\$70,482	\$57,931					
4	2020	24,358	73,075	\$12,179	\$0	\$16,442	\$4,385	\$731	\$3,069	\$26,307	\$2,192	\$3,215	\$70,712	\$55,885					
5	2021	24,438	73,314	\$12,219	\$0	\$16,496	\$4,399	\$733	\$3,079	\$26,393	\$2,199	\$3,226	\$70,943	\$53,911					
6	2022	24,517	73,552	\$12,259	\$0	\$16,549	\$4,413	\$736	\$3,089	\$26,479	\$2,207	\$3,236	\$71,174	\$52,006					
7	2023	24,597	73,791	\$12,298	\$0	\$16,603	\$4,427	\$738	\$3,099	\$26,565	\$2,214	\$3,247	\$71,405	\$50,168					
8	2024	24,676	74,029	\$12,338	\$0	\$16,657	\$4,442	\$740	\$3,109	\$26,650	\$2,221	\$3,257	\$71,635	\$48,394					
9	2025	24,756	74,267	\$12,378	\$0	\$16,710	\$4,456	\$743	\$3,119	\$26,736	\$2,228	\$3,268	\$71,866	\$46,683					
10	2026	24,835	74,506	\$12,418	\$0	\$16,764	\$4,470	\$745	\$3,129	\$26,822	\$2,235	\$3,278	\$72,097	\$45,031					
11	2027	24,915	74,744	\$12,457	\$0	\$16,817	\$4,485	\$747	\$3,139	\$26,908	\$2,242	\$3,289	\$72,327	\$43,438					
12	2028	24,994	74,983	\$12,497	\$0	\$16,871	\$4,499	\$750	\$3,149	\$26,994	\$2,249	\$3,299	\$72,558	\$41,901					
13	2029	25,074	75,221	\$12,537	\$0	\$16,925	\$4,513	\$752	\$3,159	\$27,080	\$2,257	\$3,310	\$72,789	\$40,417					
14	2030	25,153	75,459	\$12,577	\$0	\$16,978	\$4,528	\$755	\$3,169	\$27,165	\$2,264	\$3,320	\$73,020	\$38,986					
15	2031	25,233	75,698	\$12,616	\$0	\$17,032	\$4,542	\$757	\$3,179	\$27,251	\$2,271	\$3,331	\$73,250	\$37,605					
16	2032	25,312	75,936	\$12,656	\$0	\$17,086	\$4,556	\$759	\$3,189	\$27,337	\$2,278	\$3,341	\$73,481	\$36,272					
17	2033	25,392	76,175	\$12,696	\$0	\$17,139	\$4,570	\$762	\$3,199	\$27,423	\$2,285	\$3,352	\$73,712	\$34,987					
18	2034	25,471	76,413	\$12,736	\$0	\$17,193	\$4,585	\$764	\$3,209	\$27,509	\$2,292	\$3,362	\$73,942	\$33,746					
19	2035	25,551	76,652	\$12,775	\$0	\$17,247	\$4,599	\$767	\$3,219	\$27,595	\$2,300	\$3,373	\$74,173	\$32,550					
20	2036	25,630	76,890	\$12,815	\$0	\$17,300	\$4,613	\$769	\$3,229	\$27,680	\$2,307	\$3,383	\$74,404	\$31,395					

Source: "Evaluating Active Transport Benefits and Costs" by Todd Litman
<http://vtpi.org/nmt-tdm.pdf>

Discount Rate 4.0%

$$\text{Present Value} = \text{Future Value} \cdot (\text{in Constant Dollars}) / (1 + \text{Real Discount Rate})^{\wedge} \text{Year}$$

Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool

ESTIMATED BENEFITS FROM POTENTIAL CRASH REDUCTION

Year	Actual Year	ADT	SIGNALIZED INTERSECTION COUNTERMEASURES			UNSIGNALIZED INTERSECTION COUNTERMEASURES			ROADWAY COUNTERMEASURES					Maximum Benefit from Single Countermeasure	Net Present Value
			Install Pedestrian crossing	Install advance stop bar before crosswalk (Bicycle Box)	Install pedestrian overpass/underpass	Install raised medians/ refuge islands	Install pedestrian crossing (new signs and markings only)	Install pedestrian crossing (with enhanced safety features/ curb extensions)	Install pedestrian signal	Install bike lanes	Install sidewalk/ pathway (to avoid walking along roadway)	Install pedestrian crossing (with enhanced safety features)	Install raised pedestrian crossing		
Year	ADT	Y	N	N	N	N	N	N	N	N	N	N	N	N	Value
1	2016														
2	0														
3	0														
4	0														
5	0														
OPENING YEAR															
1	2017	33,540	\$165,965	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$165,965
2	2018	33,649	\$166,504	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$166,504
3	2019	33,758	\$167,043	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$167,043
4	2020	33,867	\$167,582	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$167,582
5	2021	33,976	\$168,121	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$168,121
6	2022	34,085	\$168,661	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$168,661
7	2023	34,194	\$169,200	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$169,200
8	2024	34,303	\$169,739	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$169,739
9	2025	34,412	\$170,278	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$170,278
10	2026	34,521	\$170,817	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$170,817
11	2027	34,629	\$171,356	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$171,356
12	2028	34,738	\$171,895	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$171,895
13	2029	34,847	\$172,434	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$172,434
14	2030	34,956	\$172,973	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$172,973
15	2031	35,065	\$173,512	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$173,512
16	2032	35,174	\$174,052	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$174,052
17	2033	35,283	\$174,591	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$174,591
18	2034	35,392	\$175,130	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$175,130
19	2035	35,501	\$175,669	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$175,669
20	2036	35,610	\$176,208	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$176,208

