ACTIVE TRANSPORTATION PROGRAM

CYCLE 1

Project name:	County of Los Angeles - DPW - Eastside Light Rail Bike Interface Project

For Caltrans use only: ____TAP _____STP_____RTP ____SRTS ____SRTS-NI ____SHA ____DAC ____Non-DAC ____Plan

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I. GENERAL INFORMATION

Project name:	County of Los Angeles - DPW - Eastside Light Rail Bike Interface Project

(fill out all of the fields below)

1. APPLICANT (Agency name, address and zip code) County of Los Angeles Department of Public Works, 900 South Fremont Avenue, 91803-1331	2. PROJECT FUNDING ATP funds Requested $ 1,305,000.00 Matching Funds (If Applicable) $ 326,000.00 Other Project funds $ 230,000.00 TOTAL PROJECT COST $ 1,861,000.00
3. APPLICANT CONTACT (Name, title, e-mail, phone #) Allan Abramson, Senior Civil Engineer, aabrams@dpw.lacounty.gov, (626) 458-3950	
4. APPLICANT CONTACT (Address & zip code) 900 South Fremont Avenue, Alhambra, CA 91803	5. PROJECT COUNTY(IES): Los Angeles County
6. CALTRANS DISTRICT #- Click Drop down menu below District 7	7. Application # 2 of 9 (in order of agency priority)

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. 07-5953R
12. ☒ Yes, the applicant has a STATE MA with Caltrans. 00307S

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:	County of Los Angeles - DPW - Eastside Light Rail Bike Interface Project

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: Installation of Bicycle Boulevard per Los Angeles County Bicycle Master Plan

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

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 Eastside Light Rail Bike Interface 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 Eastside Light Rail Bike Interface Project in the County of Los Angeles. 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 bicyling 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 County of Los Angeles' efforts and contribution towards a sustainable transportation future. We respectfully request a favorable consideration of the Eastside Light Rail Bike Interface Project for the ATP grant.

Sincerely,

Arthur T. Leahy

Arthur T. Leahy
Chief Executive Officer

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

The County of Los Angeles (County) proposes the Eastside Light Rail Bike Interface Project (Project). The Project is located within the unincorporated communities of East Los Angeles and City Terrace in the County of Los Angeles (refer to *Vicinity Map* in **Attachment A**).

Roadway segments involved in the Project include:

- Rowan Avenue from Floral Drive to Whittier Boulevard
- 4th Street from Rowan Avenue to Indiana Street
- Ford Boulevard from 3rd Street to Olympic Boulevard
- Mednik-Arizona Avenue from Floral Drive to Telegraph Road
- Wood Avenue from 1st Street to Olympic Boulevard
- Telford Street from Woods Avenue to Westcott Avenue

2. Project Coordinates Latitude N 34.0280006418 (Decimal degrees) Longitude W 118.165409176 (Decimal degrees)

3. Project Description

Currently there are limited or no bicycle facilities within the project limits. When completed, the Project will encourage bicycling and enhance the bicycle-related amenities in the four Eastside Gold Line Extension station areas. The Project proposes to construct four north-south bikeways; two bicycle boulevards, one Class II, and one Class III bike route, connecting the Metro Gold Line stations of Indiana, Maravilla, Civic Center, and Atlantic to the neighboring communities. The Project includes:

i. Indiana Gold Line Station

The planned bikeway to access this station is approximately **2.4 miles** in length and includes 2.1 miles of bicycle boulevard along Rowan Avenue from Floral Drive to Whittier Boulevard and 0.3 miles of Class III bike route along 4th Street from Indiana Street to Rowan Avenue.

ii. Maravilla Gold Line Station

The planned bikeway to access this station is approximately **1.0 miles** in length of Class III bike route along Ford Boulevard from 3rd Street to Olympic Boulevard.

iii. Civic Center Gold Line Station

The planned bikeway to access this station is approximately **2.4 miles** in length of Class II bike route along Mednik-Arizona Avenue from Floral Drive to Telegraph Road.

iv. Atlantic Gold Line Station

The planned bikeway to access this station is approximately **1.5 miles** in length and includes 1.4 miles of bicycle boulevard along Woods Avenue from 1st Street to Olympic Boulevard and 0.1 miles of Class III bike route along Telford Street from Woods Avenue to Westcott Avenue.

The bicycle boulevards on Rowan and Woods Avenues will be created through the addition of traffic circles, curb extensions, traffic diverters, pavement markings, and signage. Pavement markings and signage will also be utilized to create the Class II bike route along Mednik-Arizona Avenue and the Class III bike routes along 4th Street, Ford Avenue, and Telford Street. In all, the Project will include installation of 5 traffic circles, 8 curb extensions, 25 bicycle racks, 38 bicycle sensitive loop detectors, approximately 540 traffic signs, and over 80,000 linear feet of pavement markings. All the improvements will fall within existing County of Los Angeles road right-of-way.

Once completed, the improvements will provide the local residences of the communities of East Los Angeles and City Terrace safer bicycle facilities that will encourage increased bicycle and pedestrian use, enhance opportunities to be more active, and provide local and regional connectivity to the Eastside Gold Line Stations.

4. **Project Status**

The Project is currently in the design phase. Thirty percent (30%) design plans have been completed along with the draft Project Design Concept Report (PDC), copies of the 30% plans are included in **Attachments C.** Design of the project is continuing with final Plans Specification and Estimates (PS&E) anticipated being complete and ready for advertisement by December 2015.

Previously, Caltrans determined this project to be a Categorical Exclusion (CE) under the National Environmental Policy Act (NEPA) on December 19, 2011. Since that time the scope of the project has been slightly modified and a NEPA re-evaluation will need to be completed. An updated Preliminary Engineering Study (PES) has been submitted to Caltrans. All the proposed improvements fall with existing right-of-way and as such no right-of-way acquisition is needed. Right-of-way certification is anticipated being complete by March, 2015.

III. SCREENING CRITERIA

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

The proposed project improvements are all located within the disadvantaged and transit dependent communities of East Los Angeles and City Terrace. According to the US Census, *American Community Survey 2008-2012,* approximately 15% of the households within the project limits do not own a car, and another 35% only own one vehicle. As a result many of the households within these communities rely heavily on walking, biking, and transit as primary modes of transportation. The Project will create four north/south bikeway connections to the Eastside Gold Line Stations all within a designated Transportation Oriented District (TOD). Currently there are limited bicycle facilities within the project limits. Because of the lack of adequate bicycle facilities, residents wishing to utilize bicycles as a mode of transportation are

subjected to uninviting conditions. The lack of safe bicycle facilities is reflected in the high rate of bike and pedestrian involved accidents in the project area. Based on UC Berkeley SafeTREC Transportation Injury Mapping System (TIMS), during the 5-year span of 2008-2012, there were 42 pedestrian accidents and 32 bicycle accidents resulting in 2 pedestrian fatalities.

This Project was identified in the County of Los Angeles Bicycle Master Plan, adopted in 2012, as one of the significant components to providing a comprehensive bicycle network. The development of these four north/south bikeways will result in substantially safer travel for pedestrians and bicyclists in East Los Angeles. Safer bicycle facilities will promote increased intermodal bicycle-transit transportation by directly connecting designated bikeways to the Eastside Gold Line Stations and will encourage an increased number of people to ride bicycles, thereby resulting in improvements to air quality, reducing traffic congestion, and enhancing overall community health.

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[1] 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. The 2009 Metro Long Range Transportation Plan[2] states that bicycle and pedestrian programs are critical components of a successful transportation system. Finally, this project directly supports Metro's First Last Mile Strategic Plan (2014)[3].

[1] SCAG Regional Transportation Plan – Active Transportation Appendix. 2012. http://rtpscs.scag.ca.gov/Documents/2012/final/SR/2012fRTP_ActiveTransportation.pdf
[2] Metro Long Range Transportation Plan. 2009. http://media.metro.net/projects_studies/images/final-2009-LRTP.pdf
[3] First Last Mile Strategic Plan. 2014. http://media.metro.net/docs/sustainability_path_design_guidelines.pdf

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, there is limited bicycle access in the vicinity of the project. While the project area has a well-connected sidewalk network for pedestrians, it lacks designated bicycle routes which in turn creates an uninviting, dangerous environment for bicyclists. Because of this, many residents that may have otherwise utilized bicycles as a mode of transportation to work and other destinations instead may rely on vehicles. The development of these four north/south bicycle routes will promote increased bicycle ridership by providing safer, more accessible, and more visible bike routes directly connecting to four Eastside Gold Line Stations. The Project is located within a designated TOD area and future TOD developments will complement the proposed bike improvements.

Specifically related to students, there are 12 elementary schools and 25 total schools within a half mile of the project corridors and over 120 schools within 3-miles of the project. While many parents may still choose to drive children to and from school despite the short distances, improving bikeways will encourage those shorter trips to be completed by foot or bike.

   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.**

Based on 2010 US Census data, there are approximately 103,000 residents living within a half mile of the project and over 480,000 within three miles of the project. When complete, the Project will provide bicycle access to multiple local and regional destinations either directly or through improved access to the four Eastside Gold Line Stations. Detailed in **Table 1**, and

also shown on the "*Bike/Ped Infrastructure Map"* contained in **Attachment G**, are some of the key local and regional destination within the project area.

Key Destinations within the Project Area

Table 1. Key Destinations		**Distance (miles)**
Transit:		
	Indiana Metro Gold Line Station	0.2
	Maravilla Gold Line Station	0
	Civic Center Gold Line Station	0
	Pomona-Atlantic Gold Line Station	0
Employment:		
	East Los Angeles Public Library	0.1
	Los Angeles Down Town Center	Approx 3 +
	Lincoln Hospital Medical Center	2.5
	Los Angeles Community Hospital	Less than 2
	East Los Angeles Doctors Hospital	1.0
	Santa Marta Hospital	0.5
	Los Angeles County USC Hospital	3.0
	Los Angeles County USC Medical Center	3.0
	USC Kenneth Norris Jr. Cancer Hospital	3.0
	White Memorial Medical Center	3.0
	LA County Dept. of Public Works	4.0
	Monterey Park Hospital	2.5
	County Fire Dept	1.0
	California Highway Patrol (CHP)	0.5
	Kaiser Permanente Medical Center	0.1
Schools/Colleges:		
	California State Univ. Los Angeles	2.5
	East Los Angeles Community College	0.2
	Belvedere Elementary School	0
	Rowan Elementary School	0
	Ford Boulevard Elementary	0
	Hamaski Elementary School	0.1
	Griffith Middle School	0.1
	Roosevelt High School	2.5
	Ramona Opportunity High School	0.1
	Francisco Bravo Medical Magnet High School	2.5
	Bishop Mora Salesian High School	3.0
	Schurr High School	3.0
	Cantwell Sacred Heart of Mary High School	3.0
	Garfield High School	0
	Montebello High School	3.0
	Wilson High School	2.5
	De La Hoya Animo High School	0
Retail/Commercial:		
	Whittier Blvd Merchants Association	0
	Montebello Plaza	3.0

	Montebello Town Square	4.5
	Wyndham Garden Hotel	4.5
	Citadel Outlet Collection Mall	1
Entertainment:		
	Dodger Stadium	5.0
	Elysian Park	5.0
	Bristow Park	1.5
	Bandini Park	2.0
	Saybrook County Park	2.5
	Montebello Golf Course & Country Club	2.5
	Boyle Heights Sports Center Park	2.5
	Ramon Garcia Recreation Center	2.0
	Salazar Co Park	0.5
	Oregon County Park	0.5
	Lincoln Park	3.0
	Ernest E Oebs Regional Park	4.5
	Montery Park Golf Course	1.5
	Montery Highlands Park	1.5
	Granada Park	2.5
	Sequoia Park	2.0
	Barnes Mem Park	3.0
	George E Elder Park	2.5
	Garvey Ranch Park	3.5
	Rosewood Park	2.5
	Whittier Narrows Recreation Area	6.0
	Acuna Park	3.5
	Belvedere County Park	0.5
Others:		
	Odd Fellows Cemetery	1.5
	Calvary Cemetery	0.5
	Chinese Cemetery	0.5

Current Bicycle and Transit Use

Based on US Census data and the "*Simple Techniques for Forecasting Bicycle and Pedestrian Demand*" by Greg Griffin, estimated total bike mode share within the project area is approximately 1.37% of daily person vehicle trips. Utilizing existing (2012) ADT data from the SCAG model, this equates to approximately 1,000 bicycle trips per day within the project area.

Several transit options for the local community fall within the project limits. These include LA Metro buses, LA Metro Light Rail, and the El Sol Shuttle. There are roughly 260 Metro bus stops within a ½-mile of the project with an average weekday ridership of roughly 26,296, four Metro Gold Line stations with approximately 9,677 weekday riders, and 85 El Sol Shuttle stops

with an average weekday ridership of 2,882. Each of these transit systems plays a major role in the public transportation in the area. Despite the lack of bicycle facilities, bicycle ridership in the project area is higher than the countywide average and transit use is more than double the county-wide average. With such a high percentage of this project area's population utilizing transit and bicycling as a means of transportation, developing safe and convenient bicycle routes to bus stops and transit stations is a key objective of the project. **Table 2** provides a summary of transit ridership for the project area.

Table 2. Transit Ridership

Line Type	Total Stops w/in 1/2 Mile of Project Limits	Total Boardings & Alightings w/in 1/2 Mile of Project Limits	Percentage of Bike Boardings	Type of Ridership
Metro Buses	**262**	**26,296**	**4.0%**	**Ave Weekday**
LADOT Buses	**45**	**1739**		
Rail Stations				
Metro Gold Line	**4**	**9677**	**3.3%**	**Daily Average**
Atlantic	*1*	*4194*		
Civic Center	*1*	*1586*		
Indiana	*1*	*2905*		
Maravilla	*1*	*992*		
Local Buses				
El Sol Shuttle	**85**	**2882**		**Ave Weekday**
City Terrace		*878*		
Whittier Blvd		*715*		
Union Pacific		*1289*		

Future Conditions with Project

Cambridge Systematics developed the web-based Metro Bicycle Investment Scenario Analysis Model (the Model), a sketch planning tool developed at the request of the Metro Board to forecast estimated change in bicycle travel resulting from one or more bicycle investment projects. The Model forecasts benefits across four categories: 1) Mobility, 2) Environmental, 3) Economic, and 4) Public Health. Benefit measures are reported as annual estimates in future year 2035, compared to a year 2035 scenario in which the Projects were not constructed. In other words, the Model shows us the annual estimated impact of those projects in one future year, 2035. Underlying data is projected to year 2035 using SCAG forecasting factors

(Cambridge Systematics, 2014). The Model has been run incorporating the proposed project bikeway elements. The results indicate that an additional 24,688 annual bicycle trips are added to the project facilities in 2035 for the build alternative or approximately 67 bike trips per day. A summary of the methodology and calculations are contained in **Attachment H.**

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.

As detailed in Tables 1 and 2 above and shown on the "*Bike/Ped Infrastructure Map"* contained in **Attachment G**, the proposed project links to a number of educational facilities, communities, employment centers, parks and transit facilities. The goal of the Project is to encourage a mode shift for people living within the community toward bicycling for local and regional destinations. Regional traffic relief improvements involving bicycling are a cost-effective and sustainable way to increase transit ridership, yet many commuters cite safety and convenience as the main reason they drive instead. The Project addresses the "last mile" challenge typically encountered by transit users. This project will promote bicycling to transit stations by making important bike feeder trips easier, faster, and safer. By improving the safety and convenience of bicycling to regional transit stations, this project will give commuters the opportunity to leave their cars at home, thereby decreasing street corridor congestion, which is one of the primary goals of this project. Completing the proposed improvements will provide a consistent multimodal system through the area, both for recreational riders and for those who use bicycling for utilitarian purposes. With the proposed improvements, the number of potential users is likely to increase.

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.

The Project will provide much needed bicycle facility improvements within an area that currently lacks any designated bikeways. Creating these four designated bikeways will resolve key deficiencies within the community and provide for safer and more convenient bike routes

directly to the Metro Eastside Gold Line Stations. In addition to improving bicycle facilities within the immediate project community, the project will also link other near or adjacent bicycle facilities including a direct connection to the Class II bike facility along Olympic Boulevard and Avenida Cesar Chavez.

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.

Currently, bicycle traffic in the community has to navigate through existing 2-lane and 4-lane roadways. Within each corridor there is a mix of signalized and non-signalized intersections. At the non-signalized intersections, stop control is either 2-way or 4-way with several of the intersections lacking any form of crosswalk striping.

The Project is intended to convert two of the existing roadways, Rowan Avenue and Woods Avenue into bicycle boulevards through the addition of traffic circles, curb extensions, traffic diverters, pavement markings, and signage; convert Ford Avenue to a Class III bikeway by adding bicycle signage and pavement markings; and convert Arizona-Mednik Avenue to a Class II bikeway by eliminating one lane of traffic in each direction and adding bicycle lane striping and signage. Each of these improvements has the potential to reduce crash frequency between motor vehicles and pedestrians and bicyclists by creating buffers, removing movement conflicts, delineating bike routes, and enhanced pavement markings and signage.

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 I**. 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 20.7% could be expected annually for the four corridors.

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

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

Several of the proposed improvements will result in either a reduction in traffic volume and/or speed within the proposed bikeway corridors. Traffic circles and curb extensions reduce vehicle speed through tighter turning radii and narrowed vehicle lanes. Traffic circles by nature also discourage non-local traffic from utilizing the corridor thereby reducing traffic volume within that corridor. Traffic diverters, while maintaining thru-bike traffic, physically restrict thru vehicles, forcing motorist to turn onto cross streets while cyclist can continue forward.

- **Improves sight distance and visibility**

Proposed curb extensions along with high-visibility crosswalks will both calm traffic and increase visibility of pedestrians and bicyclists. Pavement markings, way finding, and warning signs along the route will raise awareness of motorists along the bicycle route.

- **Improves compliance with local traffic laws**

Because of the lack of exclusive bicycle facilities, bicyclists intermix with vehicular traffic within these corridors, creating the potential for aggressive drivers. With the additions of these exclusive bike facilities it will create a more predictable bicyclist riding behavior – providing guidance as where it is most appropriate to ride a bicycle, walk, and drive. Additionally it will result in lower traffic speeds in these shared facilities promoting compliance with local traffic laws.

- **Eliminates behaviors that lead to collisions**

The addition of bike lanes will allow cyclist to ride at their preferred speed and within their designated lane without conflicting with motorists and facilitating unpredictable behavior. Clearly marked routes will lead cyclists to multiple destinations while clearly indicating to motorists the street is intended for bicycle travel. Volume and speed reduction along with

delineated bike lanes will decrease the potential for and severity of collisions between motorists and other roadway users.

- **Addresses inadequate traffic control devices**

The Project calls for the addition of bicycle loop detectors at several signalized intersections in accordance with MUTCD requirements along the proposed bikeways. The Project also upgrades missing and/or inadequate pavement markings such as lane markings and stop legends.

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

This Project will create four parallel bikeways to access four Metro Gold Line Stations; two bicycle boulevards, one Class II bikeway, and three Class III bikeways totaling approximately 7.3 miles of new bicycle facilities. Additionally, crosswalks within the corridors will be restriped and intersection ADA ramps installed were they currently are missing.

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 experiences a fairly high rate of pedestrian and bicycle accidents between the years of 2008 – 2012. During this time there were a reported 42 pedestrian accidents and 32 bicycle accidents resulting in two pedestrian fatalities. A map of the accident locations along with accident summaries can be found in **Attachment J**.

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 proposed bikeways are a part of the County's Bicycle Master Plan. During the Plan development the County conducted a series of outreach meetings to solicit community input for the Plan in February – March 2010, June 2010 and March 2011. As part of the outreach process multi-lingual brochures, handouts, visual displays with detailed information were

presented to the public. Public Input was logged and carefully incorporated in to the proposed project lists that were developed as a result of these meetings. The County revised the project scope as a result of these outreaches efforts. Excerpts from Bicycle Mater Plan regarding the public outreach process and a sampling of the comments received are attached to this application in **Attachment F**. Additional details including public notices and a complete compilation of the draft comments can be accessed at the County of Los Angeles Bikeway Master Plan webpage: http://dpw.lacounty.gov/pdd/bike/masterplan.cfm

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

The project was developed as a result of public participation and coordination with other public agencies and stakeholders. Several other routes where considered for implementation of bikeways with the final routes chosen based on technical feasibility and public input. The project prioritization in the County's Bikeway Master Plan is based on several technical factors including community needs, public access, and gap closures to complete the bikeway network in Los Angeles County. Specifically, the following outreach efforts were made:

County of Los Angeles Bicycle Master Plan - community meetings 09/2009 - 06/2010

The Project proposes to include bikeways as an active option by adding over 7 miles of bikeway facilities in East Los Angeles County. The segments chosen will close the gap and complete important missing connections in the bikeway network. The bikeway project is supported by the East Los Angeles communities and public agencies. Letters of Support are included in **Attachment M**. The County will conduct additional outreach meetings during the project design phase. The purpose of the meetings will be to introduce project specific details to the community and obtain input from local residents and other interested stakeholders. Their suggestion and comments will be incorporated into the detailed design plans.

C. Is the project cost over $1 Million? Y/N Y

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/N Y

The Project is included in the Lost Angeles County Department of Public Works Community Pedestrian and Active Transportation Planning document, and the Los Angeles County 2012 Bicycle Master Plan.

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.

Several alternatives were evaluated during the development of both the Eastside Light Rail Feasibility study, completed in 2006 and also the County of Los Angeles Bicycle Master Plan adopted in 2012. Specifically as it relates to Rowan Avenue, alternatives considered include both a high cost route and a low cost route. The high cost route would ultimately require the construction of a new pedestrian bridge to cross Interstate 5 whereas the low cost route takes advantage of the existing pedestrian bridge. In addition, several new traffic signals were originally proposed within the project area; however they were eliminated based on lack of Signal Warrant qualifications. Overall, the bicycle network selection process included an extensive public outreach program and multiple meetings with the Technical Advisory Committee comprised of representatives from the County of Los Angeles and other local agency representatives. The preferred alternatives selected were based on a number of factors including; project cost, right-of-way availability, public and local agency support, and local and regional connectivity to neighborhoods, schools, businesses, transit facilities, and planned or existing bikeways.

Development of these bikeways provide several benefits to the community including; creating safer corridors for pedestrians and bicyclist, resulting in fewer pedestrian injuries or deaths,

providing greater access to transit and other bicycle network facilities resulting in fewer vehicle trips, and increasing opportunities for physical activity resulting in healthier lifestyles.

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

A cost-benefit calculator was created for the ATP grant applications. The report explaining the methodology and the calculator itself are in **Attachment K**. The Benefit-Cost ratio provides a quantitative value of the project as it relates to the Caltrans ATP goals. This ratio can be used to give monetary value to non-market goods (such as clean air and better health) that are often over looked when analyzing the financial impacts of transportation projects. Using the available data on project type, existing and forecasted demand, pedestrian and bike crash history, and project costs, the Benefit-Cost ratio offers a monetization of congestion reduction and increased health and safety as compared to the capital and operating costs. The ratio is a sum of the estimated benefits from active transportation and potential crash reductions divided by the total project costs. A sum greater than one means that the benefits outweigh costs while a sum less than one indicates that the costs outweigh the benefits. The Project's Benefit-Cost ratio has been calculated utilizing both total project costs and program funds requested, resulting in B-C ratios of 7.15 and 9.94 respectively, indicating the positive impacts of the project would outweigh the project costs.

Travel characteristics. In the literature review, no standard was found for estimating the multiplier for the build condition. Therefore the methodology developed by Cambridge Systematics and included in **Attachment H** was used to estimate the increase in bike users resulting from the proposed Project. For the increased person miles to reduced vehicle miles (IPM : RVM) ratio, the literature discusses ranges from 1:1 to as high as 1:10. To be conservative on the estimate, a ratio of 1:1.5 was used. For existing year average daily traffic (ADT), travel data was pulled from the SCAG Travel Model. Using this available traffic model, a total existing ADT of 66,278 for the four corridors was used. The SCAG Model was also

evaluated for forecasted 2035 ADT; however the model showed a decrease in ADT, which is unlikely, therefore a conservative growth factor of 3% was used to estimate 2035 ADT resulting in a 2035 ADT of 68,500.

Bike/ped crash history. Crash data from Question 2C was used with crash countermeasures, pedestrian and bicycle improvements proposed throughout the project as a whole selected. These counter-measures are estimated to have a 20.7 percent benefit as identified in **Attachment I**. The cost benefit is calculated based on the ADT growth rate over time. As ADT increases over time, the potential crashes also potentially increase proportionally; therefore the potential benefit of the counter-measure (pedestrian crossing improvement, designated bike lanes, and bicycle boulevards) also increases.

Project costs. The total project cost is estimated to be $1,861,000 upon completion. Even with the conservative assumptions in travel characteristics, the calculator tool shows a significant financial benefit over the cost of the improvements over the 20-year project lifecycle.

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 fulfills this by providing over 7 miles of improved regional bicycle facilities in an area where they currently don't exist. It will improve public health by providing a safer and more convenient bicycle network that promotes an increase in daily commuting to regional destination locations and encourage recreational use within this 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). This project falls within the East Regional Service Plan Area (SPA) 7 of Los Angeles County. Based on data compiled from the LA County Health Department's database,

12 percent of adults within this SPA do not engage in physical activity and 10 percent of children ages 6 to17 are inactive. Additionally, data provided by LA County Health Department also identifies health issues in the project area including approximately 39 percent of adults as being overweight and 27 percent categorized as obese. Approximately 26 percent of children in grades 5, 7, and 9 are also considered obese within the project area.

Obesity has been determined to be a major burden to the healthcare system by contributing to a number of chronic diseases, including coronary heart disease, type 2 diabetes, cancer, high blood pressure, high cholesterol, and stroke (CDC, 2009). It has also been shown to contribute to mental health conditions such as depression, bipolar disorder and low self-esteem, as well as a contributing risk factor for the development of asthma (CDC, Asthma Stats). Within the project area, 12.8 percent of children ages 0-17 have asthma and 20.3 percent of people report having diabetes.

The promotion of physical activity is a major component of current public health campaigns to reduce the prevalence of obesity. A key action 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).

According to Mayo Clinic Staff, exercise plays an important role in diabetes treatment plan and can improve blood sugar control (Mayo Clinic Staff, Diabetes and exercise: When to monitor your blood sugar). Building efficient, safe, and enjoyable facilities to walk and bike are crucial to increasing the rates of activity for fun, exercise, and transportation. The benefit of providing

these facilities in areas with elevated rates of obesity is it can increase the rate of physical activity. Particularly in disadvantaged neighborhoods, pedestrian infrastructure provides no cost exercise opportunity for the immediate community.

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

A. I. Is the project located in a disadvantaged community? Y/N Y

II. **Does the project significantly benefit a disadvantaged community?** Y/N Y

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

- **Median household income for the community benefited by the project:** $ 34,475

Based on the 2008-2012 American Community Survey, all households within a 3-mile radius of the project have a median household income below 80% of the state-wide median income of $61,400 (80% equals $49,120). Incomes within the project area range from $9,600 to $48,735 with an overall average of $34,475. (See "*Median Household Income Map*" in **Attachment L**)

- **California Communities Environmental Health Screen Tool (CalEnvironScreen) score for the community benefited by the project:** 38.53 – 59.08

The CES score within a half mile of the corridors ranged from 48.14-51.39 with an average of 49.78. Within 3-miles of the corridors, the CES score ranged from 38.53-59.08 with an average of 47.4 resulting in a percentage range of 96-100% for this measure. (See "*CES Map*" in **Attachment L**)

- **For projects that benefit public school students, percentage of students eligible for the Free or Reduced Price Meals Programs:** 89.7 %

There are 25 schools that fall within a half mile and 120 within 3-miles of the project corridors. The percentage of students eligible for the Free or Reduced Price Meals Program ranges from 75.2% to 100% with an average of approximately 89.7% of the students meeting eligible requirements. (See "*Free Lunch Schools Map*" in **Attachment L**)

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.

Since the community met all three criteria above, no additional criteria were evaluated.

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 entire project falls within a disadvantaged community and therefore 100% of the funding will benefit the community. Throughout this application the benefits of the project have been described, some of which include; providing bicycle routes in an area where currently there are few, enhancing the safety of the area for bicyclists, pedestrians, and motorists; providing intermodal connectivity to transit, and increasing the opportunity for physical activity.

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	Detailed Estimate	Project Schedule
Project Map	Preliminary Plan	

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

A. The applicant has coordinated with the CCC to identify how a state conservation corps can be a partner of the project. Y/N Y

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 Street, Sacramento, CA 95816. Submitted: May 8, 2014.

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. Y/N Y

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

Paige Brokaw. calocalcorps@gmail.com, 916-558-1516,
100 11th St., Ste 200, Sacramento, CA 95816 Submitted: May 8, 2014

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

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

Landscape construction and bike rack installation

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

Landscape construction and bike rack installation

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.

Not Applicable. The County of Los Angeles Department of Public Works has been participating in Los Angeles County Metro's biennial Call For Project program since its inception in 1991. The County of Los Angeles Department of Public Works has delivered numerous active transportation (bikeways and pedestrian) projects with no failures. The County of Los Angeles Department of Public Works has also delivered numerous bikeway and pedestrian projects under State Bicycle Transportation Account (BTA) grants and State and Federal Safe Route to School grant programs meeting the project scope, goal and grant guidelines.

Project name:	County of Los Angeles - DPW - Eastside Light Rail Bike Interface Project

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.

STATE OF CALIFORNIA ● DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2013)

General Instructions

☑ New Project					Date:	5/13/14
District	EA	Project ID	PPNO	MPO ID	TCRP No.	
07						

County	Route/Corridor	PM Bk	PM Ahd	Project Sponsor/Lead Agency	
LA				County of Los Angeles	
				MPO	Element
				SCAG	

Project Manager/Contact	Phone	E-mail Address
Allan Abramson	(626) 458-3963	aabrams@dpw.lacounty.gov

Project Title

Eastside Light Rail Bike Interface Project

Location, Project Limits, Description, Scope of Work ☐ See page 2

The Eastside Light Rail Bike Interface Project is located in the unincorporated Los Angeles County communities of East Los Angeles and City Terrace. The goal of this Project is to encourage bicycling to and enhance the bicycle-related amenities in the four Eastside Gold Line Extension station areas. The Project will construct four north-south bikeways to connect to the Metro Gold Line stations.

☑ Includes ADA Improvements ☑ Includes Bike/Ped Improvements

Component	Implementing Agency
PA&ED	County of Los Angeles
PS&E	County of Los Angeles
Right of Way	County of Los Angeles
Construction	County of Los Angeles

Purpose and Need ☐ See page 2

This project will enhance safety by directing bicyclists to residential streets with low traffic volumes, improving difficult crossings at major intersections, and increasing visibility of bicycling facilities to both bicyclists and motorists. Enhancing the safety of bikeways will encourage bicycling as a convenient form of transportation.

Project Benefits ☑ See page 2

This Project will promote increased intermodal bicycle-transit transportation by directly connecting designated bikeways to the Eastside Gold Line Stations.

☑ Supports Sustainable Communities Strategy (SCS) Goals ☑ Reduces Greenhouse Gas Emissions

Project Milestone			Proposed
Project Study Report Approved			N/A
Begin Environmental (PA&ED) Phase			02/01/10
Circulate Draft Environmental Document	Document Type	CE	01/30/14
Draft Project Report			03/01/14
End Environmental Phase (PA&ED Milestone)			01/31/14
Begin Design (PS&E) Phase			02/01/10
End Design Phase (Ready to List for Advertisement Milestone)			02/28/15
Begin Right of Way Phase			06/30/14
End Right of Way Phase (Right of Way Certification Milestone)			03/30/15
Begin Construction Phase (Contract Award Milestone)			12/01/15
End Construction Phase (Construction Contract Acceptance Milestone)			06/01/16
Begin Closeout Phase			07/01/16
End Closeout Phase (Closeout Report)			10/01/16

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.

STATE OF CALIFORNIA ● DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2013)

Date: 5/13/14

District	County	Route	EA	Project ID	PPNO	TCRP No.
07	LA					
Project Title:	Eastside Light Rail Bike Interface 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	230							230	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			1,631					1,631	
TOTAL	230		1,631					1,861	

Fund No. 1:	ATP								Program Code
Proposed Funding ($1,000s)									20.30.720
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)									State of California
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			1,305					1,305	
TOTAL			1,305					1,305	

Fund No. 2:	County Funds Local Match								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)									County of Los Angeles
PS&E	230							230	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			326					326	
TOTAL	230		326					556	

Fund No. 3:									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									

STATE OF CALIFORNIA ● DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2013)

Date: 5/13/14

District	County	Route	EA	Project ID	PPNO	TCRP No.
07	LA					
Project Title:	Eastside Light Rail Bike Interface Project					

Fund No. 4:									**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. 5:									**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. 6:									**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. 7:									**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									

STATE OF CALIFORNIA ● DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST

DTP-0001 (Revised July 2013)

Date: 5/13/14

District	County	Route	EA	Project ID	PPNO	TCRP No.
07	LA					
Project Title:	Eastside Light Rail Bike Interface 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:	County of Los Angeles - DPW - Eastside Light Rail Bike Interface Project

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)	$
Right-of-Way Phase	$
Construction Phase-Infrastructure	$ 1,305,000
Construction Phase-Non-infrastructure	$
Total for ALL Phases	**$** 1,305,000

All Non-ATP fund types on this project* (to the nearest $1000)	**Amount**
Local Match for Construction	$ 326,000
Preliminary Engineering	$ 230,000
	$
	$
	$
	$

*Must indicate which funds are matching

Total Project Cost	$ 1,861,000
Project is Fully Funded	No

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

ALLOCATION/AUTHORIZATION REQUESTS SCHEDULE

	Proposed Allocation Date	**Proposed Authorization (E-76) Date**
PA&ED or E&P		
PS&E		
Right-of-Way		
Construction	08/30/2015	10/30/2015

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:	County of Los Angeles - DPW - Eastside Light Rail Bike Interface Project

VII. NON-INFRASTRUCTURE SCHEDULE INFORMATION

Start Date	End Date	Task/Deliverables

Project name:	County of Los Angeles DPW- Eastside Light Rail Bike Interface Project

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: _____ Date: 5/14/14
Name: Allan Abramson Phone: (626) 458-3950
Title: Senior Civil Engineer e-mail: aabrams@dpw.lacounty.gov

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: _____ Date: 5/14/14
Name: Patrick V. DeChellis Phone: (626) 458-4004
Title: Deputy Director e-mail: pdechellis@dpw.lacounty.gov

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

Signature: _____ Date: _____
Name: _____ Phone: _____
Title: _____ e-mail: _____

Person to contact for questions:

Name: Phone: _____
Title: e-mail: _____

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: _____ Date: _____
Name: _____ Phone: _____
Title: _____ 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:
County of Los Angeles - DPW - Eastside Light Rail Bike Interface Project

VIII. ADDITIONAL APPLICATION ATTACHMENTS

Check all attachments included with this application.

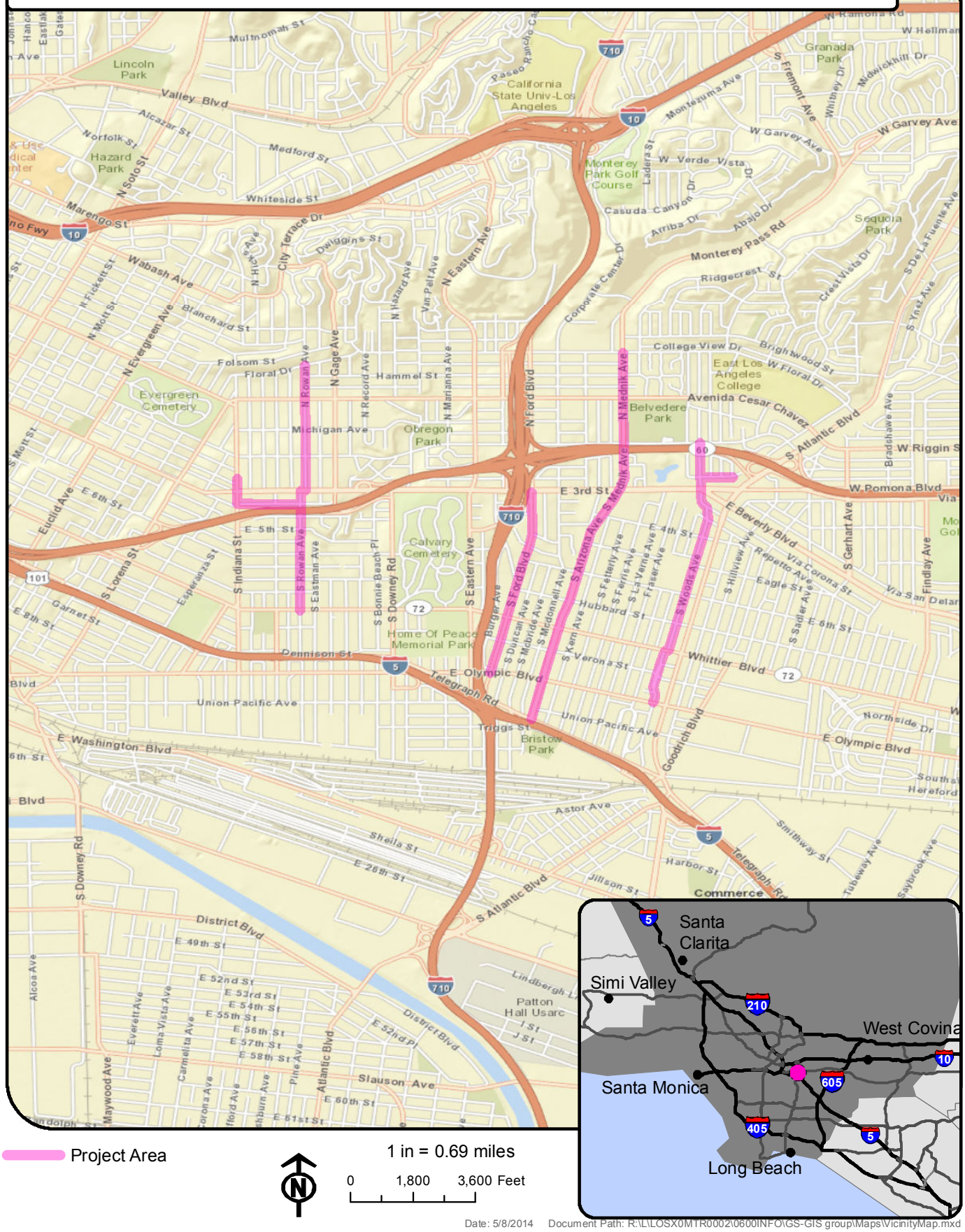
- ☒ Vicinity/Location Map- **REQUIRED for all IF Projects**
  - ☒ North Arrow
  - ☒ Label street names and highway route numbers
  - ☒ Scale
- ☒ Photos and/or Video of Existing Location- **REQUIRED for all IF Projects**
  - ☒ Minimum of one labeled color photo of the existing project location
  - ☒ Minimum 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)

Attachment A
Project Vicinity Map

Vicinity Map

Eastside Light Rail Bike Interface Project - Los Angeles County

Jurisdiction: LA COUNTY



Date: 5/8/2014 Document Path: R:\L\LOSX0MTR0002\0600INFO\GS-GIS group\Maps\VicinityMap.mxd

Attachment B
Project Area Photos

ROWAN AVENUE LOOKING ACROSS EAGLE STREET BRIDGE

ARIZONA AVENUE LOOKING ACROSS HUBBARD

FORD BOULEVARD LOOKING ACROSS EAGLE STREET

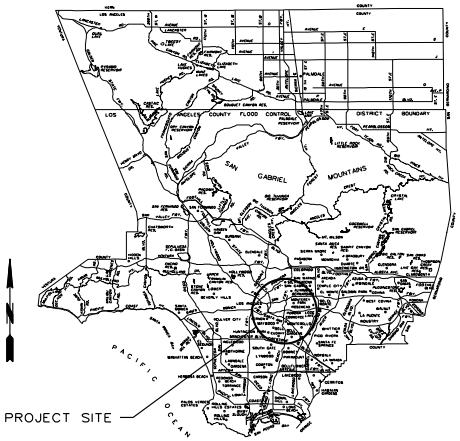
ALONG WOODS AVENUE

Attachment C
30% Design Plans

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

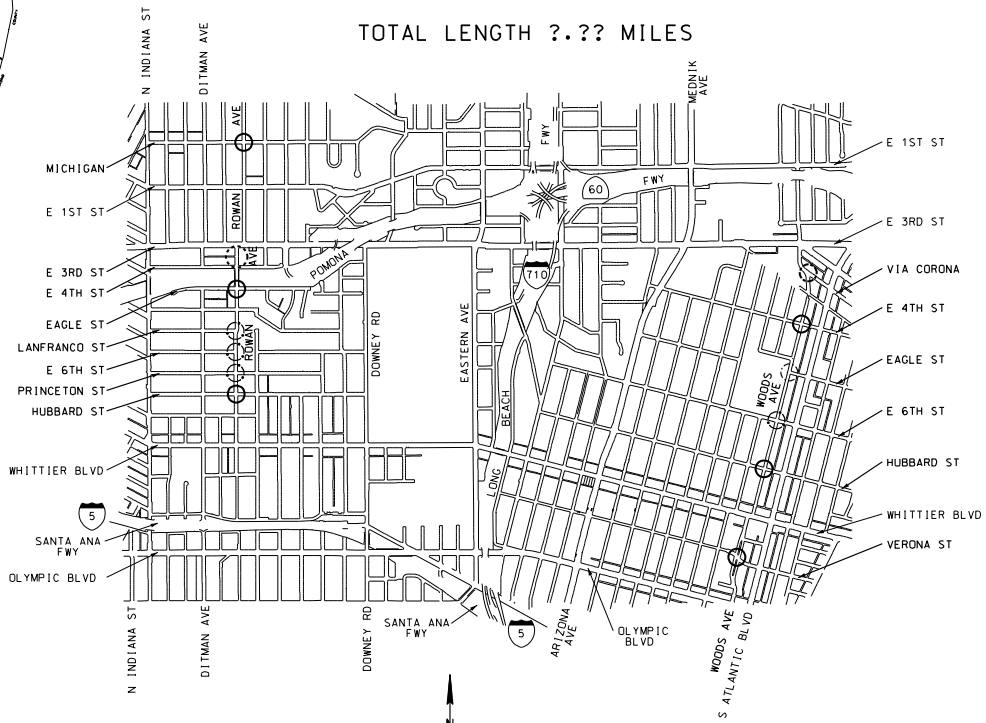
EASTSIDE LIGHT RAIL
BICYCLE INTERFACE

TOTAL LENGTH ?.?? MILES



T.G. 635 D5-7, H6-7, 675 G1
R.D. 142

LOCATION MAP



KEY MAP
NO SCALE
JOIN EXST PVMT PER DETAILS ON SHEET ?

INDEX

SHEET 1	TITLE SHEET
SHEET 2	CONSTRUCTION LEGEND AND NOTES
SHEET 3	TYPICAL SECTIONS
SHEET 4-?	PLAN AND PROFILE

TREATMENT KEY

- CONSTRUCT TRAFFIC CIRCLE AND BULB OUTS SEE TYPICAL SECTIONS ON SHEET 3
- CONSTRUCT TRAFFIC DIVERTER AND BULB OUTS SEE TYPICAL SECTION ON SHEET 3
- CONSTRUCT BULB OUTS SEE TYPICAL SECTION ON SHEET 3
- CONSTRUCT TRAFFIC DIVERTER SEE TYPICAL SECTION ON SHEET 3
- RECONSTRUCT PAVEMENT SEE TYPICAL SECTION ON SHEET 3

SEGMENT LIST

ROWAN AVE - E 3RD ST TO E 4TH ST
ROWAN AVE - AT E 6TH ST
ROWAN AVE - AT EAGLE ST
ROWAN AVE - AT HUBBARD ST
ROWAN AVE - LANFRANCO ST
ROWAN AVE - MICHIGAN ST
ROWAN AVE - PRINCETON ST
WOODS AVE - AT E 4TH ST
WOODS AVE - AT E 6TH ST
WOODS AVE - EAGLE ST
WOODS AVE - HUBBARD ST
WOODS AVE - VIA CORONA
WOODS AVE - VERONA ST

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APPROVED GAIL FARBER DIRECTOR OF PUBLIC WORKS
BY _____ DEPUTY DIRECTOR DATE
RECOMMENDED
BY _____ ASSISTANT DEPUTY DIRECTOR DATE
SUBMITTED
BY _____ DATE

DATE	MK	DESCRIPTION

REVISIONS

REGISTERED PROFESSIONAL ENGINEER VINCENT LLANA No. 63954 CIVIL STATE OF CALIFORNIA
PROJECT ENGINEER DATE

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
EASTSIDE LIGHT RAIL BICYCLE INTERFACE
TITLE SHEET
PROJECT ID NO. RDC0015268

PCA | DWG | SHEET 1 OF ?