	Fatal	Injury	Injury A	Injury B	Injury C	PDO	Total	Years
Frequency	0	5	13	27	0	0	45	5
Cost/Crash	\$4,008,900	\$80,000	\$216,000	\$79,000	\$44,900	\$7,400	\$663,860	
Annual Cost	\$0	\$0	\$216,000	\$205,400	\$242,460	\$0	\$663,860	

Discount Rate 4.0%

Source: "Local Roadway Safety, Version 1.1, April 2013" by Caltrans
http://www.dot.ca.gov/hq/LocalPrograms/HSP/Documents/hsp/ca_sm4LRov1.1.pdf

Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool
ESTIMATED COSTS FOR PROJECT

Year	Actual Year	Increased Person Miles (IPM)	Construction & OM Costs	User Costs		Combined Costs	Net Present Value
				0.080	IPM		
CONSTRUCTION							
1	2016		\$1,924,000			\$1,924,000	\$1,778,846
2	0		\$0			\$0	\$0
3	0		\$0			\$0	\$0
4	0		\$0			\$0	\$0
5	0		\$0			\$0	\$0
OPENING YEAR							
1	2017	24,120	\$0	\$1,930	\$1,930	\$1,930	\$1,715
2	2018	24,199	\$0	\$1,936	\$1,936	\$1,936	\$1,655
3	2019	24,279	\$0	\$1,942	\$1,942	\$1,942	\$1,596
4	2020	24,358	\$0	\$1,949	\$1,949	\$1,949	\$1,540
5	2021	24,438	\$0	\$1,955	\$1,955	\$1,955	\$1,486
6	2022	24,517	\$0	\$1,961	\$1,961	\$1,961	\$1,433
7	2023	24,597	\$0	\$1,968	\$1,968	\$1,968	\$1,383
8	2024	24,676	\$0	\$1,974	\$1,974	\$1,974	\$1,334
9	2025	24,756	\$0	\$1,980	\$1,980	\$1,980	\$1,286
10	2026	24,835	\$0	\$1,987	\$1,987	\$1,987	\$1,241
11	2027	24,915	\$0	\$1,993	\$1,993	\$1,993	\$1,197
12	2028	24,994	\$0	\$2,000	\$2,000	\$2,000	\$1,155
13	2029	25,074	\$0	\$2,006	\$2,006	\$2,006	\$1,114
14	2030	25,153	\$0	\$2,012	\$2,012	\$2,012	\$1,074
15	2031	25,233	\$0	\$2,019	\$2,019	\$2,019	\$1,036
16	2032	25,312	\$0	\$2,025	\$2,025	\$2,025	\$1,000
17	2033	25,392	\$0	\$2,031	\$2,031	\$2,031	\$964
18	2034	25,471	\$0	\$2,038	\$2,038	\$2,038	\$930
19	2035	25,551	\$0	\$2,044	\$2,044	\$2,044	\$897
20	2036	25,630	\$0	\$2,050	\$2,050	\$2,050	\$865

Discount Rate 4.0%

**Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool
BENEFIT/COST SUMMARY**

Year	Actual Year	NET PRESENT VALUE		
		ESTIMATED BENEFITS FROM ACTIVE TRANSPORTATION	ESTIMATED BENEFITS FROM POTENTIAL CRASH REDUCTION	ESTIMATED COSTS FOR PROJECT
CONSTRUCTION				
1	2016	\$0	\$0	\$1,778,846
2	0	\$0	\$0	\$0
3	0	\$0	\$0	\$0
4	0	\$0	\$0	\$0
5	0	\$0	\$0	\$0
OPENING YEAR				
1	2017	\$62,248	\$147,542	\$1,715
2	2018	\$60,051	\$142,328	\$1,655
3	2019	\$57,931	\$137,297	\$1,596
4	2020	\$55,885	\$132,443	\$1,540
5	2021	\$53,911	\$127,758	\$1,486
6	2022	\$52,006	\$1	\$1,433
7	2023	\$50,168	\$118,877	\$1,383
8	2024	\$48,394	\$114,669	\$1,334
9	2025	\$46,683	\$110,609	\$1,286
10	2026	\$45,031	\$106,692	\$1,241
11	2027	\$43,438	\$102,912	\$1,197
12	2028	\$41,901	\$99,265	\$1,155
13	2029	\$40,417	\$95,747	\$1,114
14	2030	\$38,986	\$92,352	\$0
15	2031	\$37,605	\$89,077	\$1,036
16	2032	\$36,272	\$85,917	\$1,000
17	2033	\$34,987	\$82,868	\$964
18	2034	\$33,746	\$79,927	\$930
19	2035	\$32,550	\$77,089	\$897
20	2036	\$31,395	\$74,352	\$865
TOTAL		\$903,605	\$2,017,723	\$1,802,673

B/C RATIO	1.62
------------------	-------------

Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool

PROJECT DESCRIPTION

Please note that only yellow cells should be modified

Name of Project

Project Location

Type of Project Enter Walking (for Sidewalks or Multi-Use Path) or Cycling

Current Year

TRAVEL CHARACTERISTICS

	No Build	Build	Year	Annual Person Miles No Build	Build	Increased Person Miles	Reduced Vehicle Miles
Existing Demand (Daily Person Trips)	<input type="text" value="3630"/>	<input type="text" value="3760"/>	<input type="text" value="2012"/>	<input type="text" value="662,475"/>	<input type="text" value="686,200"/>	<input type="text" value="23,725"/>	<input type="text" value="71,175"/>
Forecast Demand (Daily Person Trips)	<input type="text" value="3910"/>	<input type="text" value="4050"/>	<input type="text" value="2035"/>	<input type="text" value="713,575"/>	<input type="text" value="739,125"/>	<input type="text" value="25,550"/>	<input type="text" value="76,650"/>
Length (miles)	<input type="text" value="0.5"/>			IPM:RVM ratio		<input type="text" value="1"/>	<input type="text" value="3"/>

PED/BIKE CRASH HISTORY

Crash Severity	Number of B/P	Existing Year Vehicular ADT	Forecast Year Vehicular ADT	Crash Countermeasures (Safety Improvements)	Project Includes?
Fatal Crashes	<input type="text" value="0"/>	<input type="text" value="33,000"/>	<input type="text" value="2012"/>	pedestrian countdown signal heads	<input type="text" value="Y"/>
Injury Crashes (Total)	<input type="text" value="45"/>			pedestrian crossing	<input type="text" value="N"/>
Injury Type A (severe)	<input type="text" value="5"/>			advance stop bar before crosswalk (bicycle box)	<input type="text" value="N"/>
Injury Type B (moderate)	<input type="text" value="13"/>			pedestrian overpass/ underpass	<input type="text" value="N"/>
Injury C (minor)	<input type="text" value="27"/>			raised medians/ refuge islands	<input type="text" value="N"/>
Property Damage Only (PDO)	<input type="text" value="45"/>			pedestrian crossing (new signs and markings only)	<input type="text" value="N"/>
				pedestrian crossing (enhanced safety features, curb extensions)	<input type="text" value="N"/>
				pedestrian crossing (enhanced safety features, curb extensions)	<input type="text" value="N"/>
				pedestrian signal	<input type="text" value="N"/>
				bike lanes	<input type="text" value="N"/>
				sidewalk/ pathway (to avoid walking along roadway)	<input type="text" value="N"/>
				pedestrian crossing (with enhanced safety features)	<input type="text" value="N"/>
				raised pedestrian crossing	<input type="text" value="N"/>

PROJECT COSTS

Capital Investment \$

Annual Operations/ Maintenance Costs

Estimated Year Construction Begins

Estimated Opening Year

Discount Rate Used to calculate Net Present Value

Requested funds: \$ 1,924,000
 Total Cost: \$ 2,405,000

LA Metro says do not include operations/maintenance costs

Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool

ESTIMATED BENEFITS FROM ACTIVE TRANSPORTATION

Year	Increased Person Miles (IPM)		Reduced Vehicle Miles (RVM)		Increased Active Travel Activity		Land Use Impacts		Reduced Automobile Travel							Net Present Value
	Actual Year	IPM	Vehicle Miles (RVM)	Reduced Vehicle Miles (RVM)	Fitness and health – walking	Fitness and health – cycling	Reduced pavement	Vehicle cost savings	Congestion reduction	Reduced barrier effect	Roadway cost savings	Parking cost savings	Energy conservation	Pollution reductions	Combined Benefits	
					0.500	0.200	0.002	0.225	0.060	0.010	0.042	0.360	0.030	0.044		
					IPM		RVM	RVM	RVM	RVM	RVM	RVM	RVM	RVM		
CONSTRUCTION																
1	2016															
2	0															
3	0															
4	0															
5	0															
OPENING YEAR																
1	2017	24,120	72,360	\$12,060	\$0	\$0	\$16,281	\$4,342	\$724	\$3,039	\$26,050	\$2,171	\$3,184	\$70,020	\$62,248	
2	2018	24,199	72,598	\$12,100	\$0	\$0	\$16,335	\$4,356	\$726	\$3,049	\$26,135	\$2,178	\$3,194	\$70,251	\$60,051	
3	2019	24,279	72,837	\$12,139	\$0	\$0	\$16,388	\$4,370	\$728	\$3,059	\$26,221	\$2,185	\$3,205	\$70,482	\$57,931	
4	2020	24,358	73,075	\$12,179	\$0	\$0	\$16,442	\$4,385	\$731	\$3,069	\$26,307	\$2,192	\$3,215	\$70,712	\$55,885	
5	2021	24,438	73,314	\$12,219	\$0	\$0	\$16,496	\$4,399	\$733	\$3,079	\$26,393	\$2,199	\$3,226	\$70,943	\$53,911	
6	2022	24,517	73,552	\$12,259	\$0	\$0	\$16,549	\$4,413	\$736	\$3,089	\$26,479	\$2,207	\$3,236	\$71,174	\$52,006	
7	2023	24,597	73,791	\$12,298	\$0	\$0	\$16,603	\$4,427	\$738	\$3,099	\$26,565	\$2,214	\$3,247	\$71,405	\$50,168	
8	2024	24,676	74,029	\$12,338	\$0	\$0	\$16,657	\$4,442	\$740	\$3,109	\$26,650	\$2,221	\$3,257	\$71,635	\$48,394	
9	2025	24,756	74,267	\$12,378	\$0	\$0	\$16,710	\$4,456	\$743	\$3,119	\$26,736	\$2,228	\$3,268	\$71,866	\$46,683	
10	2026	24,835	74,506	\$12,418	\$0	\$0	\$16,764	\$4,470	\$745	\$3,129	\$26,822	\$2,235	\$3,278	\$72,097	\$45,031	
11	2027	24,915	74,744	\$12,457	\$0	\$0	\$16,817	\$4,485	\$747	\$3,139	\$26,908	\$2,242	\$3,289	\$72,327	\$43,438	
12	2028	24,994	74,983	\$12,497	\$0	\$0	\$16,871	\$4,499	\$750	\$3,149	\$26,994	\$2,249	\$3,299	\$72,558	\$41,901	
13	2029	25,074	75,221	\$12,537	\$0	\$0	\$16,925	\$4,513	\$752	\$3,159	\$27,080	\$2,257	\$3,310	\$72,789	\$40,417	
14	2030	25,153	75,459	\$12,577	\$0	\$0	\$16,978	\$4,528	\$755	\$3,169	\$27,165	\$2,264	\$3,320	\$73,020	\$38,986	
15	2031	25,233	75,698	\$12,616	\$0	\$0	\$17,032	\$4,542	\$757	\$3,179	\$27,251	\$2,271	\$3,331	\$73,250	\$37,605	
16	2032	25,312	75,936	\$12,656	\$0	\$0	\$17,086	\$4,556	\$759	\$3,189	\$27,337	\$2,278	\$3,341	\$73,481	\$36,272	
17	2033	25,392	76,175	\$12,696	\$0	\$0	\$17,139	\$4,570	\$762	\$3,199	\$27,423	\$2,285	\$3,352	\$73,712	\$34,987	
18	2034	25,471	76,413	\$12,736	\$0	\$0	\$17,193	\$4,585	\$764	\$3,209	\$27,509	\$2,292	\$3,362	\$73,942	\$33,746	
19	2035	25,551	76,652	\$12,775	\$0	\$0	\$17,247	\$4,599	\$767	\$3,219	\$27,595	\$2,300	\$3,373	\$74,173	\$32,550	
20	2036	25,630	76,890	\$12,815	\$0	\$0	\$17,300	\$4,613	\$769	\$3,229	\$27,680	\$2,307	\$3,383	\$74,404	\$31,395	