DRAWTER A. TORRES | DESIGNER A. TORRES | CHECKER V. LLANA | CADD PROJECT FILE NAME RDC0015268-PLAN-RD.DGN

DATE. $DATE$ TIME. $TIME$ FILE. $FILE$

CONSTRUCTION LEGEND

ITEMS UNDERLINED TO BE CONSTRUCTED

1. PORTLAND CEMENT CONCRETE CURB AND GUTTER
2. PORTLAND CEMENT CONCRETE CURB
3. ASPHALT CONCRETE CURB
4. PORTLAND CEMENT CONCRETE LONGITUDINAL GUTTER
5. PORTLAND CEMENT CONCRETE SIDEWALK, 4" THICK
6. PORTLAND CEMENT CONCRETE SIDEWALK, 6" THICK
7. PORTLAND CEMENT CONCRETE PAVEMENT ON BASE MATERIAL
8. ASPHALT CONCRETE PAVEMENT
9. ASPHALT CONCRETE PAVEMENT ON BASE MATERIAL
10. ASPHALT CONCRETE PAVEMENT, VARIABLE THICKNESS
11. STABILIZATION GEOTEXTILE
12. SLURRY SEAL
13. COLD MILL ASPHALT CONCRETE PAVEMENT
14. DRIVEWAY, TYPE ___, Y= VAR UNLESS OTHERWISE SHOWN
15. ALLEY INTERSECTION (ON 6" CMB)
16. CROSS GUTTER (ON 6" CMB)
17. RETAINING STRUCTURE
18. DRAINAGE SYSTEM AS SHOWN ON SHEET INDICATED
19. REINFORCED CONCRETE STAIRWAY
20. CURB RAMP, CASE ____, SECTION ____, UNLESS OTHERWISE SHOWN
21. CONCRETE BUS PAD
22. RUBBERIZED ASPHALT CONCRETE (RBAC) OR ASPHALT RUBBER HOT MIX (ARHM)
23. RUBBERIZED ASPHALT CONCRETE (RBAC), VARIABLE THICKNESS OR ASPHALT RUBBER HOT MIX (ARHM), VARIABLE THICKNESS
24. FURNISH AND PLANT TREE (PER CONSTRUCTION NOTE 6)
25. DROP CROTCH TRIM AND ROOT PRUNE TREE. FURNISH AND INSTALL ROOT CONTROL BARRIER
26. ADJUST MANHOLE
27. DOUBLE ADJUST MANHOLE
28. RECONSTRUCT MANHOLE
29. TREE WELL COVERS, TYPE _____, CASE _____
30. CURB DRAIN, CASE _____, N = _____
31. PARKWAY DRAIN, INLET TYPE _____, S = _____
32. RUBBERIZED EMULSION AGGREGATE SLURRY
33. CHAIN LINK FENCE AND GATES, H=____ UNLESS OTHERWISE SHOWN
34. METAL BEAM GUARD RAIL
35. TERMINAL SYSTEM END TREATMENT (TYPE AS SHOWN)

CONSTRUCTION NOTES

CHECKED BOXES ARE FOR ITEMS APPLICABLE TO THIS PROJECT

- ☐ 1. PRIME CONTRACTOR LICENSE REQUIRED: CLASS A OR C12.
- ☐ 2. STANDARD PLANS REFERENCED ARE PER THE STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (SPPWC) UNLESS OTHERWISE NOTED.
- ☐ 3. PRIOR TO RESURFACING WITH RBAC OR ARHM, FILL ALL HOLES AND CRACKS WIDER THAN 1/4" WITH SS-1h EMULSIFIED ASPHALT AND SAND. PAYMENT SHALL BE CONSIDERED AS INCLUDED IN THE CONTRACT UNIT PRICE FOR RUBBERIZED ASPHALT CONCRETE OR ASPHALT RUBBER HOT MIX
- ☐ 4. PRIOR TO RESURFACING WITH AC, FILL ALL HOLES AND CRACKS WITH SS-1h EMULSIFIED ASPHALT AND SAND. PAYMENT SHALL BE CONSIDERED AS INCLUDED IN THE CONTRACT UNIT PRICE FOR AC PAVEMENT.
- ☐ 5. REPLACE AND RELOCATE TRAFFIC SIGNAL AND STREET LIGHTING PULL BOXES AFFECTED BY CURB RAMP AND SIDEWALK CONSTRUCTION. PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE FOR NO. 6 PULL BOX.
- ☐ 6. FURNISH AND PLANT 15 GALLON TREE, PER STD PLAN 520-2 CASE ____, , DOUBLE STAKING PER STD PLAN 518-2.
- ☐ 7. ELEVATIONS SHOWN ARE IN FEET BASED ON _____ ADJUSTMENT, NAVD 1988 DATUM.
- ☐ 8. ELEVATIONS SHOWN ARE IN FEET ABOVE MEAN SEA LEVEL BASED ON _____ ADJUSTMENT, NGVD 1929 DATUM.

CONSTRUCTION SYMBOLS

- (NO) INDICATES WORK PER CONSTRUCTION LEGEND
- (Ltr) CURVE DATA SHOWN IN TABLE ON PLAN
- ○ 2" / P4 — ABOVE LINE: INDICATES THE TYPE OF STANDARD OR THICKNESS OF SURFACE MATERIAL IN INCHES: STD PLAN VARIABLES: CURB RAMP CASE,TYPE,SECTION AND DETAIL: OR TREE PLANTING CASE
- ○ 5" / CMB — BELOW LINE: REFERENCE TO DETAIL OR THICKNESS OF BASE MATERIAL IN INCHES OR TREE WELL CASE
- (5) a x b / 4" CMB — ABOVE LINE: a = LENGTH PARALLEL TO CURB; b = LENGTH PERPENDICULAR TO CURB
- ○←R REMOVE TREE
- (14) a, b / 2" P4 — ABOVE LINE: a = WIDTH OF DRIVEWAY BEHIND APRON; b = DISTANCE BACK OF APRON
  - BELOW LINE: THICKNESS AND TYPE OF SURFACE MATERIALS BEHIND APRON
  - STA / W - RES / OR - COM
  - LEFT OF LINE: STA OF THE DRIVEWAY APRON
  - RIGHT OF LINE: DRIVEWAY WIDTH "W" OF APRON
- (19) C, L, S, R, T — ABOVE LINE: STD PLAN VARIABLES
  - LEFT OF LINE: STA OF THE STAIRWAY
  - RIGHT OF LINE: STAIRWAY WIDTH AND TYPE
  - STA / W, TYPE
- (MT) W / L — MEDIAN TAPER PER STD PLAN 140-2
- (MF) W / L — MEDIAN FLARE PER STD PLAN 141-1
- ○←RU UTILITY TO BE RELOCATED BY OTHERS

STANDARD PLANS

SPPWC, ____ EDITION

LACDPW, ____ EDITION

STATE OF CALIFORNIA, ____ EDITION

NON-STANDARD ABBREVIATIONS

COM	COMMERCIAL
RES	RESIDENTIAL
BW	BACK OF WALK
DEP	DEPRESS
LACDPW	LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
PWFB	PUBLIC WORKS FIELD BOOK
PWLB	PUBLIC WORKS LEVEL BOOK

REFERENCES

1. MATERIALS TEST REPORT, LAB No. ____, DATED _____
2. PWFB _____ PAGES _____
3. PWLB _____ PAGES _____

CONVENTIONAL SYMBOLS

EXISTING TOPOGRAPHY / PROPOSED IMPROVEMENTS

CURB
CURB AND GUTTER
GUTTER
PAVEMENT CONCRETE
AC
CURB RAMP
BUILDING
BARRICADE
FENCE
GUY POLE
DRIVEWAY
FIRE HYDRANT
GUARDRAIL
GUY WIRE
MANHOLE
PIPE
CONNECTOR PIPE
MAIN LINE
POLE
PROPERTY LINE
R/W LINE
PULL BOX
RAILROAD
RR XING PROTECTION
SHRUB
SIDEWALK — SHADED IF NOT CONTINUOUS
SIGNAL CONTROL BOX
SIGNAL FLASHING
TRAFFIC
LOOP
STREET LIGHT
PALM TREE
OAK TREE
OTHER TREE
VALVE
VAULT
BRICK (BLOCK) WALL
CONCRETE WALL
STONE WALL
TOP OF SLOPE
TOE OF SLOPE
STAND PIPE

AC PAVEMENT CLASS AND GRADE LEGEND

P1 C2 - PG 64-10 B - PG 64-10
P2 C2 - PG 64-10
P3 B - PG 64-10
P4 D2 - PG 64-10

PRELIMINARY PLANS 30%

DATE	MK	DESCRIPTION

REVISIONS

REGISTERED PROFESSIONAL ENGINEER VOLTAIRE LLANA No. 63954 CIVIL STATE OF CALIFORNIA

PROJECT ENGINEER DATE

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

EASTSIDE LIGHT RAIL BICYCLE INTERFACE

CONSTRUCTION LEGEND AND NOTES

PROJECT ID NO. RDC0015268

PCA DWG SHEET 2 OF 2

PS-CNP-CH 12/10

DRAFTER A. TORRES | DESIGNER A. TORRES | CHECKER V. LLANA | CADD PROJECT FILE NAME RDC0015268-PLAN-RD.DGN | REVIEWED BY | DATE

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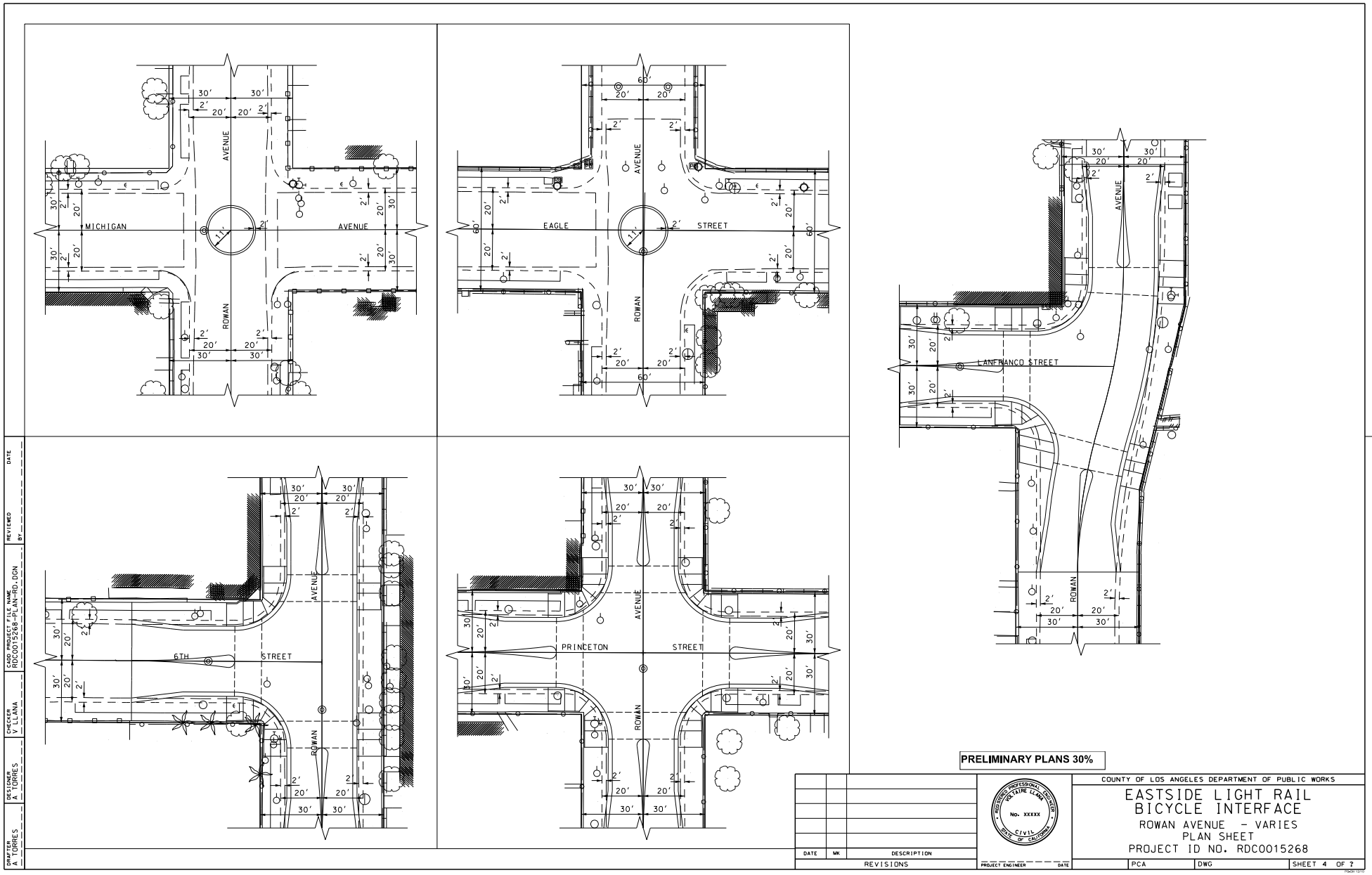
MICHIGAN
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LANFRANCO STREET
6TH
PRINCETON
PRELIMINARY PLANS 30%
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
EASTSIDE LIGHT RAIL
BICYCLE INTERFACE
ROWAN AVENUE - VARIES
PLAN SHEET
PROJECT ID NO. RDC0015268
DATE
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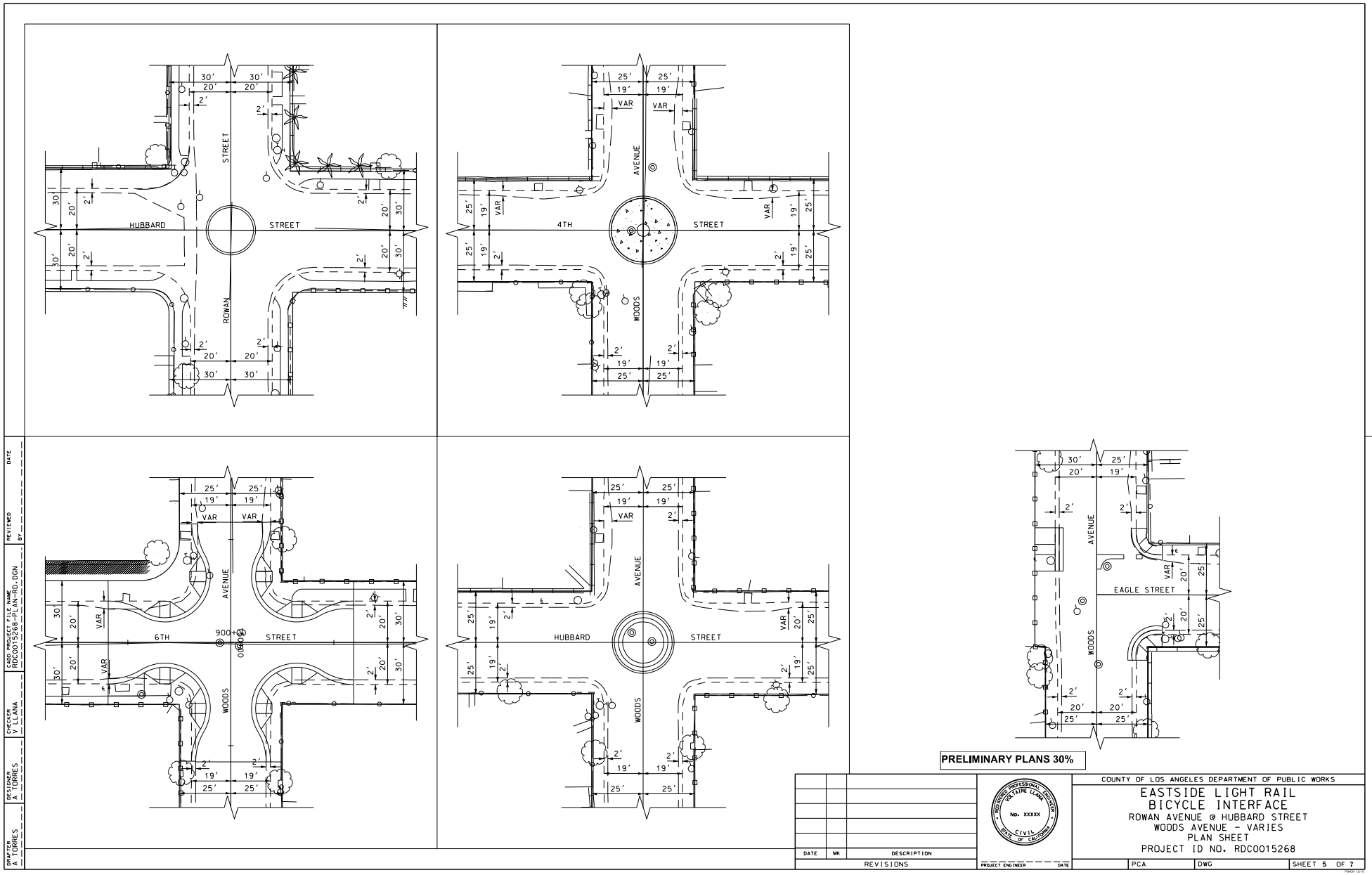
DESCRIPTION
REVISIONS
PROJECT ENGINEER
PCA
DWG
SHEET 4 OF 2
DRAFTER A. TORRES
DESIGNER A. TORRES
CHECKER V. LLLANA
CADD PROJECT FILE NAME RDC0015268-PLAN-RD.DGN
REVIEWED BY
DATE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PROJECT ENGINEER
DATE
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
EASTSIDE LIGHT RAIL
BICYCLE INTERFACE
ROWAN AVENUE @ HUBBARD STREET
WOODS AVENUE - VARIES
PLAN SHEET
PROJECT ID NO. RDC0015268
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SHEET 5 OF ?
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TIME: $TIME$
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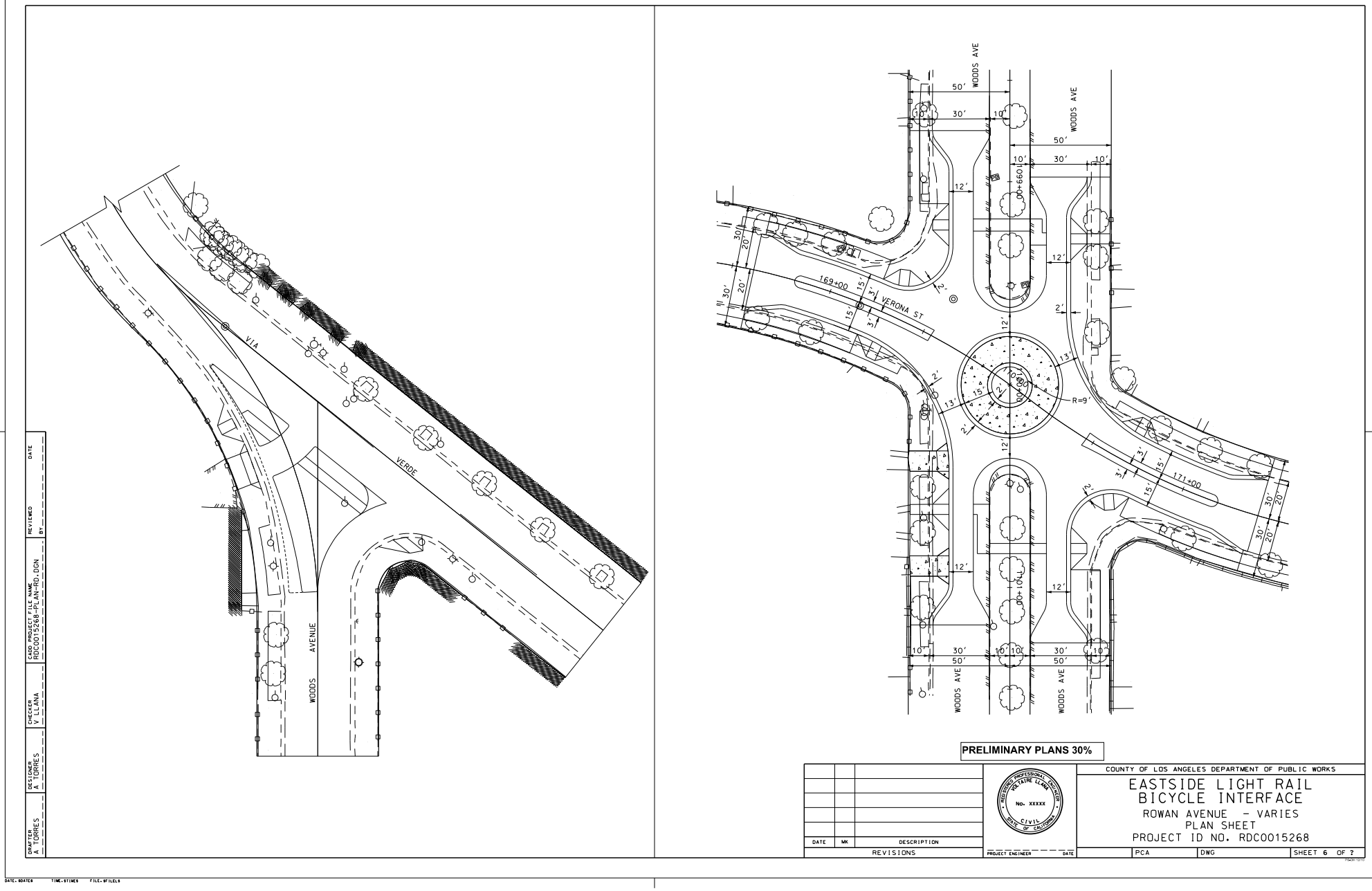
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COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
EASTSIDE LIGHT RAIL
BICYCLE INTERFACE
ROWAN AVENUE - VARIES
PLAN SHEET
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SHEET 6 OF ?
DRAFTER A TORRES
DESIGNER A TORRES
CHECKER V LLANA
CADD PROJECT FILE NAME RDC0015268-PLAN-RD.DGN
REVIEWED BY
DATE

Attachment D
Project Cost Estimate

Eastside Light Rail Bike Interface Project
Engineers Cost Estimate

Project Funding			
	MTA Grant Funds	$ 1,305,000	(ATP Funds)
	LA County	$ 326,000	(TDA Article 3)
	Total	**$ 1,631,000**	
	Design Funds	**$ 230,000**	

ESTIMATED PROJECT COSTS:

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
1.	Environmental documentation				$30,000
2.	Outreach Program (Public Education, Before Study, After Study)				$40,000
3.	Preliminary Plans				$100,000
4.	Bid Package - Final Plans, Specifications, Estimates				$60,000
5.	**Total Design Cost**				**$230,000**
Note: Quantities & unit costs below are preliminary estimates only, and may change according to final design plans.					
6.	**Construction**				
6.1.	Bike signage	543	EA	$300	$162,900
6.2.	Pavement Markings (including req'd removal of existing)	358	EA	$200	$71,600
6.3.	Pavement Striping (including req'd removal of existing)	80,000	LF	$2	$160,000
6.4.	Bike Sensitive Loop Detectors	38	EA	$1,000	$38,000
6.5.	Traffic Calming Features				
	Traffic Circle	5	EA	$120,000	$600,000
	Curb Extensions (4 corners)	2	EA	$100,000	$200,000
	Traffic Diverter	2	EA	$30,000	$60,000
6.6.	Bike Racks (2-5 per location)	25	EA	$500	$12,500
	Grand Total				**$ 1,305,000**
6.7.	Construction Contingency			@10%	$130,500
6.8.	Construction Mgmt.			@15%	$195,500
	Total Construction				**$ 1,631,000**
	Grand Total				**$ 1,861,000**

Attachment E
Approved Local/Regional Plans

The following are web based links to Local and Regional Bike and Transportation plans relevant to this project.

Los Angeles County – Department of Public Works Community Pedestrian and Active Transportation Planning

http://ladpw.org/tnl/docs/Comm%20Ped%20Plng%20Web%20Version.pdf

Los Angeles County – 2012 Bicycle Master Plan

http://ladpw.org/pdd/bike/masterplan.cfm

Attachment F
Public Participation Documentation

On a community scale, bicycle infrastructure projects are generally far less expensive than automobile-related infrastructure. Further, shifting a greater share of daily trips to bike trips reduces the impact on the region's transportation system, thus reducing the need for improvements and expansion projects.

1.3.4 Community/Quality of Life Benefits

Fostering conditions where bicycling is accepted and encouraged increases a community's livability from a number of different perspectives that are often difficult to measure but nevertheless important. The design, land use patterns, and transportation systems that comprise the built environment have a profound impact on quality of life issues. Studies have found that people living in communities with built environments that promote bicycling and walking tend to be more socially active, civically engaged, and are more likely to know their neighbors, whereas urban sprawl has been correlated with social and mental health problems, including stress.[8,9] The aesthetic quality of a community improves when visual and noise pollution caused by automobiles is reduced and when green space is reserved for facilities that enable people of all ages to recreate and commute in pleasant settings.

1.3.5 Safety Benefits

Conflicts between bicyclists and motorists result from poor riding and/or driving behavior as well as insufficient or ineffective facility design. Encouraging development and redevelopment in which bicycle travel is fostered improves the overall safety of the roadway environment for all users. Well-designed bicycle facilities improve security for current cyclists and also encourage more people to bike, which in turn can further improve bicycling safety. Studies have shown that the frequency of bicycle collisions has an inverse relationship to bicycling rates, which means more bicyclists on the road equates to lower crash rates.[10] Providing information and educational opportunities about safe and lawful interactions between bicyclists and other roadway users also improves safety.

1.4 Public Participation

Community involvement was vital to the development of the Plan. The Plan team held three rounds of public workshops to present to the public the Plan's findings and recommendations and to receive public feedback.

The **first round** of workshops introduced the Plan to the public and provided opportunities for public input. The Plan team performed extensive outreach to inform County residents of these workshops, including sending electronic mail blasts to stakeholders, including all 88 cities in Los Angeles County, posting notices on the project website, producing a meeting flyer in English and Spanish, creating and distributing a press release, and mailing comment cards to local bike shops, libraries, and parks and recreation facilities. There were a total of ten first round workshops held between February and March 2010. Meeting attendance was an average of ten people.

The **second round** of workshops, held in June 2010, served as a mid-project update for the public. These workshops focused on specific study corridors being evaluated by the project engineering team; education, encouragement and enforcement program recommendations; and project prioritization methodology. There

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[8] *Frumkin, H. 2002. Urban Sprawl and Public Health. Public Health Reports, 117: 201–17.*

[9] *Leyden, K. 2003. Social Capital and the Built Environment: The Importance of Walkable Neighborhoods. American Journal of Public Health 93: 1546–51.*

[10] *Jacobsen, P. Safety in Numbers: More Walkers and Bicyclists, Safer Walking and Bicycling. Injury Prevention, 9: 205-209. 2003.*

were a total of 11 public workshops during the second round, which also attracted an average of ten people per workshop. In addition to the outreach efforts used for the first round of workshops, the outreach for the second round of workshops included discussion of the Plan at Town Council meetings in unincorporated areas and at meetings held by Regional Planning for community specific plans, distribution of postcards at "Bike To Work Week" events throughout the County sponsored by LACMTA, and posting public service announcements on County websites, Bus Shelters in unincorporated areas, and on buses and shuttles that operate within or near unincorporated areas.

The **third round** of public workshops included a presentation of the draft Plan and provided opportunities for the public to provide input on the draft Plan. In addition to the outreach efforts used for the first and second round of workshops, the County retained the Angeles County Bicycle Coalition (LACBC) to assist with the outreach and to encourage attendance at the workshops. LACBC issued a press release to news media, radio and television; they worked with various entities to coordinate the posting of our workshop information on these entities' websites; and sent electronic mail blasts to their members/subscribers. There were a total of 11 public workshops held between March and April 2011, with an average attendance of ten people per workshop.

The public comment period for the draft Plan was from March 31st to June 3rd, which was extended to target participants on the Los Angeles Bike to Work Week. The County again enlisted LACMTA's assistance to distribute quarter page flyers at the Bike to Work Day pit stops, encouraging interested parties to comment on the draft Plan.

To improve connectivity between the Plan's recommendations and the existing and planned bikeways in other jurisdictions, the County kept the cities throughout Los Angeles County aware of the status of the Plan via electronic mail blasts. The cities were invited to review and comment on the Plan, as well as to attend the public workshops. Although not every city responded, representatives from numerous cities attended the public workshops and submitted comments on the Plan.

1.5 Updates and Amendments to the Plan

This Plan provides direction for developing a comprehensive bicycle network, support facilities, and programs for the County. Although this is a 20 year planning document, the County recognizes that in order to achieve the desired results of increasing bicycling throughout Los Angeles County, the County needs to remain flexible to updating and amending the recommendations and proposals contained in this Plan.

The County will consult the community stakeholder group, the affected communities, and other stakeholders throughout implementation of this Plan. Over time, additional facilities may be identified for which bikeway facilities are desirable, or it may be desirable to change a bikeway designation from one classification to another based on community input and/or engineering considerations.

As indicated in Policy 1.5, the County will complete regular updates of the Bicycle Master Plan every five years. In addition, the Plan may be amended more frequently if necessary. Updates and amendments to this Plan would be subject to approval by the County Regional Planning Commission and the County Board of Supervisors. Class II bikeways shall be deemed consistent with the Plan wherever either a Class II or Class III Bike Route is mapped. Accordingly, no plan amendment shall be required when a mapped Class III Bike Route is replaced with a Class II Bike Route.

that the development of the County of Los Angeles Bicycle Master Plan is coordinated with any concurrent municipal planning efforts. Relevant Planning Studies

The planning documents described in this section remain unadopted by the agency or agencies responsible for implementing their recommendations, but provide valuable analysis to assist the development of the County of Los Angeles Bicycle Master Plan. The use of these plans as guidance does not reflect County endorsement of specific proposals.

C.3.14 Enhanced Public Outreach Project (2004)

The Enhanced Public Outreach Project (EPOP) had two goals: (1) to significantly increase the level of public participation in the development of the LACMTABTSP; and (2) gain a better understanding of the needs, perceptions and travel behavior of all bicyclists, focusing on those in communities with low income and high transit use. Public input was collected through two surveys: a more general Countywide Bicycle Survey followed by an Origin and Destination Survey. Over 3,000 surveys were completed and analyzed. Many of the targeted communities included unincorporated areas such as Altadena, East Los Angeles, Florence-Firestone, Willowbrook, and Lennox. The findings of this report will be considered in the development of the County of Los Angeles Bicycle Master Plan, with specific attention to the data collected in or near unincorporated areas of the County. **Figure C-10** shows bicyclists origins and destinations collected through EPOP surveys.

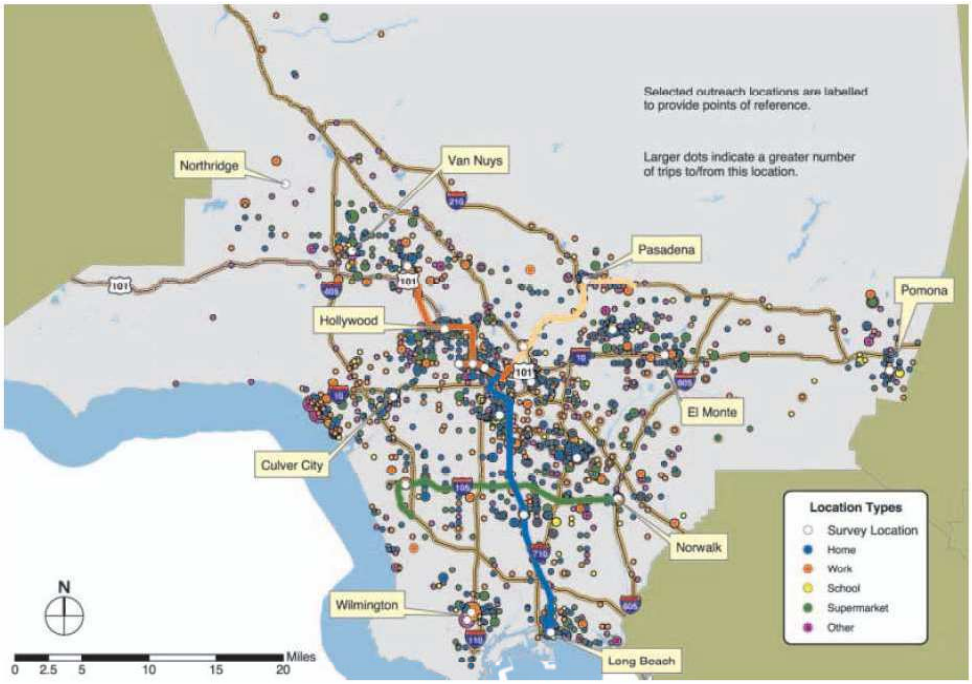

Figure C-10: Bicyclist Origins and Destinations (EPOP Surveys)

Los Angeles County Bicycle Master Plan -

Reviewer:	
Agency/Steering Committee:	All Public Comments From 3-1-2011 to 6-3-2011

FILLED OUT BY REVIEWER					FILLED OUT BY RESPONDER
No.	**Page No./ Section**	**Reviewer**	**Reviewer Comment No.**	**Comments**	**Response**
1	General Comments	Adam Kliszewski	1	AS a decades long bicycle commuter I enthusiastically support all efforts to make our streets safer for pedallers. Many people would like to leave their car at home for short trips, but are afraid of traffic. Physical separation modeled after Scandinavia would be great. I applaud LAPD's tolerance of bikes on sidewalks, when these are not used by pedestrians.	Physical seperation of on-road bikeways added to the Plan in Chapter 2 and Appendix F.
2	Be added to Distribution List	ADRIANA DE SANTIAGO	1	THIS IS A GREAT PLAN I AM CURRENTLY A STUDENT AT CSULA AND I RIDE MY BICYCLE TO SCHOOL. AT SOME INSTANCES CARS DO NOT RESPECT THE BIKER AND IT BECOMES EXTREMELY UNSAFE. I WOULD APPRECIATE A BIKE ROUTE IN THIS AREA. FOR THE SAKE OF BIKERS SAFETY, AND FOR THE PLANET. MY AREA IS IN CITY TERRACE LOS ANGELES CA 90063.. THIS WOULD MAKE MY TRAVELS THRU BIKE MORE ENJOYABLE.	Bike lanes have been added to the Plan in this area
3	General Comments	Alex Braunstein	1	In idea, the plan is good. However, there are a few major flaws with it that need to be worked out. The biggest flaw is the simple fact that it doesn't seem to be very safe. With class two and three bike paths, there seems to be very little protection against cars, making it only a very slight upgrade from just biking on a road. The white stripes currently planed to be used are not enough. there should be something greater, like in Long Beach a and London, where there the entire bike lane is painted a color, like blue or green. This makes a significantly bigger visual impact on a car-diver, which will lessen the chances that the lane is driven in to. There is one lane is particular that should be turned into a class one bike path. PCH is a notoriously deadly road, and should be as safe as possible. Bikers are quite often killed on it, and as it is planned it is simply not enough. I know I would not feel safe biking on it using the plan now. On a slightly separate note, I think the streets are way to wide. Who does this city belong to? The cars, or the people? This plan has the city belonging to the cars. Make it belong to the people. Lastly, London is implementing an innovative new feature on their bike path plan. Every mile, they have a map of popular destinations in the area. You should implement something similar, as it encourages pedestrian activity.	Innovative treatments such as colored bike lanes and cycle tracks have been added to the design toolbox in the Plan. PCH is a State Highway and the bike route along is not within the County's jurisdiction. The Plan includes encouragement programs, such as the distribution of bicycling maps that help bicyclists in wayfinding around the County.
4	General Comments	Alvaro Najera	1	Hello my name is Alvaro Najera. I'm president of the Biking Vikings at Mountain View High School. We are right next to the San Gaberial Valley Trail. I believe this is a great idea! for more information contact our website bikingvikings.weebly.com	
5	General Comments	anglina	1	excellent plan is generated for the people of los angles... they would be benefited... http://www.albertam.com	
6	Bike Facilities (e.g. Bike parking)	aqoPTpuZDoE ClQFFsut	1	VQBD9I wxxxwhgygaow, [url=http://vutbhlzdxvch.com/]vutbhlzdxvch[/url], [link=http://tluixnozhgun.com/]tluixnozhgun[/link], http://hipsfdkhenmd.com/	
7	Bike Facilities (e.g. Bike parking)	Armando Moreno Jr	1	Yes I am for more bike lanes the proposed from east la to Santa Monica would be a great asset to our community, please consider other bike lane options as well, thank you for your time.	
8	General Comments	Bob Gregorich	1	Hi! It is so good to see more bike paths are planned and implemented! A tremendous vision and legacy! Try to put aside dedicated bike paths for bikes only. Car drivers sometimes do not share the road well with bikes. Please keep up the excellent work!	
9	Facilities	Carlos	1	It would be great if a bike lane was made from Maywood to Calstatela. It would make students commutes more variable and accessible.	Several bikeway facilities are proposed throughout the unincorporated East LA area, which will connect to this location . Planning of on-road bikeway facilities in the Cities of Maywood and Commerce are under the purview of the Cities.

Los Angeles County Bicycle Master Plan -

Reviewer:	
Agency/Steering Committee:	All Public Comments From 3-1-2011 to 6-3-2011

FILLED OUT BY REVIEWER					FILLED OUT BY RESPONDER
No.	**Page No./ Section**	**Reviewer**	**Reviewer Comment No.**	**Comments**	**Response**
10	General Comments	Casey Roth	1	I live on Coolidge Avenue in Pasadena and it is being proposed to run a bike path down our street. This is a terrifying thought! There is a huge dip at the end of our block and it causes cars to go airborne quite often when they don't see it coming, i.e., don't reduce their speed. The injuries that I see occurring with bicyclists coming downhill and not seeing the dip in time are many. Thanks so much.	This bicycle boulevard has been reevaluated to provide safer bicycle conditions in the Altadena area. The connection between Glen Canyon and Washington Blvd has been moved from Coolidge Avenue to Roosevelt Avenue.
11	General Comments	Charlotte Sannan-Lucero	1	I am puzzled as to how this ties in with the Glendale Master Bike Plan and wondered if you could enlighten me since Glendale does not seem to be mentioned other than the Montrose-LaCrescenta area but I had understood that they were moving ahead with a plan that included North Verdugio Road.	The La Crescenta-Montrose area is the only unincoporated area that borders with Glendale. There are several proposed bikeways in this area, such as the bike lane on Montrose Avenue, that connect to facilties proposed by the City of Glendale.
12	Study Corridors	Chris Newman	1	Thank you for including a Study Corridor in Santa Clarita for getting from Bouquet Canyon to the Metrolink in Canyon Country. A Bike Path/Lane is really needed from Bouquet Canyon to Soledad in Santa Clarita via Plum and White's Canyon Roads. There are about cyclists who take this route daily to get to the other side of the town. It is dangerous as there are speeding cars, no shoulders, and the sidewalks are really skinny. This is a newer area of town, and I can't believe the City and County Planners didn't include a thought on bicycle traffic using this. Unless you add 10 miles to your commute, it is the only way north/south from this part of town. In the future Golden Valley Road will intersect with Plum Canyon and it would be nice if they planned for a bike path or road sharing, and had a safe way for cyclists to use Plum Canyon. Thank you for the great work. Chris	Added to the plan
13	Bike Facilities (e.g. Bike parking)	Christopher Brunelle	1	I commute to LA Union Station 5 days per week. I Live in Whittier, my Train Departs from Norwalk/Santa fe Springs via Metro link train. I asked many time if we could have Bike Lockers, " We will get back to You." Please, help. Thank you, Chris	Bicycle parking in Metro or Metrolink stations are not within the County's jurisdiction.
14	General Comments	Craig	1	Existing bike lanes should be connected to each other with new bike lanes.	One of the Goals of this Bicycle Master Plan is to expand and interconnect the County's bikeway system. This proposed network is extensive and was designed to provide the maximum connectivity allowed under existing conditions.
15	Study Corridors	Dale Stone	1	I am surprised by the lack of routes between Soledad Canyon and Bouquet Canyon Roads. Currently the only somewhat safe route if you live off Bouquet Canyon to get to the MetroLink Stations (Via Princess or Soledad Station) is to ride into Valencia, then back down to Soledad Canyon. I saw on the proposed Santa Clarita map the City is looking at coming up White's Canyon from Soledad (4 lane road), but it stops in the unincorporated area (Where it becomes a curb to curb 6 lanes with narrow sidewalks) just before White's Canyon turns into Plum Canyon. Why doesn't the County remove the 3rd lane in each direction give us a bike lane since we have to share the road with traffic moving at 60+ MPH? This bike lane is needed as traffic is moving at highway speeds, the side walks are narrow, and the grade of the road is at least 10% if not more. There are no routes currently to take you from one side of the valley to the other. Thank you, Dale Stone	Class 2 facility added to Plum Canyon Road. Please see Table 3-25, facility Id #13 in Santa Clarita Planning area.

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16	Bike Facilities (e.g. Bike parking)	Daniel Lopez	1	The green Bike Route sign, D11-1 has been around a long time. Many drivers seem to be jaded to the message the sign is trying to convey. The sign that has a better educational aspect to it is the diamond shaped W11-1 with a caption that reads "Share the Road". These can be seen in Pasadena along Los Robles Ave. between Huntington Dr. and Colorado.	The W-11 sign does not serve the same purpose as the D11-1 sign, which is used to designate a street as a Class III bikeway. It is possible to use these signs in conjunction with the D11-1 signs on a case by case basis.
17	General Comments	Danny Lopez	2	The R-81 sign that reads "Bike Lane" has been around for a long time. It seems like many drivers are jaded to its meaning. Adding the W11-1 sign with a capions that reads "Share the Road" has a much better chance of educating the public.	The intention of this sign is to provide information to bicyclists and drivers that there is a bike lane along the street. With the bike lane drivers are retrcited from using the bike lane as a travel. The W11-1 sign does not serve the same serve the same purpose as it is intended to alert drivers that there maybe cyclists that are sharing the car travel lanes.
18	General Comments	Darryl Bustamante	1	It is nice to see the County interested in making cycling more main stream, but first things, first - Maintain the roads and keep them clean! The biggest hazards to cyclists (after cars) are bad roads and debris. What is the point of any bike plan if we must endure pot holes, cracks, nails, screws, glass, etc? Lick these two issues and then we'll talk bike lanes, paths and trails. Maintain the pavement and run a street sweeper once in awhile for Peteâ€™s Sake! Last I checked taxpayers were paying for this stuff!	The Plan does recommended street sweeping as a general maintenance activity for the bikeways. The County of Los Angeles Department of Public Works is responsible for maintaining all roadways in unincorporated County areas. Please forward any complaints regarding roadways in unincorporated areas to 800-675-HELP.
19	General Comments	David Reyna	1	I love the fact that Los Angeles county is working towards encouraging the use of bicycles. I bike my way around Los Angeles and always tell people how fast and efficient it is to mobilize yourself throughout Los Angeles, with our train lines and bus lines we don't need to use our automobiles much anymore. People who choose to bicycle choose to be healthier, to improve our air quality, to improve our automobile traffic flow, fight against the greedy oil companies, and promote a greener, better tomorrow. I support just as long as the county officers on bikes don't start citing just to reach a quota.	
20	Facilities	Diane Marcussen	1	I am against the use of Coolidge Ave as part of the bike plan proposal in Altadena for the following reasons . 1) dangerous street crossing at NY Drive may require a controlled intersection but there is a light 2 blocks east at Altadena Drive. Speed limit on NY Drive coming from the east until Altadena Dr is 50 mph so cars can be coming quickly. Speed above which CHP actually tickets is 44 mph I believe so speed is fairly high and makes it difficult to cross safely. 2) Coolidge south of NY Drive has extreme drainage dips that are dangerous for crossing. Today, cars bottom out and/or become airborn all the time. This is a N/S street that is on a hill and harder to control speed going south. 3) Entrance on to Washington from Coolidge (even for a right hand turn) is difficult, at best, for cars let along bikers. There are usually cars parked on Washington that block the view of oncoming cars. All of these items can be avoided if the bike route goes on Glen Canyon all the way to Altadena Drive then south on altadena NY Drive where there is a traffic signal and on to Washington where there is also a traffic signal.	The facility on Coolidge Ave has been removed. A new proposed route was added along Roosevelt Avenue. In addition, the facility on Glen Canyon extended to Altadena drive were a new Class II bike lane facility is proposed.