Source: "Evaluating Active Transport Benefits and Costs" by Todd Litman
<http://vtpei.org/nmt-tdm.pdf>

Discount Rate 4.0%

$$\text{Present Value} = \frac{\text{Future Value (in Constant Dollars)}}{(1 + \text{Real Discount Rate})^{\wedge} \text{Year}}$$

Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool

ESTIMATED BENEFITS FROM POTENTIAL CRASH REDUCTION

Year	Actual Year	ADT	SIGNALIZED INTERSECTION COUNTERMEASURES			UNSIGNALIZED INTERSECTION COUNTERMEASURES			ROADWAY COUNTERMEASURES				Maximum Benefit from Single Countermeasure	Net Present Value		
			Install pedestrian countdown signal heads	Install advance stop bar before crosswalk (Bicycle Box)	Install pedestrian overpass/underpass	Install raised medians/refuge islands	Install pedestrian crossing (new signs and markings only)	Install pedestrian crossing (with enhanced safety features/curb extensions)	Install raised pedestrian signal	Install bike lanes	Install sidewalk/pathway to avoid walking along roadway	Install pedestrian crossing (with enhanced safety features)			Install raised pedestrian crossing	
Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N		
CONSTRUCTION																
1	2016															
2	0															
3	0															
4	0															
5	0															
OPENING YEAR																
1	2017	33,540	\$165,965	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$165,965	
2	2018	33,649	\$166,504	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$166,504
3	2019	33,758	\$167,043	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$167,043
4	2020	33,867	\$167,582	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$167,582
5	2021	33,976	\$168,121	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$168,121
6	2022	34,085	\$168,661	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$168,661
7	2023	34,194	\$169,200	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$169,200
8	2024	34,303	\$169,739	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$169,739
9	2025	34,412	\$170,278	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$170,278
10	2026	34,521	\$170,817	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$170,817
11	2027	34,629	\$171,356	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$171,356
12	2028	34,738	\$171,895	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$171,895
13	2029	34,847	\$172,434	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$172,434
14	2030	34,956	\$172,973	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$172,973
15	2031	35,065	\$173,512	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$173,512
16	2032	35,174	\$174,052	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$174,052
17	2033	35,283	\$174,591	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$174,591
18	2034	35,392	\$175,130	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$175,130
19	2035	35,501	\$175,669	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$175,669
20	2036	35,610	\$176,208	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$176,208

Frequency	Fatal	Injury	Injury A	Injury B	Injury C	PDO	Total	Years
Annual Cost	\$0	\$80,000	\$216,000	\$205,400	\$242,460	\$0	\$663,860	5
Cost/Crash	\$4,008,900	\$80,000	\$216,000	\$79,000	\$44,900	\$7,400	\$663,860	5
Annual Cost	\$0	\$80,000	\$216,000	\$205,400	\$242,460	\$0	\$663,860	5

Discount Rate 4.0%

Source: "Local Roadway Safety, Version 1.1, April 2013" by Caltrans
http://www.dot.ca.gov/hq/LocalPrograms/HSIP/Documents/hsip/CA_SM4LR0V1.1.pdf

Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool
ESTIMATED COSTS FOR PROJECT