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21	General Comments	Donna Chazanov	1	YES, build a dedicated bicycle path from the west to the east and people will use it. I am a 57 year old who is trying not to get killed riding my bicycle 5 miles to work straight down Olympic which is supposedly a "BIKE ROUTE"??? That is what the signs say. There ARE thousands of us waiting for the politicians to make our streets safe. The car culture era is ending. People want safe alternatives, to be healthy, to move away from being dependent on oil producing countries, to live greener. Please make this happen sooner, not ten years down the road.	Outside of jurisdiction - this is are is within the City of LA.
22	Goals	Duncan Sinclair	1	Please give a top priority to extending the LA River bike path ALL the way through San Fernando Valley. This will give cyclists a safe and fast way to cross the Valley without having to deal with traffic, AND it will connect us to the rest of Los Angeles, a connection which is sadly lacking at the moment. Thank you.	The Cities of Los Angeles and Glendale are spearheading efforts to construct bikeways along the LA River from the headwaters to the existing path near Griffith Park. The County fully supports extending the LA River bike path and our Plan recommends closure of the existing gaps in Universal City and the City of Vernon.
23	General Comments	Eugene Tate, Jr.	1	Could there be a safe Bike route between Inglewood and Los Angeles! Like on La Cienega Blvd going by the oil rigs. Thank you	The vehicle volumes, high vehicle speed, and available rights of way on La Cienega in this area are not conducive to on-road bikeways. However, there is a Class II bike lane proposed on Overhill Drive in unincorporated County and the City of LA's plan proposed a lane on La Brea Avenue from Stocker northerly, which will provide connection between Inglewood and Los Angeles.
24	Be added to Distribution List	Frank Benavidez	1		Your e-mail has been included to the mailing list
25	Be added to Distribution List	freda	1	Encourage and reward home builders to design with bikes in mind instead of cramming so many houses together.	Your e-mail has been included to the mailing list

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26		Gianni Bucceri	1	Hi-everyone, In a couple of months I will be promoting, marketing & distributing for the very first time in the U.S. market the WORLDâ€™S best â€œGreen Transportation Alternativesâ€ QUATTROCYCLE U.S.A.and Neigborhood Transportation Alternative NTA from Zuffaa/Quattrocycles - My concern is that the current bike lanes are not wide enough to accommodate a four wheel QUADRACYCLE which can accommodate four to eight people/rides at one time. I think these bike lanes need to be a bet more wider to start with. Quote from > Gianni Bucceri If WE the people would QUATTROCYCLE through Suburbs, Urban Communities and Local/Runs in & around our Neighbourhoods / NTA we would cut back National Pollution, Noise Pollution, National Fuel/Gas Consumption, National Health-care costs and Prevent & Reduce a lot of Unwanted Diseases â€" such as Diabetes & Obesity/Unhealthy Habits from across the great Americaâ€™s. In addition QuattroCycling EVERYDAY will promote Family-Fun, Fitness, Health, Wellness, Happiness and a Greener Smarter Brighter Future generation! Unquote < My bike special QuattroCycles dimension's are Lenght-2,80m Width-1,32m Track gauge1,20m I hope your bike lanes can handle these dimensions - considering the fact that I will be selling these QuattroCycles across the great America's. . . Maybe you can help with our CAMPAIGN with web-press release, free-ads, etc . . .America's First Cross-Country Diabetes and Obesity QUATTROCYCLE Road-Trip Charity Campaign for 2012. . . GT4 Pedaling/Rolling Across the Country to some Universities, Colleges, Museums, Churches, Parks, etc to educate students and the general public about Quattrocycling and how to prevent & reduce the risk of Diabetes and Obesity through Quattrocycling! In short; we aim to Unite World Quattro-Cycling for better Heath, Wellness, pollution and the environment! Are website is not yet up & running give me two to three month and it will be in full swing! LOCATION TEST-DRIVES will be held in a couple of month from now: Southern California - Northridge, CA 91324 U.S.A. Please invite your families & friends to Quattro-Cruise! Business Hours: Flexible by Confirmed Appointment @ gbZuffaa@gmail.com Join the movement / campaign â€" itâ€™s free! PASS-IT-ON! Respectfully Submitted, Gianni Bucceri President Zuffaa/QUATTROCYCLE U.S.A Rethink Transportation! Zuffaa.com	Widening the bicycle lanes beyond the widths recommended in Caltrans' HDM (4 or 5 feet), depending on where the facility is located, can cause the lanes to be used as travel lanes by motor vehicles.
27	Be added to Distribution List	Howard Hackett	1	Drafts are OK Route implementation is greater!!	Your e-mail has been included to the mailing list
28	Bike Facilities (e.g. Bike parking)	Ian Pari	1	I am the Senior Traffic Engineer for the City of Santa Clarita. Upon reviewing the map of existing and proposed bike facilities within the City of Santa Clarita, I found that some existing Class I and Class II facilities were not included. Please update the appropriate map/s in the Los Angeles County Bicycle Master Plan to include the existing bicycle facilities on Copper Hill Drive, Golden Valley Road, Tournament Road, and along the Santa Clara River as illustrated in the City of Santa Clarita's Trails Map located at: http://www.santa-clarita.com/Index.aspx?page=584. Thank you very much for the opportunity to comment on the County Plan. Ian J. Pari Senior Traffic Engineer City of Santa Clarita	These facilities have been updated on the Plan's maps
29	Be added to Distribution List	James Sproule	1	Please add me to your list	Your e-mail has been included to the mailing list
30	Be added to Distribution List	Jim Scianni	1	Route to complete the Whittier Greenway trail at Pioneer Blvd to the San Gabriel River Bike Trail via the existing railroad bridge that crosses over the 605 freeway to an empty lot East of the river trail. Continue route across empty lot to river trail. Reference Alta Planning Design page 59 Table 3-11.	Outside of jurisdiction - City of Whittier. Your e-mail has been included to the mailing list

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31	General Comments	Joe Touch	1	The plan ignores a current issue - that of "who can use the bike path". It would be useful to carefully define this - and to update the county code accordingly. The current code - **enforced by Manhattan Beach** - limits use to bicycles only where a nearby walking path exists. This forces other similar modes of transport (skaters, notably) onto the walk path to avoid tickets (which *have* been issued). I can provide further info on this issue, but it is also discussed at http://www.changebikepath.us/ It would be useful to highlight this new plan as supporting all human-powered wheeled transport on the paths. This is consistent with sharing the path, and with the safest use of all available paths for transports with similar speeds and control.	The issue of who is allowed on the bike path is a matter of State law. The California Vehicle Code (CVC) allows pedestrians on the bike path when there is not an adjacent pedestrian path. The interpretation of the vehicle code defines other wheeled users such as rollerskaters and skateboarders as pedestrians, who are therefore excluded from the bike path when an adjacent pedestrian path such as The Strand is available. Enforcement of the CVC along the Bike Path is the responsibility of the local enforcement, and any changes to the CVC is outside the scope of this Plan. Improvements to the signing and striping to existing facilities to educate trail users and reduce conflict are outside of the scope of this Plan; however, the County is exploring the potential for improvements as part of a different effort.
32	Study Corridors	John Lauf	1	This is a second submission on the Altadena/Kinneloa Mesa proposed bicycle routes relating to the N.W. corner of Fig 3-34 of the Master Plan Atlas). There is a lot of bike traffic, both recreational and commuter, between Loma Alta, Altadena and Woodbury, via N. Windsor. I recommend consideration to linking Loma Alta to Woodbury with the following route: Loma Alta/Lincoln to Loma Alta/Altadena thence to Altadena/Casitas thence to Casitas/Ventura thence to Venture/Windsor thence to Windsor/Woodbury Most of this route is suitable for Class II bike lanes (especially along Windsor). The exception is the dangerous, short section on Ventura between Casitas and Windsor. Additional note: a defacto Class I bike route already exists behind the locked gate along N. Arroyo Blvd above the E. side of the JPL parking lot, starting at the intersection of Windsor & Ventura.	Class III added on Windsor Ave from Figueroa to Ventura St, and on Ventura St from Windsor to Fair Oaks Avenue. See table facility ID # 26-23 in table 3-36 of the Plan.
33	Study Corridors	John Lauf	1	Thank you very much for initiating this plan. The W. San Gabriel area map (Chapter 3, p119) shows a planned Class III route running east-west along Harriet St.towards the Hahamonga watershed. In fact a lot of bicycle traffic uses Ventura St., one block south, as this is the only street going to/from the JPL parking lot and the very heavily used Arroyo Canyon. Ventura St. is particularly dangerous (map shows 2 accidents on this street) as there are usually cars parked on either side of a narrow street and particularly in the morning and evening the vehicle traffic is heavy. I strongly recommend that a bicycle route be established on Ventura instead of Harriet. Thanks again for your efforts in establishing a bike friendly LA.	The route for the bike blvd has been changed to take Ventura Street from Windsor Ave to Fair Oaks Ave, to meet Calaveras Street
34	Be added to Distribution List	John Lloyd	1		Your e-mail has been included to the mailing list

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35	General Comments	Jorge Martinez	1	I ride our class 1 bike paths along the Los Angeles River near Atwater Village almost every weekend. I also ride the one that goes along the Rio Hondo River, have used the one near Marina Del Rey and the one that runs along the Arroyo in Pasadena (pulling kids using trailer). My personal complaint of the class 1 bike path near my home (and other as well) is that it/they do not go to any location worth visiting (e.g. Chinatown, Downtown Los Angeles, Pasadena, Burbank shopping areas nor Beaches). The street paths (especially the class III) are too dangerous to use while in the company of kids. The class I paths are great but would be outstanding for commuting and weekend trips if they did. Not to mention a point of pride for our city. Connecting the Los Angeles River path (near its southern end) to the path running north towards Pasadena would be a wonderful start. It could also encourage those living near these path to commute by bike. Thank you for taking the time to read this.	The maps indicate a proposed connection between the Arroyo Seco and LA River Trails by other jurisdictions
36	Be added to Distribution List	Kai Ponte	1		Your e-mail has been included to the mailing list
37	General Comments	Kathy Garcia	1	Larry and I attended the meeting last night in Altadena and would like to commend you on a well-organized and informative presentation. There were some excellent points brought up by the audience that you addressed and will take under consideration. We meant to thank you for the excellent resurfacing project that was recently completed on the San Gabriel River bike path. It makes our rides so much more comfortable and safe. Keep up the good work!	
38	General Comments	Ladera Heights Civic Association	1	The Ladera Heights Civic Association opposes a bike lane on Slauson from Buckingham Parkway to Angeles Vista that will contribute further to the degradation of the vehicular flow of traffic.	No bike lane on slauson is proposed - it's a class III bike route
39	General Comments	Mark Lightcap	1	Baldwin Ave. between Foothill and Huntington is extremely treacherous, with no credible alternate route, particularly where it passes under the 210. Also, the bike parking at the arboretum is sorely in need of improvement.	Baldwin Avenue is the jurisdiction of the City of Arcadia. We will forward your complaints about parking in at the LA County Arboretum to the Department of Parks and Recreation.
40	General Comments	Minerva Leah Williams	1	Please add me to your mailing list. We would be happy to send out information to our constituents . . . Minerva	Your e-mail has been included to the mailing list
41	Goals	Monique Taylor	1	Please look into the entrance to the LA River bike path from the Victory/Griffith Park entrance. If you are entering from Burbank its hard to enter the bike path. The curbs are high and you end up mixed in the 134 entrance/exit traffic. I would like there to be a friendlier curb entrance on the side walk that is on the same side as the bike path. I don't know what the technical term is, but it would also allow wheelchairs to get on the sidewalk. I believe someone made a comment earlier about a bike bridge, that would be fantastic. Thank you,Monique	The LA River Bike Path at the referenced location is maintained by the City of Los Angeles, and is not within our jurisdiction.
42	Be added to Distribution List	Omaira Negrete	1		Your e-mail has been included to the mailing list
43	Goals	Paul Gregorich	1	Please continue to expand and upgrade bikeways in Los Angeles County. These new bikeways will offer commuters new transportation options and will also increase recreational opportunities for residents and visitors to the areas in and around Los Angeles. Thank you. Paul Gregorich Bartlett, IL	
44	General Comments	Prof. Alexander Marr	1	The proposed bicycle route for Altadena, near Eaton Canyon, is sensible. It should go via Coolidge and Glen Canyon, not Roosevelt.	The facility on Coolidge Ave has been removed. A new proposed route was added along Roosevelt Avenue. In addition, the facility on Glen Canyon extended to Altadena drive were a new Class II bike lane facility is proposed.

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45	Study Corridors	R Miller	1	Given rising traffic levels along the Slauson corridor between Main Street to Marina del Rey, a bike route would greatly reduce the gridlock along this heavily traveled corridor. A bike lane would be utilized by travelers from downtown and surrounding areas to the Marina del Rey and vice versus.	Bike routes are propossed along Slauson within the County's jurisdicition.
46	General Comments	Reginald Wilkins	1	Don't wish to login to bikely but you should alter the Mendocino to Midwick segment to avoid Allen by continuing east onto Glenview Terrace which is a gorgeous Camphor lined street that takes you to Midwick. Take Midwick east and northeast to Altadena and Roosevelt where a current cycling destination exists (Eaton Canyon at Roosevelt - mountain bikers). Add a stop sign at Altadena and Roosevelt because its hazardous given the grade and the curve (you'll make a lot of locals very happy with that)). Take Roosevelt south through New York (add a stop sign) and down to Washington (add a stop sign, too). Do not use Coleridge - no cyclists take Coleridge we all take Roosevelt. This is my hood I bike there every weekend and live on Roosevelt north of New York.	The facility on Coolidge Ave has been removed. A new proposed route was added along Roosevelt Avenue. In addition, the facility on Glen Canyon extended to Altadena drive were a new Class II bike lane facility is proposed.
47	General Comments	Richard L Pio	1	My wife and I are an octogenarian couple who ride a tandem bicycle. We have lived in Hermosa Beach for 43 years. We have ridden our tandem bike hundreds of hours and thousands of miles on the South Bay Bike Path. Revision of plans for the South Bay Bicycle Master Plan are now in the planning stage.I write to comment on problems with the Strand/Bike Path at North end of Hermosa Beach. The Strand/Bike Path runs along the entire length of the beachfront of Hermosa Beach. It is a multiple use path with no separate section specified for bicycle use. Beginning at 24th Street bikers may choose from two different options for continuing to the Manhattan Beach bike path. The first option is to continue on the Hermosa Strand/Bike Path to the North end of Hermosa. The path terminates at a twelve step stairway to the Manhattan Beach Bike Path. This is the only stairway on the South Bay Bike Path. The second option for bikes is to make a short jog on 24th Street to Hermosa Avenue and then to continue North on a BIDIRECTIONAL bike path. This bike path is on the West side of Hermosa Avenue. For a distance of about 500 feet north bound bike traffic is immediately adjacent to South bound auto traffic with no safety barrier between bikes and autos.	The City of Hermosa Beach maintains the bike path within the City as well as the stairs that provide the connection to the County maintained bike path in the City of Manhattan Beach. The requested improvements within the City of Hermosa Beach is outside of County's jurisdiction.
53	Be added to Distribution List	Robert Dale	1	Support links to Orange County east from San Gabriel River Trail. Important connections with missing links include Coyote Creek trail; Pio Pico State Park; Whittier Greenway Trail; proposed trail east along Union Pacific Railroad through downtown La Habra. Important resources include: Orange County Regional Trail Plan; Orange County Regional Trail Advisory Committee.	The County will continue to work with all project sponsors and other stakeholders for future connections to existing and proposed bikeways in neighboring Cities and Counties. The overview maps in the Plan (fig 3-2 and 3-2) show the exisiting and proposed bikeways in the surrounding Counties to illustrate opportunities for improving regional connectivity. In general (limited exceptions), the Plan does not include proposals outside of the unincorporated areas where the County does not have property or jurisdictional control.
54	Study Corridors	Ron Mundell	1	I think a bike lane on ave "M" from Quartz Hill 50th street west 93536 to Palmdale plant 42 at 5320 "E" ave "M" would be one of the most beneficial in all the Antelope Valley, The people that work at Plant 42(and there are quite a few)would like to ride a bike to and from work but the streets around Plant 42 are to thin for a bicycling safely, Risk of life.	New facilities have been added to the Quartz Hill community per suggestion of adjacent incorporated cities.
55	Be added to Distribution List	Rosey Miller	1	Thank you	Your e-mail has been included to the mailing list

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56	Goals	Ruth Doxsee	1	Align all paths and routes with the Los Angeles City Bike Plan, recently passed by the L.A. City Council. The less duplication of routes and paths getting to the same place, the more efficiently the money can be used to build and maintain new and existing paths. Thank you for allowing comments via email.	LA City Proposed facilities added to the Map, additional facilities were considered to close gaps in the network.
57	General Comments	Sandy	1	I am avery excited that the city of Carson will be given a bike path so now I don't have to drive to Long Beach or Irvine to bike. What a relief! Now I will have sunshine, exercise and quality time with my family right near my neighborhood.	
58	General Comments	Severin Martinez	1	I am looking over the plan for the first time but there is something concerning me in the Appendices on page 111â€“ the 'discussion' section of Class I Bikeways Along Roadways. I don't think this is so much a discussion as it is an attack on infrastructure proven to increase cycling rates and safety around the world. The first bullet point in the discussion is "Half of bicycle traffic may ride against the flow of vehicle traffic, contrary to the rules of the road." If a bidirectional cycle path is provided, where adjacent car traffic goes one way cyclists are obeying the 'rules' as a bidirectional path was provided in the first place. That said, single direction bicycle paths can be provided. However, if LA County wants to increase cycling rates, the best way to do so is in safe, convenient facilities. Bullet two in 'discussion' of Class I Bikeways Along Roadways: "When the path ends, cyclists riding against traffic tend to continue to travel on the wrong side of the street, as do cyclists who are accessing the facility. Wrong-way bicycle travel is a major cause of crashes" If access points are engineered intelligently, they will be done so to reduce wrong way travel. Also, where is the information come	The discussion regarding Class I bike paths proposed along roadways was included to ensure that designers look at potential issues that occur because they are adjacent to a road facility. The County does currently operate bike paths adjacent to County roads, such as in the Lake Los Angeles area of the Antelope Valley. The design toolbox in the Plan has been updated to also consider segregated bike lanes such as cycle tracks to encourage more bicycle usage in the County.
59	Be added to Distribution List	steve williams	1	Please add thanks	Your e-mail has been included to the mailing list
60	General Comments	Teri Colley	1	Educate motorists on what to do when passing or approaching a bicyclist. Motorists need to be reminded that their vehicle can inflict serious injury, or worse, to a bicyclist. A bicyclist has the same rights on the road as a vehicle, it's just slower.	One of the Goals of this Plan is to develop educational programs, such as public service announcements to educate all roadway users about sharing the road with others. Please refer to chapter 2 (Policy 3.2), and chapter 4 of the Plan.
61	Study Corridors	Todd Dipaola	1	Please look at the bike path/strand connection between Manhattan beach and Hermosa beach. It should be within the preview of your plan as the marina del rey bike path extension is. If the county could curve and extend the bike path about 10 feet to the south west, it could greatly improve connections at a extremely small cost.	The City of Hermosa Beach maintains the bike path within the City as well as the stairs that provide the connection to the County maintained bike path in the City of Manhattan Beach. The requested improvements within the City of Hermosa Beach is outside of County's jurisdiction.
62	General Comments	Tom O'Kane	1	What we desperately need is a bike path or bike lane linking the Santa Clarita Valley with the San Fernando Valley. The current route of Old Rd @ Calgrove to Balboa is extremely dangerous for cyclists	A proposed class II lane on the Old road is proposed to connect the Santa Clarita and San Fernando Valleys.
63	General Comments	Tony Cruzalegui	1	Would like to talk to you about CityWatchLA.com. Website read daily by politicians, business leaders, advocacy groups, environmentalist, developers and planners - basically the most influential people in Los Angeles. Very affordable and exceptional value for advertising the LA County Bike Plan, garnering support, etc. Please contact me for a free Media Kit with demographic info and ad rates. Thanks! Tony Cruzalegui Business Development CityWatchLA.com (818)731-8095 cell tcruzcitywatch@gmail.com	