Year	Actual Year	Increased Person Miles (IPM)	Construction & OM Costs	User Costs		Combined Costs	Net Present Value
				0.080	IPM		
CONSTRUCTION							
1	2016		\$2,405,000			\$2,405,000	\$2,223,558
2	0		\$0			\$0	\$0
3	0		\$0			\$0	\$0
4	0		\$0			\$0	\$0
5	0		\$0			\$0	\$0
OPENING YEAR							
1	2017	24,120	\$0	\$1,930	\$1,930	\$1,930	\$1,715
2	2018	24,199	\$0	\$1,936	\$1,936	\$1,936	\$1,655
3	2019	24,279	\$0	\$1,942	\$1,942	\$1,942	\$1,596
4	2020	24,358	\$0	\$1,949	\$1,949	\$1,949	\$1,540
5	2021	24,438	\$0	\$1,955	\$1,955	\$1,955	\$1,486
6	2022	24,517	\$0	\$1,961	\$1,961	\$1,961	\$1,433
7	2023	24,597	\$0	\$1,968	\$1,968	\$1,968	\$1,383
8	2024	24,676	\$0	\$1,974	\$1,974	\$1,974	\$1,334
9	2025	24,756	\$0	\$1,980	\$1,980	\$1,980	\$1,286
10	2026	24,835	\$0	\$1,987	\$1,987	\$1,987	\$1,241
11	2027	24,915	\$0	\$1,993	\$1,993	\$1,993	\$1,197
12	2028	24,994	\$0	\$2,000	\$2,000	\$2,000	\$1,155
13	2029	25,074	\$0	\$2,006	\$2,006	\$2,006	\$1,114
14	2030	25,153	\$0	\$2,012	\$2,012	\$2,012	\$1,074
15	2031	25,233	\$0	\$2,019	\$2,019	\$2,019	\$1,036
16	2032	25,312	\$0	\$2,025	\$2,025	\$2,025	\$1,000
17	2033	25,392	\$0	\$2,031	\$2,031	\$2,031	\$964
18	2034	25,471	\$0	\$2,038	\$2,038	\$2,038	\$930
19	2035	25,551	\$0	\$2,044	\$2,044	\$2,044	\$897
20	2036	25,630	\$0	\$2,050	\$2,050	\$2,050	\$865

Discount Rate 4.0%

**Attachment 8: Cost Effectiveness / Cost Benefit Methodology and Calculator Tool
BENEFIT/COST SUMMARY**

Year	Actual Year	NET PRESENT VALUE		
		ESTIMATED BENEFITS FROM ACTIVE TRANSPORTATION	ESTIMATED BENEFITS FROM POTENTIAL CRASH REDUCTION	ESTIMATED COSTS FOR PROJECT
CONSTRUCTION				
1	2016	\$0	\$0	\$2,223,558
2	0	\$0	\$0	\$0
3	0	\$0	\$0	\$0
4	0	\$0	\$0	\$0
5	0	\$0	\$0	\$0
OPENING YEAR				
1	2017	\$62,248	\$147,542	\$1,715
2	2018	\$60,051	\$142,328	\$1,655
3	2019	\$57,931	\$137,297	\$1,596
4	2020	\$55,885	\$132,443	\$1,540
5	2021	\$53,911	\$127,758	\$1,486
6	2022	\$52,006	\$1	\$1,433
7	2023	\$50,168	\$118,877	\$1,383
8	2024	\$48,394	\$114,669	\$1,334
9	2025	\$46,683	\$110,609	\$1,286
10	2026	\$45,031	\$106,692	\$1,241
11	2027	\$43,438	\$102,912	\$1,197
12	2028	\$41,901	\$99,265	\$1,155
13	2029	\$40,417	\$95,747	\$1,114
14	2030	\$38,986	\$92,352	\$0
15	2031	\$37,605	\$89,077	\$1,036
16	2032	\$36,272	\$85,917	\$1,000
17	2033	\$34,987	\$82,868	\$964
18	2034	\$33,746	\$79,927	\$930
19	2035	\$32,550	\$77,089	\$897
20	2036	\$31,395	\$74,352	\$865
TOTAL		\$903,605	\$2,017,723	\$2,247,385