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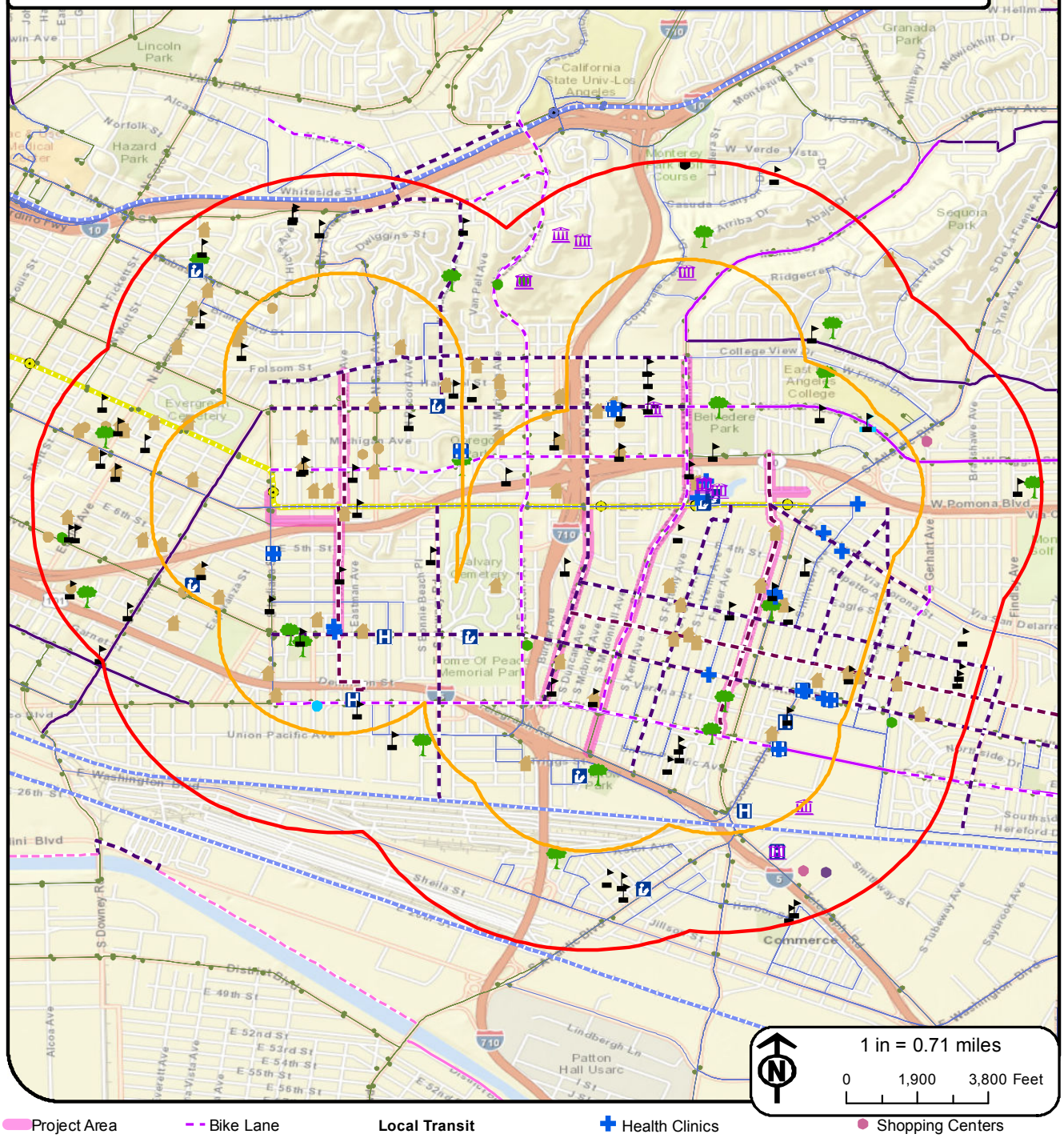
64	General Comments	Virginia B. Wax	1	I live in Tarzana on Etiwanda Ave. and am a regular cyclist. I enter the bike path at Oxnard and Etiwanda. There is a stop light at the intersection, but to cross the street at the light one has to lift the bike over the curb. On both sides of the street is a curb, no access ramp. It would be a lot better to have a ramp added rather than keep the existing curbs so cyclists can access the bike path. At this time, one has to get over the curbs with traffic is racing by -- not a very safe situation. Please help. Thank you.	This area is outside of jurisdiction of Los Angeles County
65	Be added to Distribution List	Warren Allen	1		Your e-mail has been included to the mailing list
66	Study Corridors	Warren Allen	2	Master Plan is deficient in West LA: There is no safe, accessible East-West corridor. Venice blvd is too far south. Wilshire and Santa Monica Blvd are too dangerous. Too many bike-friendly roads suddenly become unfriendly, e.g. Ocean Park blvd. No thought about continuity of journey. Lincoln blvd and PCH are too dangerous - why can't you make these obvious bike routes bike safe???	Majority of West LA is outside the County's jurisdiction, including the specific corridors mentioned in the comment.
67	General Comments	Wayne Johnson	1	I ride to work 4 days a week, and very much support efforts to increase ridership and safety. I have 2 comments, based on my riding, both related to encouraging the county to support bicycling safety. First, I read in Appendix F, page 41, about right turn lane markings. Venice Ave, as well as many other sites, have terrible markings, and automobiles frequently use the bike lane as a right turn lane, leaving lots of space near the curb, while infringing on the bicycle lane. There are no white lines to separate the two. I wish there was a way to encourage the county to add lane markings and enforce respect for the bicycle lane, especially in right turn areas. Second, the painted "Bike Lane" markings are often painted over and over till the paint is so thick it becomes uncomfortable, and sometimes hazardous to bicycling. I wish there was a way to encourage the county to level off these markings. I hope these comments are helpful. Keep up the good work! Thanks, Wayne	1) One of the Goals of this Plan is to expand, improve and interconnect the bikeway network in the County. The plan proposes the development of over 800 miles that include bike lane and bike routes with share road markings AKA "Sharrows". 2.) Striping and paint thickness issues are noted in the maintenance section of the Design Guidelines. See page F-53.
69	General Comments			Does the bike coordinator even own a bicycle?	No response required.
70	Implementation Action 1.1.2	City of Burbank, CA	1	The City of Burbank appreciates the County's willingness to support local jurisdictions implementing a bicycle network of connected facilities, as described in the Implementation Action above. However, the City of Burbank requests further elaboration regarding the support of facilities specifically utilizing the tributaries currently under the jurisdiction of the Watershed Management Division. Outlining support for projects within the watershed at a policy level in the County's Bicycle Master Plan will be of great assistance to local jurisdictions seeking outside grant sources to fund these types of projects.	Explanation of the scope of the Plan is included in the Introduction, where we indicate that the Plan provides recommendations for unincorporated County roadways and in areas where the County owns property or has jurisdictional control, such as along flood control facilities. The County Flood Control District properties were part of the scope of this Plan.
71	Programs	City of Burbank, CA	2	Burbank would like to propose that the County expand upon the programs outlined in Chapter Four of the proposed Bicycle Master Plan to include a more comprehensive bicycle education program. This program should reflect a partnership between the County and local interested cities to provide these much needed bicycle education programs.	Verbiage has been added to chapter 4 directing the County to coordinate with Los Angeles County Metropolitan Transportation Authority (Metro) and local jurisdictions to evaluate the efficacy of different education programs and partner with interested stakeholders where appropriate to reach a wider audience throughout the County.

Attachment G
Bike/Pedestrian Infrastructure Map

Bike/Ped Infrastructure Map

Eastside Light Rail Bike ***os Angeles County***

Jurisdiction: LA COUNTY Project Number: F1511



Project Area

Distance from Project
- 0.5 Mile
- 1 Mile

Existing Bikeways
- Bike Path
- Bike Lane
- Bike Route

Proposed Bikeways
- Bike Path
- Bike Lane
- Bike Route
- Bike Boulevard

Metro Transit
- Bus Stop
- Bus Route

Metro Rail Station
- Gold Line Rail Station

Metro Rail Lines
- Gold Line

Local Transit
- Bus Routes
- Bus Stop
- MetroLink Station
- MetroLink

Activity Centers
- Churches
- Schools
- Colleges and Universities
- Government Offices
- Health Clinics
- Hospitals and Medical Centers
- Libraries
- Parks and Gardens
- Farmers Markets
- Fire Stations
- Transportation Hub
- Pools
- Recreation Centers/Programs
- Shopping Centers
- Tourist/Entertainment

Date: 5/8/2014 Document Path: R:\L\LOSX0MTR0002\0600INFO\GS-GIS group\Maps\Bike_Ped_Infrastructure.mxd

Attachment H
Bike and Pedestrian Projection Calculations

Commute Mode Share

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

Row Labels	Sum of PublicTran	Sum of Bicycle	Sum of Walk
F1511	12.50%	0.72%	4.25%

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(pedestrian commute mode share)*
Total bicycle mode share = 0.3% + 1.5(bicycle commute share)*

	Est. total bike mode share (%)	Est. total ped. mode share (%)
F1511	1.37	9.35

Population, Households, Employment

From 04-TAZLandUsebyProject.xlsx

Buffer	*Sum of POP2008*	*Sum of Hholds08*	*Sum of Emp08*
0.5 mile	*100,040*	*24,608*	*25,351*
1 mile	*163,496*	*41,383*	*59,835*
3 miles	*481,667*	*128,089*	*289,389*
	Sum of Pop2020	*Sum of HHLD2020*	*Sum of EMP2020*
0.5 mile	*106,099*	*25,811*	*25,444*
1 mile	*173,539*	*43,661*	*60,226*
3 miles	*508,884*	*136,330*	*299,296*
	Sum of pop2035	*Sum of Hhld2035*	*Sum of EMp2035*
0.5 mile	*119,378*	*28,967*	*27,315*
1 mile	*194,111*	*48,746*	*62,996*
3 miles	*554,665*	*148,311*	*311,771*

Potential Pedestrian Trips based on influence area population	
2009 NHTS Percent of Person Trips by Mode	
Walk	*10.4*
Bike (Other)	*4.2*
Transit	*1.9*
Daily trips per persor	*3.79*

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

Estimated Potential Daily Person Trips W/in Influence Area

	2008	2020	2035
Pedestrian	*39,432*	*41,820*	*47,054*
Bike	*76,672*	*81,004*	*88,292*

Existing (2012) ADT from SCAG model output

Assume 4 hour PM peak is 33% (one-third) of ADT

PM Peak Vol (3-7pm) - weighted average by link distance

Link Distance (mi)	Link Volume	AAWT			
0.13	99	431	*N Rowan Ave*		
0.31	2375	3206	*N Rowan Ave*		
0.27	13149	36246	*S Rowan Ave*		
0.08	11263	33809	*S Rowan Ave*		
0.08	6399	14444	*S Rowan Ave*		
0.08	2835	3778	*S Rowan Ave*		
0.16	380	682	*S Rowan Ave*		
Weighted Average	5,405	13,611			
Estimated 2012 ADT	**16,216**	**13,611**	**Rowan Ave**		
	3708	12,658	*S Indiana St*		
Estimated 2012 ADT	**11,124**	**12,658**	**S Indiana St**		
0.30	1165	1,469	*S Ford Blvd*		
0.06	3240	8416	*S Ford Blvd*		
0.64	3046	4889	*S Ford Blvd*		
Weighted Average	3,063	4,075			
Estimated 2012 ADT	**9,188**	**4,075**	**S Ford Blvd**		
0.25	9937	22062	*Mednik Ave*		
0.25	7757	16030	*Mednik Ave*		
0.25	10250	19880	*Mednik Ave*		
0.81	8078	17772	*Arizona Ave*		
0.3	7086	14094	*Arizona Ave*		
Weighted Average	8,417	17,805			
Estimated 2012 ADT	**25,250**	**17,805**	**Mednik/Arizona**		
Estimated 2012 ADT	**4,500**	**5,000**	**Woods**	*Assumed*	*(no data available)*

Estimated	**Est ADT**	**AWT**
Study Area Average	**66,278**	**53,148**
Person Trips	72,906	*Assume 1.1 persons per vehicle*

Future (2035) ADT from SCAG model output

Assume 4 hour PM peak is 33% (one-third) of ADT

PM Peak Vol (3-7pm) - weighted average by link distance

Link Distance (mi)	Link Volume	AAWT			
0.13	87	419	*N Rowan Ave*		
0.31	2483	3539	*N Rowan Ave*		
0.27	6850	14528	*S Rowan Ave*		
0.08	11250	33417	*S Rowan Ave*		
0.08	9172	28237	*S Rowan Ave*		
0.08	2628	3726	*S Rowan Ave*		
0.16	271	563	*S Rowan Ave*		
Weighted Average	4,070	9,365			
Estimated 2012 ADT	**12,211**	**9,365**	**Rowan Ave**		
	3708	12,658	*S Indiana St*		
Estimated 2012 ADT	**11,124**	**12,658**	**S Indiana St**		
0.30	1102	1,332	*S Ford Blvd*		
0.06	2814	6882	*S Ford Blvd*		
0.64	2860	4380	*S Ford Blvd*		
Weighted Average	2,856	3,616			
Estimated 2012 ADT	**8,568**	**3,616**	**S Ford Blvd**		
0.25	10184	23366	*Mednik Ave*		
0.25	7806	17155	*Mednik Ave*		
0.25	11098	23091	*Mednik Ave*		
0.81	8381	19387	*Arizona Ave*		
0.3	7875	15558	*Arizona Ave*		
Weighted Average	8,830	19,502			
Estimated 2012 ADT	**26,489**	**19,502**	**Mednik/Arizona**		
Estimated 2012 ADT	**4,500**	**5,000**	**Woods**	*Assumed*	*(no data available)*

	Est ADT	AWT
Study Area Average	**62,892**	**50,140**

69,181 *Assume 1.1 persons per vehicle*

SUMMARY TABLE

	Existing Year Vehicular ADT	
ADT	66,278	ADT Data is inconsistent along the cooridors
Year	2012	ADTs were average for each corridor

	Forcast Year Vehicular ADT	
ADT	68,500	Projected ADT's lower than existing based on model.
Year	2035	Applied 3% growth for projected 2035 ADT

Existing Demand (Daily Person Trips)		YEAR	
No Build	1,000	2012	
Build	1,060	2012	Proportion increase from Cambridge forcast

Forecast Demand (Daily Person Trips)		YEAR	
No Build	1,100	2035	Assumed 10 % increase in person trips from 2012
Build	1,067	2035	Increase projection from Cambridge forcast

CAMBRIDGE SYSTEMATICS

Metro Bicycle Investment Scenario Analysis Model

Methodology

technical

memo

prepared for

Los Angeles County Metropolitan Transportation Authority

prepared by

Cambridge Systematics, Inc.

with

Chen + Ryan Associates

May 2013

www.camsys.com

Executive Summary

This document provides the general methodology employed by the web-based Metro Bicycle Investment Scenario Analysis Model (the Model), a sketch planning tool developed at the request of the Metro Board by Cambridge Systematics with Chen + Ryan Associates.

The Model forecasts the estimated change in bicycle travel resulting from one or more bicycle investment projects.

Background

Over the past several years, Metro has been engaged in a countywide effort to investigate the potential for a regional congestion mitigation fee (CMF) program that would meet the joint goals of complying with state congestion management plan (CMP) requirements, and funding regionally significant local transportation improvements via a modest fee on development. Metro conduct eight subregional pilot studies to investigate the impacts of such a fee, reaching out to over 80 percent of LA County's 89 jurisdictions. Cities submitted over $5 billion of projects they would like to fund, and a large proportion of those projects were bicycle investments.

Since the region had no model to estimate the potential benefits and impacts of these projects, the Metro Board directed staff in early 2012 to develop two such models:

(1) a web-based sketch planning tool accessible to all LA County jurisdictions, to be completed within a year; and

(2) an integrated component in Metro's regional travel demand model that allows the within two years.

The Bicycle Investment Scenario Analysis Model constitutes the delivery of the web-based sketch planning tool. A separate integrated travel demand model component is scheduled for delivery in mid-2014.

The purpose of the Bicycle Investment Scenario Analysis Model is to provide LA County jurisdictions with an accessible, web-based application that enables the estimation of potential benefits associated with certain bicycle investments.

Eligible Project Types

A variety of bicycle investment project types were investigated for inclusion in the model. The scope and timeframe of the project precluded the collection of new data. Therefore, the final list of projects consists of those we were able to reasonably correlate with benefits based on existing data and research. The model can analyze the following projects:

1. **Bikeways**. Four types of bikeways can be estimated:
   - **Off-Road Paths**. Class I bikeways that are completely separated from roadway vehicle traffic.
   - **Separated Cycle Tracks**. Bikeways within the roadway right-of-way, but separated from vehicular traffic via barriers, parking, landscaping or other means, to improve the safety and comfort of cyclists.
   - **Bike Lanes**. Striped bicycle lanes sharing existing roadways.
   - **Bike Boulevards**. Traffic-calmed streets intended for safe, low-stress cycling, including distinct signage and/or sharrows indicating bicycle priority, low speed limits, low traffic volumes, and other traffic calming features.
2. **Transit Station Bicycle Parking**. Bicycle parking facilities at fixed-guideway transit stations only.
3. **Worksite Bicycle Amenities**. Bicycle parking or showers at worksites.
4. **Bikesharing Programs**. Citywide bikesharing programs.

Estimated Benefits

Based on the estimated increase in bicycle trips, the Model forecasts benefits across four benefit categories. As in the development of project types, these factors were limited to existing peer-reviewed research and data. The benefit categories are:

1. **Mobility**
   - New Bicycle Trips by purpose (work, non-work utilitarian, recreational)
   - New Bicycle Miles Traveled (BMT) by purpose (work, non-work utilitarian, recreational)
   - Congestion reduction (vehicle hours of delay reduced)
2. **Environmental**
   - Greenhouse gas emissions reduction (carbon emissions reduced)
   - Household energy consumption reduction (gallons of motor vehicle fuel saved)
   - Air pollution damage savings (air pollution cost savings)

3. **Economic**
   - Household operating cost savings
4. **Public Health**
   - Reduction in health care and mortality costs

Removed Benefit Measures

We investigated including a measure of **Accessibility/Equity**, which would have estimated the number of new households (and low-income households) within a certain threshold of access to new facilities. Unfortunately, certain attributes such as household income and employment are currently only available at the census tract level, a relatively large zonal aggregation of data. While this level of analysis is sufficient for estimating aggregate measures such as mobility, economic and environmental impacts, we determined through significant testing that a finer scale of data is necessary to accurately predict accessibility and equity benefits. Since data collection was not a component of this effort, the measure was removed after testing. We are confident that if we can acquire the necessary sociodemographic data at the Census Block Group level or lower, we will be able to add this capability to the model in relatively short order.

We also investigated an additional economic measure, **Jobs Created**, which was specifically requested. While research exists regarding the correlation between active transportation facilities and economic activity, such research varies and is inconclusive. Given the sensitivities surrounding such a measure, we determined we could not justify the application of factors from such studies to the LA region at this time.

Model Components

The Bicycle Investment Scenario Analysis Model consists of several unique components, described below.

- **Processed data**. The Model's underlying data are processed, geocoded information stored at the census tract level. This data include (1) socioeconomic factors; (2) land use information; and (3) existing transportation facility information.
- **User-defined bike facility data**. Users enter projects, define their locations, assign certain attributes depending on the project type, and store projects in the website database.
- **Trip prediction models**. To estimate bikeway impacts, we developed two mathematical trip prediction models estimating the relationship between processed data, user-defined bike facilities, and resulting increases in bike travel: (1) a work/utilitarian trip prediction model; and (2) a recreational trip prediction model. Other algorithms were used to predict the impacts of bikesharing, worksite amenities, and transit station parking projects.

- **Scenario analysis**. Users can select a package of projects at the city or subregion level, run the Model, and view impacts across each of the benefit categories.

When the user runs the analysis, the site runs GIS calculations based on the location of bikeways and attributes of all projects in the scenario, which feed into trip prediction models and produce benefit outputs. A second and third scenario can be added to each analysis, allowing the user to view three packages at once and compare performance. An excel output function allows for export of model results.

At the subregion level, users select one or more jurisdictions rather than projects. The model then runs an analysis including all bike improvement projects with complete information within the jurisdiction.

Interpreting Scenario Results

All benefit measures are reported as annual estimates in future year 2035, compared to a year 2035 scenario in which the portfolio of projects was not constructed. In other words, the model shows us the annual estimated impact of those projects in one future year, 2035. Underlying data is projected to year 2035 using SCAG forecasting factors.

For instructions on use of the Model, see the User Guide accessible from the Model website at www.mitigationfeeplanner.org.

Report Sections

The Bicycle Investment Scenario Analysis Model methodology is explained in more detail in the following sections:

Section 1.0 – General Parameters lists the underlying constants and assumptions underlying the Model's calculation of bike trip production and associated benefits.

Section 2.0 – Work Trip Model documents the development and sensitivity test results of the Work Trip Model, which forecasts the change in work- and non-work utilitarian trips generated by changes in bicycle facility density.

Section 3.0 – Recreation Trip Model documents the development and sensitivity test results of the Recreation Trip Model, which forecasts the change in recreational utilitarian trips generated by changes in bicycle facility density.

Attachment I
Safety Analysis Methodology and Calculations

Attachment I: Safety Analysis

ATP - LA Metro Grants

Grant No.: F1511
Location: LA County
Project Description: Eastside Light Rail Bike Interface Project

ESTIMATED ANNUAL CRASH REDUCTION BY COUNTERMEASURE TYPE

	SIGNALIZED INTERSECTION COUNTERMEASURES				UNSIGNALIZED INTERSECTION COUNTERMEASURES				ROADWAY COUNTERMEASURES					
Location: Rowan	Install pedestrian countdown signal heads	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	Other (intersection traffic calming)	
Applicable Countermeasure?	N	N	N	N	N	N	N	N	Y	N	N	N	Y	Subtotal Crashes
CRF	25%	25%	15%	75%	45%	25%	35%	55%	35%	80%	30%	35%	10%	
Fatal Crashes														
Injury Crashes									5				15	20
Years of Data									5				5	
Avg. Annual Total Fatal and Injury Crashes	0	0	0	0	0	0	0	0	1	0	0	0	3	
														TOTAL ANNUAL CRASH REDUCTION
Annual Crash Reduction	0	0	0	0	0	0	0	0	0.35	0	0	0	0.3	0.65

	SIGNALIZED INTERSECTION COUNTERMEASURES				UNSIGNALIZED INTERSECTION COUNTERMEASURES				ROADWAY COUNTERMEASURES					
Location: Ford	Install pedestrian countdown signal heads	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	Other (Class III Bike Route)	
Applicable	N	N	N	N	N	N	N	N	N	N	N	N	Y	Subtotal Crashes
CRF	25%	25%	15%	75%	45%	25%	35%	55%	35%	80%	30%	35%	5%	
Fatal Crashes														
Injury Crashes													7	7
Years of Data	0												5	
Avg. Annual Total Fatal and Injury Crashes	0	0	0	0	0	0	0	0	0	0	0	0	1.4	
														TOTAL ANNUAL CRASH REDUCTION
Annual Crash Reduction	0	0	0	0	0	0	0	0	0	0	0	0	0.07	0.07

Attachment I: Safety Analysis

	SIGNALIZED INTERSECTION COUNTERMEASURES				UNSIGNALIZED INTERSECTION COUNTERMEASURES				ROADWAY COUNTERMEASURES					
Location: Arizona	Install pedestrian countdown signal heads	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	Other	
Applicable	N	N	N	N	N	N	N	N	Y	N	N	N	N	Subtotal Crashes
CRF	25%	25%	15%	75%	45%	25%	35%	55%	35%	80%	30%	35%	0%	
Fatal Crashes														
Injury Crashes									10					10
Years of Data	0								5					
Avg. Annual Total Fatal and Injury Crashes	0	0	0	0	0	0	0	0	2	0	0	0	0	
														TOTAL ANNUAL CRASH REDUCTION
Annual Crash Reduction	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.7**	**0**	**0**	**0**	**0**	**0.7**

	SIGNALIZED INTERSECTION COUNTERMEASURES				UNSIGNALIZED INTERSECTION COUNTERMEASURES				ROADWAY COUNTERMEASURES					
Location: Woods	Install pedestrian countdown signal heads	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	Other (intersection traffic calming)	
Applicable	N	N	N	N	N	N	N	N	Y	N	N	N	Y	Subtotal Crashes
CRF	25%	25%	15%	75%	45%	25%	35%	55%	35%	80%	30%	35%	10%	
Fatal Crashes														
Injury Crashes									7				4	11
Years of Data	0								5				5	
Avg. Annual Total Fatal and Injury Crashes	0	0	0	0	0	0	0	0	1.4	0	0	0	0.8	
														TOTAL ANNUAL CRASH REDUCTION
Annual Crash Reduction	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.49**	**0**	**0**	**0**	**0.08**	**0.57**

Total Bike/Ped Crashes	Avg. Annual Bike/Ped Crashes	% Crash Reduction	SUM TOTAL ANNUAL CRASH REDUCTION
48	9.6	20.7%	1.99

Crash Reduction Estimation Methodology

The preferred source document for estimating crash reductions is the ***Local Roadway Safety Manual for California Local Road Owners***[1]

As the name suggests, the manual is intended for use in and by local jurisdictions. The document is intended to provide the framework of the analysis and tools needed to identify roadway safety issues and potential countermeasures.