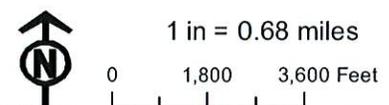
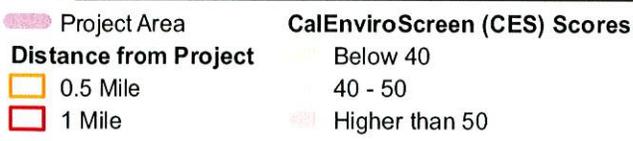
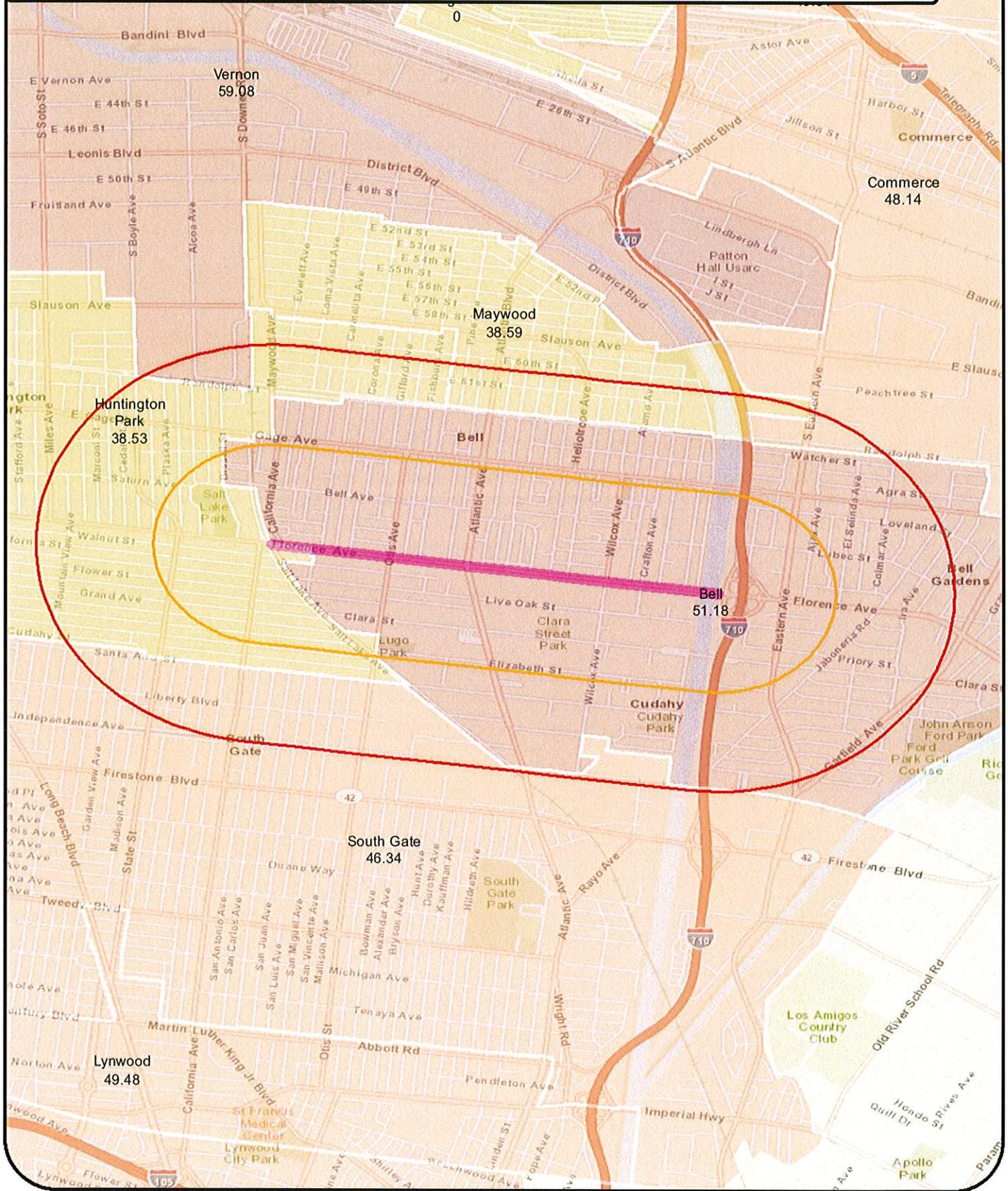
B/C RATIO	1.30
------------------	-------------

Attachment 9
CES Score Map

Attachment 9 - CalEnviroScreen (CES) Scores Map

Florence Avenue Pedestrian Improvement Project, City of Bell

Jurisdiction: BELL

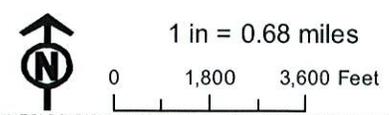
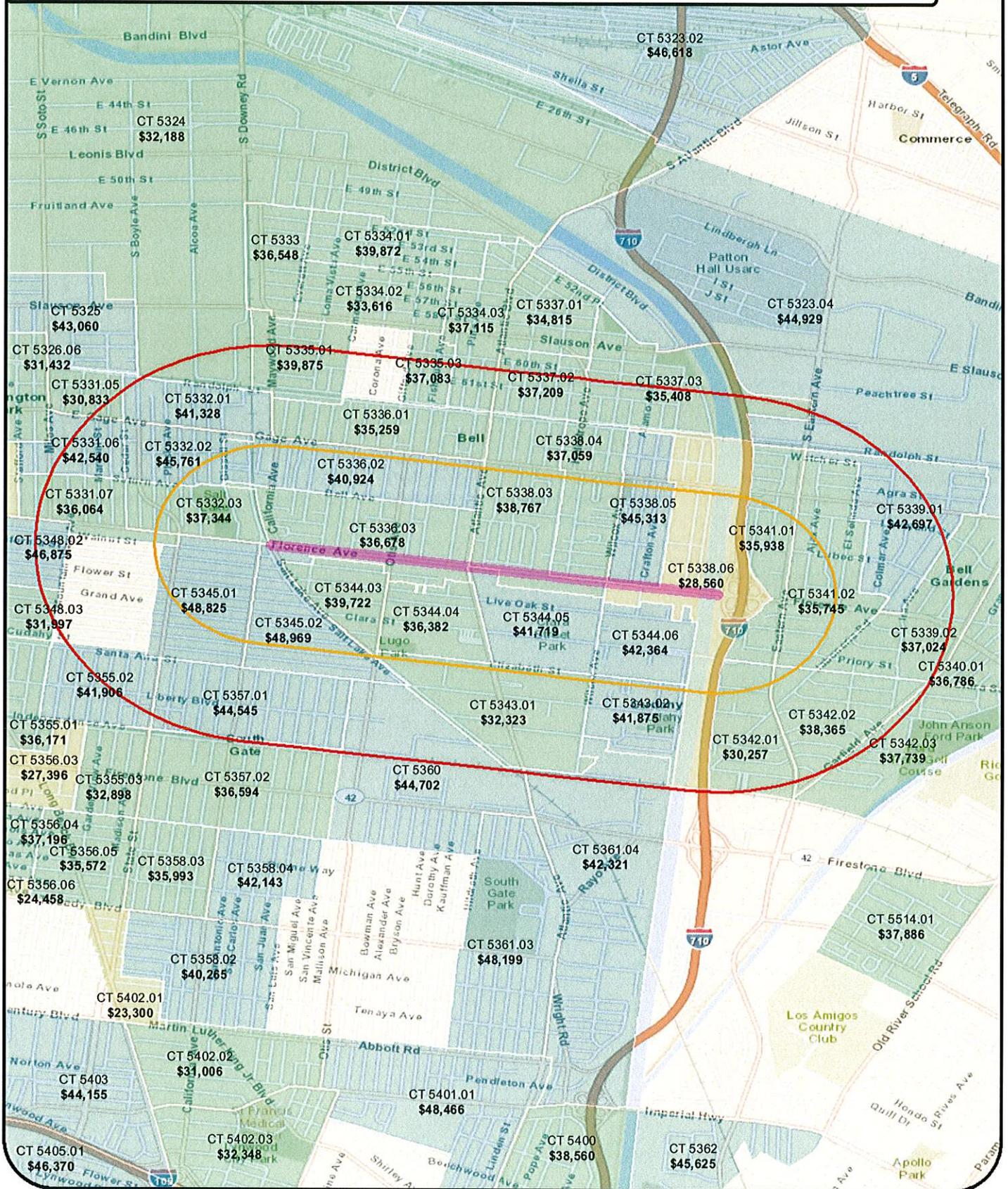


Attachment 10
Median Household Income Map

Attachment 10 - Median Household Income ~ 80% or less of Statewide Median (2012)

Florence Avenue Pedestrian Improvement Project, City of Bell

Jurisdiction: BELL



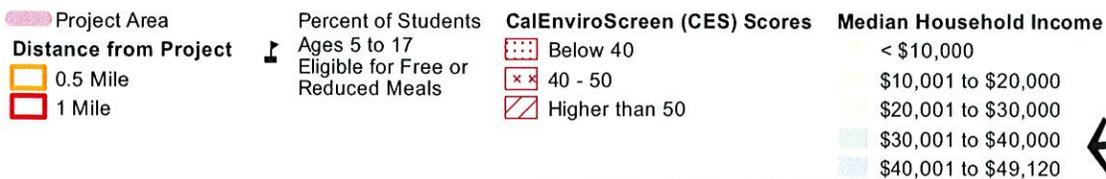
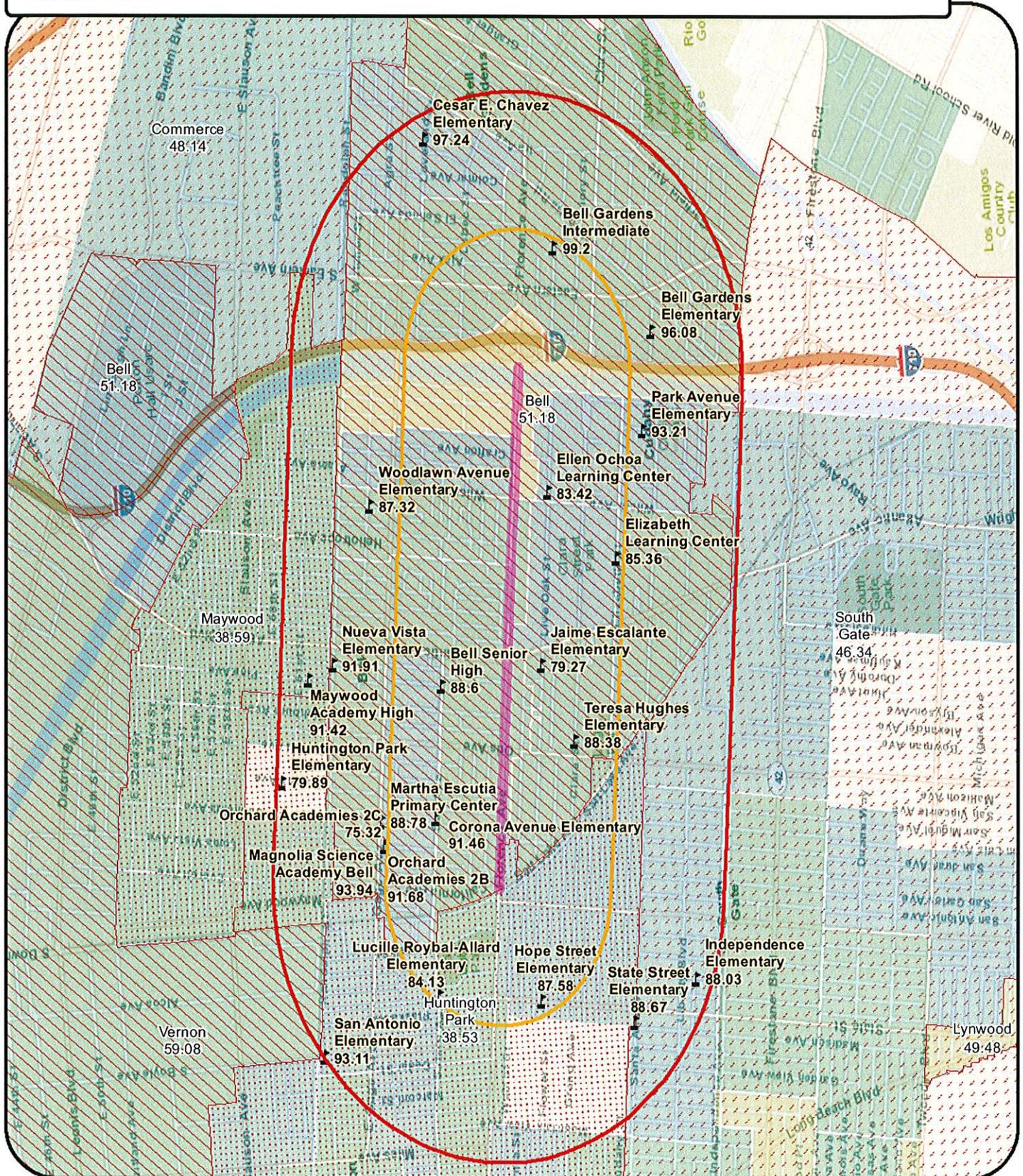
Attachment 11
Free or Reduced-Price School Lunch Map