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. If the number of bicycle and pedestrian crashes for roadway system is relatively low, quantitative assessments may be difficult. 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. Measures potentially relevant to the project types typical for ATP grants 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
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

[1] http://www.dot.ca.gov/hq/LocalPrograms/HSIP/Documents/hsip/CA_SM4LROv11.pdf

	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
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
R 39	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

Calculating Crash Reduction

The crash reduction spreadsheet utilizes known crash data along with proposed improvement countermeasures to estimate crash reduction factors.

Required data:

- Bike and/or Pedestrian related crash data (fatal and injury); the data used should be consistent with the data entered in the Cost Effectiveness and Benefit Calculator

To utilize the crash reduction spreadsheet fill in cells shaded yellow. The basic steps involved include:

1. Select applicable countermeasure type(s) by placing a 'Y' in the appropriate Countermeasure column.
2. Review available crash data and select crashes associated with the proposed project type and location.
3. Enter fatal and injury crash data. When more than one countermeasure is used the crash data should be segregated. As an example, if the project includes both installing bike lanes along a corridor and installation of pedestrian crossing, the crash data should be segregated to identify crashes potentially associated with each improvement.

<u>What to do when the proposed project does not fall within the listed countermeasure categories:</u>

1. Use the 'Other' column in the spreadsheet
2. Input the CRF in the appropriate column utilizing available CRF sources discussed below. If necessary, ask the Safety Resource team for assistance in defining the CRF.
3. Fill in other cells as noted above.

<u>What to do if crash data is unavailable or limited:</u>

If crash data is unavailable, the grant writer is encouraged to qualitatively discuss the safety benefits and merits of the project. Where possible the CRF of the proposed project should be noted.

Additional Crash Reduction Information and Resources

The following sections provide additional information and a brief summary of additional resources regarding crash reduction factors. For consistency with other components of the grant application and the process to be used for the cost/benefit calculations, the following information, sources and crash reduction calculation methodologies should only be used if the guidance and information provided in the above section 'Recommended Crash Reduction Estimation Methodology' isn't applicable to a proposed project and grant application.

CMF Clearinghouse[2]

The CMF Clearinghouse website (http://www.cmfclearinghouse.org/index.cfm) provides information on crash reduction factors but relies on a closely related but different approach to estimated crash reduction through the use of Crash Modification Factors (CMF).

The main difference between CRF and CMF is that CRF provides an estimate of the percentage reduction in crashes, while CMF is a multiplicative factor used to compute the expected number of crashes after implementing a given improvement.

Mathematically stated, CMF = 1 - (CRF/100).

The CMF Clearinghouse provides a database of CMF and source documentation. For unique ATP projects that don't fit the type and description of countermeasures listed in the table in the previous section, the CMF site can be utilized as a good source for appropriate CRFs.

PEDSAFE Pedestrian Safety Countermeasures[3]

The PEDSAFE website provides information on pedestrian specific safety countermeasures.

BIKESAFE Bicycle Safety Countermeasures[4]

The BIKESAFE website provides information on bicycle specific safety countermeasures.

Traffic Calming and Speed Reduction

Chapter 5 of the ITE report: *Traffic Calming: State of the Practice*[5] provides some information and speed reduction values. The values used in the document should be viewed as representative; if the proposed project contains features that directly or indirectly intended to calm traffic and/or provide shorter more prominent and visible pedestrian or bicycle crossing than these approximate values to estimate the anticipated speed reduction, if any may be utilized.

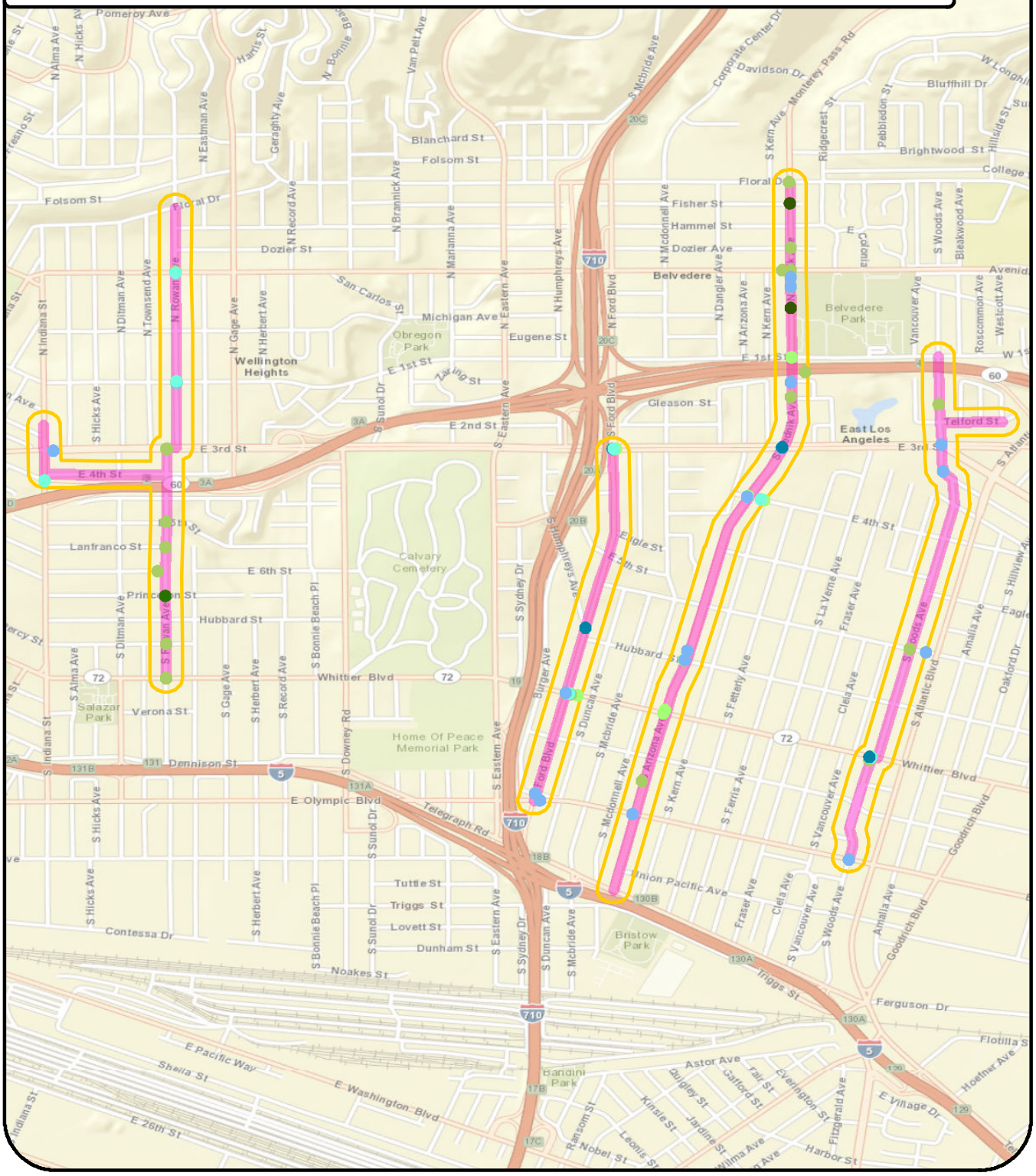
[2] http://www.cmfclearinghouse.org/index.cfm
[3] http://www.pedbikesafe.org/PEDSAFE/countermeasures.cfm
[4] http://www.pedbikesafe.org/BIKESAFE
[5] http://www.ite.org/traffic/tcsop/Chapter5a.pdf

Attachment J
Bike/Pedestrian Crash Location Map

2008-2012 Bike and Pedestrian Crash Data

Eastside Light Rail Bike Interface Project - Los Angeles County

Jurisdiction: LA COUNTY Project Number: F1511



Project Area

Distance from Project

200 Feet

Bicycle Collisions (by severity)

- Injury (Severe)
- Injury (Other Visible)
- Injury (Complaint of Pain)

Pedestrian Collisions (by severity)

- Fatal
- Injury (Severe)
- Injury (Other Visible)
- Injury (Complaint of Pain)

N

1 in = 0.39 miles

0 1,100 2,200 Feet

Date: 5/8/2014 Document Path: R:\L\LOSX0MTR0002\0600INFO\GS-GIS group\Maps\Bike_Ped_Crashes.mxd

Attachment K
Cost/Benefit Methodology and Calculation

Cost - Benefit Methodology

When estimating cost effectiveness for infrastructure projects, the following are considered: Safety, improved air quality, and increased numbers of cyclists and pedestrians. Costs include the construction, operation, maintenance, and user costs associated with the project.

A **Benefit-Cost Calculator** was developed for this grant application. It uses the travel characteristics for an infrastructure project and provides an overall ratio of benefit-to-cost. 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

The calculator inputs are:

- 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

In order to develop the calculator, information from five relevant reports regarding transportation benefits and costs was used:

- Litman, Todd. Victoria Transport Policy Institute. 2014 (April 2). Evaluating Active Transort Benefits and Costs.
- CalTrans .2013 (April). Local Roadway Safety: A Manual for alifornia's Local Road Owners. Version 1.1.
- U.S. Department of Transportation, Federal Highway Administration, Office of Asset Management. 2003 (August). Economic analysis Primer.
- Transportation Research Board of the National Academies. National Cooperative Highway Research Program. 2006. Report 552: Guidelines for Analysis of Investments in Bicycle Facilities.
- Bushell, Max A., Bryan W. Poole, Charles V. Zegeer, Daniel A. Rodriguez. UNC Highway Safety Research Center. 2013 (October). Costs for Pedestrian and Bicyclist Infrastructure Improvements: A Resource for Researchers, Engineers, Planners, and the General Public. Prepared for the Federal Highway Administration.

1. Evaluating Active Transport Benefits and Costs

Litman, Todd. Victoria Transport Policy Institute. 2014 (April 2). Evaluating Active Transort Benefits and Costs. Available: http://vtpi.org/nmt-tdm.pdf

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 strategies, active planning resources, benefit and cost categories, 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[1], include the following:

- User savings—in this case, the most appropriate monetary measure of a project's benefit
- 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

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	• 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	• 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	• Reduced traffic congestion • Road and parking facility cost savings • Consumer savings • Reduced chauffeuring burdens • Increased traffic safety • Energy conservation • Pollution reductions • Economic development	• Improved accessibility, particularly for non-drivers • Transport cost savings • Reduced sprawl costs • Openspace preservation • More livable communities • Higher property values • Improved security
Potential Costs	• Facility costs • Lower traffic speeds	• Equipment costs (shoes, bikes, etc.) • Increased crash risk	• Slower travel	• Increases in some development costs

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

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.

Table 13 **Summary of Active Transport Benefits and Costs**

Impact Category	Description
Improve NMT Conditions	*Benefits from improved walking and cycling conditions.*
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	*Benefits from increased walking and cycling activity*
Fitness and health	Improved public fitness and health
Reduced Vehicle Travel	*Benefits from reduced motor vehicle ownership and use*
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	*Benefits from support for strategic land use objectives*
Pavement area	Can reduce road and parking facility land requirements
Development patterns	Helps create more accessible, compact, mixed, infill development (smart growth)
Economic Development	*Benefits from increased productivity and employment*
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	*Costs of improving active mode conditions*
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."

Table 15 **Active Transportation Evaluation Framework**

	NMT Conditions	NMT Activity	Automobile Travel	Land Use
	Is walking and cycling easier or safer?	*Does walking or cycling activity increase?*	*Does automobile travel decline?*	*Does it strategic meet planning objectives?*
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 mils 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	

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 Owners

CalTrans .2013 (April). Local Roadway Safety: A Manual for alifornia's Local Road Owners. Version 1.1. Available: http://www.dot.ca.gov/hq/LocalPrograms/HSIP/Documents/hsip/CA_SM4LROv11.pdf

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	Install pedestrian countdown signal	Very High	Pedestrian, Bicycle	25%	P & B	25	20

	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
	Bike	heads						
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
R 39	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 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[2].

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

Safety Index Calculation Method

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

- 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) *Benefit (Life) = Benefit (annual) x Years of service life*

3) Benefit/Cost Ratio (each countermeasure): $$Benefit\ \ Cost\ Ratio_{(CM)} = \frac{Benefit\ (Life)_{(CM)}}{Total\ \Pr oject\ Cost_{(CM)}}$$

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

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 Primer

U.S. Department of Transportation, Federal Highway Administration, Office of Asset Management. 2003 (August). Economic analysis Primer. Available: http://www.fhwa.dot.gov/infrastructure/asstmgmt/primer.pdf

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.

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 Parameters[3]).

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

Transportation Research Board of the National Academies. National Cooperative Highway Research Program. 2006. Report 552: Guidelines for Analysis of Investments in Bicycle Facilities. Available: http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_552.pdf

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.

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.
    - 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.

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

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 Improvements

Bushell, Max A., Bryan W. Poole, Charles V. Zegeer, Daniel A. Rodriguez. UNC Highway Safety Research Center. 2013 (October). Costs for Pedestrian and Bicyclist Infrastructure Improvements: A Resource for Researchers, Engineers, Planners, and the General Public. Prepared for the Federal Highway Administration. Available: http://katana.hsrc.unc.edu/cms/downloads/Countermeasure%20Costs_Report_Nov2013.pdf

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.

PROJECT DESCRIPTION

Please note that only yellow cells should be modified

Name of Project	Eastside Light Rail Interface Project
Project Location	Los Angeles County
Type of Project	Cycling — *Enter Walking (for Sidewalks or Multi-Use Path) or Cycling*
Current Year	2014

TRAVEL CHARACTERISTICS - Bike

	No Build	Build			Annual Person Miles No Build	Annual Person Miles Build	Increased Person Miles	Reduced Vehicle Miles
Existing Demand (Daily Person Trips)	1000	1060	*Year*	2012	730,000	773,800	43,800	65,700
Forecast Demand (Daily Person Trips)	1100	1167	*Year*	2035	803,000	851,910	48,910	73,365
Trip Length (miles)	2					IPM:RVM ratio	1	1.5

PED/BIKE CRASH HISTORY

Crash Severity	Number of B/P Crashes
Fatal Crashes	2
Injury Crashes (Total)	72
Injury Type A (severe)	
Injury Type B (moderate)	
Injury C (minor)	
Property Damage Only (PDO)	
Total	74
Crash Analysis Period (Minimum 5 years)	5

Can be left blank if unknown

Existing Year Vehicular ADT	
ADT	66,278
Year	2012
Forcast Year Vehicular ADT	
ADT	68,500
Year	2035

Crash Countermeasures (Safety Improvements)		Project Includes?
pedestrian countdown signal heads	*Signalized Intersection*	N
pedestrian crossing	*Signalized Intersection*	N
advance stop bar before crosswalk (bicycle box)	*Signalized Intersection*	N
pedestrian overpass/ underpass	*Signalized Intersection*	N
raised medians/ refuge islands	*Unsignalized Intersection*	N
pedestrian crossing (new signs and markings only)	*Unsignalized Intersection*	N
pedestrian crossing (enhanced safety features/ curb extensions)	*Unsignalized Intersection*	N
pedestrian signal	*Unsignalized Intersection*	N
bike lanes	*Roadway*	Y
sidewalk/ pathway (to avoid walking along roadway)	*Roadway*	N
pedestrian crossing (with enhanced safety features)	*Roadway*	N
raised pedestrian crossing	*Roadway*	N
OTHER REDUCTION FACTOR (MANUAL ENTRY)	10%	Y

PROJECT COSTS

Capital Investment	$1,861,000	*Estimated Year Construction Begins*	2015	*Discount Rate Used to calculate Net Present Value*	4.0%
Annual Operations/ Maintenance Costs	$5,000	*Estimated Opening Year*	2016		

ESTIMATED BENEFITS FROM ACTIVE TRANSPORTATION

				Improved Active Travel Conditions			Increased Active Travel Activity		Land Use Impacts	
Year	Actual Year	Increased Person Miles (IPM)	Reduced Vehicle Miles (RVM)	User benefits	Option value	Equity objectives	Fitness and health – walking	Fitness and health – cycling	Reduced pavement	Increased accessibility
				0.250	0.035	0.035	0.500	0.200	0.002	0.051
				IPM	IPM	IPM		IPM		IPM
CONSTRUCTION										
1	2015									
2	0									
3	0									
4	0									
5	0									
OPENING YEAR										
1	2016	44,690	67,035	$11,173	$1,564	$1,564	$0	$8,938		$2,011
2	2017	44,912	67,368	$11,228	$1,572	$1,572	$0	$8,982		$2,021
3	2018	45,134	67,701	$11,284	$1,580	$1,580	$0	$9,027		$2,031
4	2019	45,356	68,034	$11,339	$1,587	$1,587	$0	$9,071		$2,041
5	2020	45,578	68,368	$11,395	$1,595	$1,595	$0	$9,116		$2,051
6	2021	45,801	68,701	$11,450	$1,603	$1,603	$0	$9,160		$2,061
7	2022	46,023	69,034	$11,506	$1,611	$1,611	$0	$9,205		$2,071
8	2023	46,245	69,367	$11,561	$1,619	$1,619	$0	$9,249		$2,081
9	2024	46,467	69,700	$11,617	$1,626	$1,626	$0	$9,293		$2,091
10	2025	46,689	70,033	$11,672	$1,634	$1,634	$0	$9,338		$2,101
11	2026	46,911	70,367	$11,728	$1,642	$1,642	$0	$9,382		$2,111
12	2027	47,133	70,700	$11,783	$1,650	$1,650	$0	$9,427		$2,121
13	2028	47,355	71,033	$11,839	$1,657	$1,657	$0	$9,471		$2,131
14	2029	47,577	71,366	$11,894	$1,665	$1,665	$0	$9,515		$2,141
15	2030	47,799	71,699	$11,950	$1,673	$1,673	$0	$9,560		$2,151
16	2031	48,022	72,032	$12,005	$1,681	$1,681	$0	$9,604		$2,161
17	2032	48,244	72,366	$12,061	$1,689	$1,689	$0	$9,649		$2,171
18	2033	48,466	72,699	$12,116	$1,696	$1,696	$0	$9,693		$2,181
19	2034	48,688	73,032	$12,172	$1,704	$1,704	$0	$9,738		$2,191
20	2035	48,910	73,365	$12,228	$1,712	$1,712	$0	$9,782		$2,201

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

Reduced Automobile Travel									
Vehicle cost savings	**Avoided chauffeuring driver's time**	**Congestion reduction**	**Reduced barrier effect**	**Roadway cost savings**	**Parking cost savings**	**Energy conservation**	**Pollution reductions**	**Combined Benefits**	**Net Present Value**
0.225	0.580	0.060	0.010	0.042	0.360	0.030	0.044		
RVM	RVM	RVM	RVM	RVM	RVM	RVM	RVM		
$15,083	$38,880	$4,022	$670	$2,815	$24,133	$2,011	$2,950	$115,814	$107,077
$15,158	$39,074	$4,042	$674	$2,829	$24,253	$2,021	$2,964	$116,390	$103,470
$15,233	$39,267	$4,062	$677	$2,843	$24,372	$2,031	$2,979	$116,965	$99,982
$15,308	$39,460	$4,082	$680	$2,857	$24,492	$2,041	$2,994	$117,541	$96,610
$15,383	$39,653	$4,102	$684	$2,871	$24,612	$2,051	$3,008	$118,116	$93,349
$15,458	$39,846	$4,122	$687	$2,885	$24,732	$2,061	$3,023	$118,692	$90,196
$15,533	$40,040	$4,142	$690	$2,899	$24,852	$2,071	$3,037	$119,268	$87,148
$15,608	$40,233	$4,162	$694	$2,913	$24,972	$2,081	$3,052	$119,843	$84,200
$15,683	$40,426	$4,182	$697	$2,927	$25,092	$2,091	$3,067	$120,419	$81,351
$15,758	$40,619	$4,202	$700	$2,941	$25,212	$2,101	$3,081	$120,994	$78,596
$15,832	$40,813	$4,222	$704	$2,955	$25,332	$2,111	$3,096	$121,570	$75,932
$15,907	$41,006	$4,242	$707	$2,969	$25,452	$2,121	$3,111	$122,146	$73,357
$15,982	$41,199	$4,262	$710	$2,983	$25,572	$2,131	$3,125	$122,721	$70,868
$16,057	$41,392	$4,282	$714	$2,997	$25,692	$2,141	$3,140	$123,297	$68,462
$16,132	$41,586	$4,302	$717	$3,011	$25,812	$2,151	$3,155	$123,872	$66,136
$16,207	$41,779	$4,322	$720	$3,025	$25,932	$2,161	$3,169	$124,448	$63,888
$16,282	$41,972	$4,342	$724	$3,039	$26,052	$2,171	$3,184	$125,024	$61,715
$16,357	$42,165	$4,362	$727	$3,053	$26,172	$2,181	$3,199	$125,599	$59,615
$16,432	$42,358	$4,382	$730	$3,067	$26,291	$2,191	$3,213	$126,175	$57,584
$16,507	$42,552	$4,402	$734	$3,081	$26,411	$2,201	$3,228	$126,750	$55,622