Attachment 12
Disadvantaged Community Combined Criteria Map

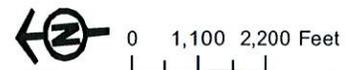
Attachment 12 - Disadvantaged Community (Ped)

Florence Avenue Pedestrian Improvement Project, City of Bell

Jurisdiction: BELL



1 in = 0.6 miles



Date: 5/8/2014

Document Path: R:\L\LOS\X\MTR\002\0600\INFO\GIS-group\Maps\Disadvantaged_Community_Ped.mxd

Attachment 13
Email communication requesting CCC participation

Attachment 13: Communication Requesting CCC participation

From: Clark, Virginia@CCC [<mailto:Virginia.Clark@CCC.CA.GOV>]
Sent: Wednesday, April 23, 2014 12:15 PM
To: Dahi Lee
Cc: Lino, Edgar@CCC; Rochte, Christie@CCC
Subject: RE: ATP Grant

Dahi,

CCC would be interested in the following:

1. Installing street furniture
2. Sculptures
3. Landscaping

I carbon copied Edgar Lino (213) 744-2254 he is the local project manager.

Thanks.

Virginia Clark

Region Deputy, Region 1



California Conservation Corps

(916) 341-3147

fx(877) 834-4177

virginia.clark@ccc.ca.gov

P PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

Visit our web site at www.ccc.ca.gov for more information about the California Conservation Corps

Attachment 13: Communication Requesting CCC participation

Visit our web site at www.WatershedStewards.com for more information about the Watershed Stewards Program

From: Dahi Lee [<mailto:dlee@CITYOFBELL.ORG>]
Sent: Tuesday, April 22, 2014 4:02 PM
To: Clark, Virginia@CCC
Cc: Mara Krinke (mckr@deainc.com)
Subject: ATP Grant

Hi Virginia,

This is Dahi from City of Bell.

We are currently getting ready to apply for a ATP grant, and attached are the submittals for our project to seek for Corps' participation.

Attached please find the following documents:

- Project Description / Project Schedule
- Project Map
- Cost Estimate
- Photos

We do not have a preliminary plan, however the attached documents will explain the scope of work.

I would appreciate if you can reply me back to confirm that you have received this e-mail.

Feel free to contact me if you have any questions or concerns.

I appreciate your help, Virginia.

Dahi Lee

City of Bell

(323)588-6211 x 293

Attachment 14
Email Communication Requesting CALCC Participation

Attachment 14: Communication Requesting CALCC participation

From: Calcc Calcc [<mailto:callocalcorps@gmail.com>]
Sent: Thursday, April 24, 2014 2:45 PM
To: Dahi Lee
Subject: Re: ATP grant

Hi Dahi,

I have received this email. I will let you know whether any local corps will be able to participate.

Thanks,
Cynthia

On Tue, Apr 22, 2014 at 3:43 PM, Dahi Lee <dlee@cityofbell.org> wrote:

Cynthia,

Per our conversation below, attached please find our submittals to seek your participation on the ATP Grant Project.

I would appreciate if you can reply me back to confirm that you have received this e-mail.

Please feel free to contact me if you have any questions or concerns.

Thank you again for your help, Cynthia.

Dahi Lee

City of Bell

[\(323\)588-6211 x 293](tel:(323)588-6211x293)

From: Calcc Calcc [<mailto:callocalcorps@gmail.com>]
Sent: Tuesday, April 22, 2014 2:55 PM
To: Dahi Lee
Subject: Re: ATP grant

Hi Dahi,

Please send me the project description, map and schedule. That, combined with the cost estimate and pictures should be sufficient.

Thanks,

Cynthia

On Tue, Apr 22, 2014 at 2:22 PM, Dahi Lee <dlee@cityofbell.org> wrote:

Hi Cynthia,

We do not have a preliminary plan for our project.

However the cost estimate explains well regarding the project scope.

Could the cost estimate and attached pictures be submitted as a preliminary plan?

We will also submit project description, map and schedule.

Thank you again for your help.

Dahi Lee

City of Bell

[\(323\)588-6211 x 293](tel:(323)588-6211)

From: Calcc Calcc [<mailto:callocalcorps@gmail.com>]

Sent: Friday, April 18, 2014 9:32 AM

To: Dahi Lee

Subject: Re: ATP grant

Hi Dahi,

Thank you for contacting me. The attached document is great for a project description and schedule. Please send me the remaining required documents via email.

Thanks,

Cynthia

On Thu, Apr 17, 2014 at 4:22 PM, Dahi Lee <dlee@cityofbell.org> wrote:

Attachment 14: Communication Requesting CALCC participation

Hi Cynthia,

This is Dahi from City of Bell.

We are currently getting ready to apply for a ATP grant, and we are asked to seek for Corps' participation.

On the application, it has asked us to submit the followings to you:

- Project Description
- Project Map
- Detailed Cost Estimate
- Project Schedule
- Preliminary Plan

I wanted to get in touch with you to see if you require a special format.

Can these be emailed to you? Or shall we send you a hard copy?

Attached is a Project Programming Request form required by Caltrans, and it contains Project Description and the Project Schedule.

Could we submit that as Project Description and Project Schedule to you?

Please feel free to reach me via phone or email.

Your help is much appreciated.

Thank you,

Dahi Lee

City of Bell

(323)588-6211 x 293