Discount Rate 4.0%

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

ESTIMATED BENEFITS FROM POTENTIAL CRASH REDUCTION

			SIGNALIZED INTERSECTION COUNTERMEASURES				UNSIGNALIZED INTERSECTION COUNTERMEASURES			
Year	Actual Year	ADT	Install pedestrian countdown signal heads	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
			25%	25%	15%	75%	45%	25%	35%	55%
			N	N	N	N	N	N	N	N
CONSTRUCTION										
1	2015									
2	0									
3	0									
4	0									
5	0									
OPENING YEAR										
1	2016	66,660	$0	$0	$0	$0	$0	$0	$0	$0
2	2017	66,757	$0	$0	$0	$0	$0	$0	$0	$0
3	2018	66,854	$0	$0	$0	$0	$0	$0	$0	$0
4	2019	66,951	$0	$0	$0	$0	$0	$0	$0	$0
5	2020	67,047	$0	$0	$0	$0	$0	$0	$0	$0
6	2021	67,144	$0	$0	$0	$0	$0	$0	$0	$0
7	2022	67,241	$0	$0	$0	$0	$0	$0	$0	$0
8	2023	67,338	$0	$0	$0	$0	$0	$0	$0	$0
9	2024	67,435	$0	$0	$0	$0	$0	$0	$0	$0
10	2025	67,532	$0	$0	$0	$0	$0	$0	$0	$0
11	2026	67,628	$0	$0	$0	$0	$0	$0	$0	$0
12	2027	67,725	$0	$0	$0	$0	$0	$0	$0	$0
13	2028	67,822	$0	$0	$0	$0	$0	$0	$0	$0
14	2029	67,919	$0	$0	$0	$0	$0	$0	$0	$0
15	2030	68,016	$0	$0	$0	$0	$0	$0	$0	$0
16	2031	68,113	$0	$0	$0	$0	$0	$0	$0	$0
17	2032	68,209	$0	$0	$0	$0	$0	$0	$0	$0
18	2033	68,306	$0	$0	$0	$0	$0	$0	$0	$0
19	2034	68,403	$0	$0	$0	$0	$0	$0	$0	$0
20	2035	68,500	$0	$0	$0	$0	$0	$0	$0	$0

	Fatal	Injury	Injury A	Injury B	Injury C	PDO	**Total**	**Years**
Frequency	2	72	0	0	0	0	74	5
Cost/Crash	$4,008,900	$80,000	$216,000	$79,000	$44,900	$7,400		
Annual Cost	$1,603,560	$1,152,000	$0	$0	$0	$0	$2,755,560	

ROADWAY COUNTERMEASURES						
Install bike lanes	Install sidewalk/ pathway (to avoid walking along roadway)	Install pedestrian crossing (with enhanced safety features)	Install raised pedestrian crossing	OTHER REDUCTION FACTOR	Maximum Benefit from Single Counter-measure	Net Present Value
35%	80%	30%	35%	10%		
Y	N	N	N	Y		
$964,446	$0	$0	$0	$275,556	$964,446	$891,685
$965,847	$0	$0	$0	$275,956	$965,847	$858,635
$967,248	$0	$0	$0	$276,357	$967,248	$826,808
$968,649	$0	$0	$0	$276,757	$968,649	$796,159
$970,050	$0	$0	$0	$277,157	$970,050	$766,645
$971,452	$0	$0	$0	$277,558	$971,452	$738,223
$972,853	$0	$0	$0	$277,958	$972,853	$710,854
$974,254	$0	$0	$0	$278,358	$974,254	$684,498
$975,655	$0	$0	$0	$278,759	$975,655	$659,118
$977,056	$0	$0	$0	$279,159	$977,056	$634,677
$978,457	$0	$0	$0	$279,559	$978,457	$611,142
$979,858	$0	$0	$0	$279,960	$979,858	$588,478
$981,259	$0	$0	$0	$280,360	$981,259	$566,653
$982,661	$0	$0	$0	$280,760	$982,661	$545,637
$984,062	$0	$0	$0	$281,160	$984,062	$525,399
$985,463	$0	$0	$0	$281,561	$985,463	$505,910
$986,864	$0	$0	$0	$281,961	$986,864	$487,144
$988,265	$0	$0	$0	$282,361	$988,265	$469,073
$989,666	$0	$0	$0	$282,762	$989,666	$451,671
$991,067	$0	$0	$0	$283,162	$991,067	$434,914

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_SM4LROv11.pdf

ESTIMATED COSTS FOR PROJECT

Year	Actual Year	Increased Person Miles (IPM)	Construction & OM Costs	User Costs 0.080 IPM	Combined Costs	Net Present Value
CONSTRUCTION						
1	2015		$1,861,000		$1,861,000	$1,789,423
2	0		$0		$0	$0
3	0		$0		$0	$0
4	0		$0		$0	$0
5	0		$0		$0	$0
OPENING YEAR						
1	2016	44,690	$5,000	$3,575	$8,575	$7,928
2	2017	44,912	$5,000	$3,593	$8,593	$7,639
3	2018	45,134	$5,000	$3,611	$8,611	$7,360
4	2019	45,356	$5,000	$3,629	$8,629	$7,092
5	2020	45,578	$5,000	$3,646	$8,646	$6,833
6	2021	45,801	$5,000	$3,664	$8,664	$6,584
7	2022	46,023	$5,000	$3,682	$8,682	$6,344
8	2023	46,245	$5,000	$3,700	$8,700	$6,112
9	2024	46,467	$5,000	$3,717	$8,717	$5,889
10	2025	46,689	$5,000	$3,735	$8,735	$5,674
11	2026	46,911	$5,000	$3,753	$8,753	$5,467
12	2027	47,133	$5,000	$3,771	$8,771	$5,267
13	2028	47,355	$5,000	$3,788	$8,788	$5,075
14	2029	47,577	$5,000	$3,806	$8,806	$4,890
15	2030	47,799	$5,000	$3,824	$8,824	$4,711
16	2031	48,022	$5,000	$3,842	$8,842	$4,539
17	2032	48,244	$5,000	$3,859	$8,859	$4,373
18	2033	48,466	$5,000	$3,877	$8,877	$4,214
19	2034	48,688	$5,000	$3,895	$8,895	$4,060
20	2035	48,910	$5,000	$3,913	$8,913	$3,911

Discount Rate 4.0%

BENEFIT/COST SUMMARY

		NET PRESENT VALUE		
Year	Actual Year	ESTIMATED BENEFITS FROM ACTIVE TRANSPORTATION	ESTIMATED BENEFITS FROM POTENTIAL CRASH REDUCTION	ESTIMATED COSTS FOR PROJECT
CONSTRUCTION				
1	2015	$0	$0	$1,789,423
2	0	$0	$0	$0
3	0	$0	$0	$0
4	0	$0	$0	$0
5	0	$0	$0	$0
OPENING YEAR				
1	2016	$107,077	$891,685	$7,928
2	2017	$103,470	$858,635	$7,639
3	2018	$99,982	$826,808	$7,360
4	2019	$96,610	$796,159	$7,092
5	2020	$93,349	$766,645	$6,833
6	2021	$90,196	$738,223	$6,584
7	2022	$87,148	$710,854	$6,344
8	2023	$84,200	$684,498	$6,112
9	2024	$81,351	$659,118	$5,889
10	2025	$78,596	$634,677	$5,674
11	2026	$75,932	$611,142	$5,467
12	2027	$73,357	$588,478	$5,267
13	2028	$70,868	$566,653	$5,075
14	2029	$68,462	$545,637	$4,890
15	2030	$66,136	$525,399	$4,711
16	2031	$63,888	$505,910	$4,539
17	2032	$61,715	$487,144	$4,373
18	2033	$59,615	$469,073	$4,214
19	2034	$57,584	$451,671	$4,060
20	2035	$55,622	$434,914	$3,911
TOTAL		$1,575,161	$12,753,319	$1,903,387

B/C RATIO	**7.53**

Active Tranportation – 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	$0.035	$0.035	$0.035	$0.035	Half of diversity value*.
Equity objectives	$0.035	$0.035	$0.035	$0.035	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	$0.200	$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	
Land Use Impacts - Table 19 More Walkable and Bikeable Community (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

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

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	Very High	Pedestrian, Bicycle	25%	P & B	25	20
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								
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	0.25	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
R 39	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

PROJECT DESCRIPTION

Please note that only yellow cells should be modified

Name of Project	Eastside Light Rail Interface Project
Project Location	Los Angeles County
Type of Project	Cycling — *Enter Walking (for Sidewalks or Multi-Use Path) or Cycling*
Current Year	2014

TRAVEL CHARACTERISTICS - Bike

	No Build	Build			Annual Person Miles No Build	Annual Person Miles Build	Increased Person Miles	Reduced Vehicle Miles
Existing Demand (Daily Person Trips)	1000	1060	*Year*	2012	730,000	773,800	43,800	65,700
Forecast Demand (Daily Person Trips)	1100	1167	*Year*	2035	803,000	851,910	48,910	73,365
Trip Length (miles)	2					IPM:RVM ratio	1	1.5

PED/BIKE CRASH HISTORY

Crash Severity	Number of B/P Crashes
Fatal Crashes	2
Injury Crashes (Total)	72
Injury Type A (severe)	
Injury Type B (moderate)	
Injury C (minor)	
Property Damage Only (PDO)	
Total	74

Can be left blank if unknown

Crash Analysis Period (Minimum 5 years) 5

Existing Year Vehicular ADT	
ADT	66,278
Year	2012

Forcast Year Vehicular ADT	
ADT	68,500
Year	2035

Crash Countermeasures (Safety Improvements)		Project Includes?
pedestrian countdown signal heads	*Signalized Intersection*	N
pedestrian crossing	*Signalized Intersection*	N
advance stop bar before crosswalk (bicycle box)	*Signalized Intersection*	N
pedestrian overpass/ underpass	*Signalized Intersection*	N
raised medians/ refuge islands	*Unsignalized Intersection*	N
pedestrian crossing (new signs and markings only)	*Unsignalized Intersection*	N
pedestrian crossing (enhanced safety features/ curb extensions)	*Unsignalized Intersection*	N
pedestrian signal	*Unsignalized Intersection*	N
bike lanes	*Roadway*	Y
sidewalk/ pathway (to avoid walking along roadway)	*Roadway*	N
pedestrian crossing (with enhanced safety features)	*Roadway*	N
raised pedestrian crossing	*Roadway*	N
OTHER REDUCTION FACTOR (MANUAL ENTRY)	10%	Y

PROJECT COSTS

Capital Investment	$1,305,000	*Estimated Year Construction Begins*	2015	*Discount Rate Used to calculate Net Present Value*	4.0%
Annual Operations/ Maintenance Costs	$5,000	*Estimated Opening Year*	2016		

ESTIMATED BENEFITS FROM ACTIVE TRANSPORTATION

				Improved Active Travel Conditions			Increased Active Travel Activity		Land Use Impacts	
Year	Actual Year	Increased Person Miles (IPM)	Reduced Vehicle Miles (RVM)	User benefits	Option value	Equity objectives	Fitness and health – walking	Fitness and health – cycling	Reduced pavement	Increased accessibility
				0.250	0.035	0.035	0.500	0.200	0.002	0.051
				IPM	IPM	IPM		IPM		IPM
CONSTRUCTION										
1	2015									
2	0									
3	0									
4	0									
5	0									
OPENING YEAR										
1	2016	44,690	67,035	$11,173	$1,564	$1,564	$0	$8,938		$2,011
2	2017	44,912	67,368	$11,228	$1,572	$1,572	$0	$8,982		$2,021
3	2018	45,134	67,701	$11,284	$1,580	$1,580	$0	$9,027		$2,031
4	2019	45,356	68,034	$11,339	$1,587	$1,587	$0	$9,071		$2,041
5	2020	45,578	68,368	$11,395	$1,595	$1,595	$0	$9,116		$2,051
6	2021	45,801	68,701	$11,450	$1,603	$1,603	$0	$9,160		$2,061
7	2022	46,023	69,034	$11,506	$1,611	$1,611	$0	$9,205		$2,071
8	2023	46,245	69,367	$11,561	$1,619	$1,619	$0	$9,249		$2,081
9	2024	46,467	69,700	$11,617	$1,626	$1,626	$0	$9,293		$2,091
10	2025	46,689	70,033	$11,672	$1,634	$1,634	$0	$9,338		$2,101
11	2026	46,911	70,367	$11,728	$1,642	$1,642	$0	$9,382		$2,111
12	2027	47,133	70,700	$11,783	$1,650	$1,650	$0	$9,427		$2,121
13	2028	47,355	71,033	$11,839	$1,657	$1,657	$0	$9,471		$2,131
14	2029	47,577	71,366	$11,894	$1,665	$1,665	$0	$9,515		$2,141
15	2030	47,799	71,699	$11,950	$1,673	$1,673	$0	$9,560		$2,151
16	2031	48,022	72,032	$12,005	$1,681	$1,681	$0	$9,604		$2,161
17	2032	48,244	72,366	$12,061	$1,689	$1,689	$0	$9,649		$2,171
18	2033	48,466	72,699	$12,116	$1,696	$1,696	$0	$9,693		$2,181
19	2034	48,688	73,032	$12,172	$1,704	$1,704	$0	$9,738		$2,191
20	2035	48,910	73,365	$12,228	$1,712	$1,712	$0	$9,782		$2,201

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

Reduced Automobile Travel									
Vehicle cost savings	**Avoided chauffeuring driver's time**	**Congestion reduction**	**Reduced barrier effect**	**Roadway cost savings**	**Parking cost savings**	**Energy conservation**	**Pollution reductions**	**Combined Benefits**	**Net Present Value**
0.225	0.580	0.060	0.010	0.042	0.360	0.030	0.044		
RVM	RVM	RVM	RVM	RVM	RVM	RVM	RVM		
$15,083	$38,880	$4,022	$670	$2,815	$24,133	$2,011	$2,950	$115,814	$107,077
$15,158	$39,074	$4,042	$674	$2,829	$24,253	$2,021	$2,964	$116,390	$103,470
$15,233	$39,267	$4,062	$677	$2,843	$24,372	$2,031	$2,979	$116,965	$99,982
$15,308	$39,460	$4,082	$680	$2,857	$24,492	$2,041	$2,994	$117,541	$96,610
$15,383	$39,653	$4,102	$684	$2,871	$24,612	$2,051	$3,008	$118,116	$93,349
$15,458	$39,846	$4,122	$687	$2,885	$24,732	$2,061	$3,023	$118,692	$90,196
$15,533	$40,040	$4,142	$690	$2,899	$24,852	$2,071	$3,037	$119,268	$87,148
$15,608	$40,233	$4,162	$694	$2,913	$24,972	$2,081	$3,052	$119,843	$84,200
$15,683	$40,426	$4,182	$697	$2,927	$25,092	$2,091	$3,067	$120,419	$81,351
$15,758	$40,619	$4,202	$700	$2,941	$25,212	$2,101	$3,081	$120,994	$78,596
$15,832	$40,813	$4,222	$704	$2,955	$25,332	$2,111	$3,096	$121,570	$75,932
$15,907	$41,006	$4,242	$707	$2,969	$25,452	$2,121	$3,111	$122,146	$73,357
$15,982	$41,199	$4,262	$710	$2,983	$25,572	$2,131	$3,125	$122,721	$70,868
$16,057	$41,392	$4,282	$714	$2,997	$25,692	$2,141	$3,140	$123,297	$68,462
$16,132	$41,586	$4,302	$717	$3,011	$25,812	$2,151	$3,155	$123,872	$66,136
$16,207	$41,779	$4,322	$720	$3,025	$25,932	$2,161	$3,169	$124,448	$63,888
$16,282	$41,972	$4,342	$724	$3,039	$26,052	$2,171	$3,184	$125,024	$61,715
$16,357	$42,165	$4,362	$727	$3,053	$26,172	$2,181	$3,199	$125,599	$59,615
$16,432	$42,358	$4,382	$730	$3,067	$26,291	$2,191	$3,213	$126,175	$57,584
$16,507	$42,552	$4,402	$734	$3,081	$26,411	$2,201	$3,228	$126,750	$55,622

Discount Rate 4.0%

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

ESTIMATED BENEFITS FROM POTENTIAL CRASH REDUCTION

			SIGNALIZED INTERSECTION COUNTERMEASURES				UNSIGNALIZED INTERSECTION COUNTERMEASURES			
Year	Actual Year	ADT	Install pedestrian countdown signal heads	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
			25%	25%	15%	75%	45%	25%	35%	55%
			N	N	N	N	N	N	N	N
CONSTRUCTION										
1	2015									
2	0									
3	0									
4	0									
5	0									
OPENING YEAR										
1	2016	66,660	$0	$0	$0	$0	$0	$0	$0	$0
2	2017	66,757	$0	$0	$0	$0	$0	$0	$0	$0
3	2018	66,854	$0	$0	$0	$0	$0	$0	$0	$0
4	2019	66,951	$0	$0	$0	$0	$0	$0	$0	$0
5	2020	67,047	$0	$0	$0	$0	$0	$0	$0	$0
6	2021	67,144	$0	$0	$0	$0	$0	$0	$0	$0
7	2022	67,241	$0	$0	$0	$0	$0	$0	$0	$0
8	2023	67,338	$0	$0	$0	$0	$0	$0	$0	$0
9	2024	67,435	$0	$0	$0	$0	$0	$0	$0	$0
10	2025	67,532	$0	$0	$0	$0	$0	$0	$0	$0
11	2026	67,628	$0	$0	$0	$0	$0	$0	$0	$0
12	2027	67,725	$0	$0	$0	$0	$0	$0	$0	$0
13	2028	67,822	$0	$0	$0	$0	$0	$0	$0	$0
14	2029	67,919	$0	$0	$0	$0	$0	$0	$0	$0
15	2030	68,016	$0	$0	$0	$0	$0	$0	$0	$0
16	2031	68,113	$0	$0	$0	$0	$0	$0	$0	$0
17	2032	68,209	$0	$0	$0	$0	$0	$0	$0	$0
18	2033	68,306	$0	$0	$0	$0	$0	$0	$0	$0
19	2034	68,403	$0	$0	$0	$0	$0	$0	$0	$0
20	2035	68,500	$0	$0	$0	$0	$0	$0	$0	$0

	Fatal	Injury	Injury A	Injury B	Injury C	PDO	**Total**	**Years**
Frequency	2	72	0	0	0	0	74	5
Cost/Crash	$4,008,900	$80,000	$216,000	$79,000	$44,900	$7,400		
Annual Cost	$1,603,560	$1,152,000	$0	$0	$0	$0	$2,755,560	

ROADWAY COUNTERMEASURES						
Install bike lanes	Install sidewalk/ pathway (to avoid walking along roadway)	Install pedestrian crossing (with enhanced safety features)	Install raised pedestrian crossing	OTHER REDUCTION FACTOR	Maximum Benefit from Single Counter-measure	Net Present Value
35%	80%	30%	35%	10%		
Y	N	N	N	Y		
$964,446	$0	$0	$0	$275,556	$964,446	$891,685
$965,847	$0	$0	$0	$275,956	$965,847	$858,635
$967,248	$0	$0	$0	$276,357	$967,248	$826,808
$968,649	$0	$0	$0	$276,757	$968,649	$796,159
$970,050	$0	$0	$0	$277,157	$970,050	$766,645
$971,452	$0	$0	$0	$277,558	$971,452	$738,223
$972,853	$0	$0	$0	$277,958	$972,853	$710,854
$974,254	$0	$0	$0	$278,358	$974,254	$684,498
$975,655	$0	$0	$0	$278,759	$975,655	$659,118
$977,056	$0	$0	$0	$279,159	$977,056	$634,677
$978,457	$0	$0	$0	$279,559	$978,457	$611,142
$979,858	$0	$0	$0	$279,960	$979,858	$588,478
$981,259	$0	$0	$0	$280,360	$981,259	$566,653
$982,661	$0	$0	$0	$280,760	$982,661	$545,637
$984,062	$0	$0	$0	$281,160	$984,062	$525,399
$985,463	$0	$0	$0	$281,561	$985,463	$505,910
$986,864	$0	$0	$0	$281,961	$986,864	$487,144
$988,265	$0	$0	$0	$282,361	$988,265	$469,073
$989,666	$0	$0	$0	$282,762	$989,666	$451,671
$991,067	$0	$0	$0	$283,162	$991,067	$434,914

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_SM4LROv11.pdf

ESTIMATED COSTS FOR PROJECT

Year	Actual Year	Increased Person Miles (IPM)	Construction & OM Costs	User Costs 0.080 IPM	Combined Costs	Net Present Value
CONSTRUCTION						
1	2015		$1,305,000		$1,305,000	$1,254,808
2	0		$0		$0	$0
3	0		$0		$0	$0
4	0		$0		$0	$0
5	0		$0		$0	$0
OPENING YEAR						
1	2016	44,690	$5,000	$3,575	$8,575	$7,928
2	2017	44,912	$5,000	$3,593	$8,593	$7,639
3	2018	45,134	$5,000	$3,611	$8,611	$7,360
4	2019	45,356	$5,000	$3,629	$8,629	$7,092
5	2020	45,578	$5,000	$3,646	$8,646	$6,833
6	2021	45,801	$5,000	$3,664	$8,664	$6,584
7	2022	46,023	$5,000	$3,682	$8,682	$6,344
8	2023	46,245	$5,000	$3,700	$8,700	$6,112
9	2024	46,467	$5,000	$3,717	$8,717	$5,889
10	2025	46,689	$5,000	$3,735	$8,735	$5,674
11	2026	46,911	$5,000	$3,753	$8,753	$5,467
12	2027	47,133	$5,000	$3,771	$8,771	$5,267
13	2028	47,355	$5,000	$3,788	$8,788	$5,075
14	2029	47,577	$5,000	$3,806	$8,806	$4,890
15	2030	47,799	$5,000	$3,824	$8,824	$4,711
16	2031	48,022	$5,000	$3,842	$8,842	$4,539
17	2032	48,244	$5,000	$3,859	$8,859	$4,373
18	2033	48,466	$5,000	$3,877	$8,877	$4,214
19	2034	48,688	$5,000	$3,895	$8,895	$4,060
20	2035	48,910	$5,000	$3,913	$8,913	$3,911

Discount Rate 4.0%

BENEFIT/COST SUMMARY

		NET PRESENT VALUE		
Year	Actual Year	ESTIMATED BENEFITS FROM ACTIVE TRANSPORTATION	ESTIMATED BENEFITS FROM POTENTIAL CRASH REDUCTION	ESTIMATED COSTS FOR PROJECT
CONSTRUCTION				
1	2015	$0	$0	$1,254,808
2	0	$0	$0	$0
3	0	$0	$0	$0
4	0	$0	$0	$0
5	0	$0	$0	$0
OPENING YEAR				
1	2016	$107,077	$891,685	$7,928
2	2017	$103,470	$858,635	$7,639
3	2018	$99,982	$826,808	$7,360
4	2019	$96,610	$796,159	$7,092
5	2020	$93,349	$766,645	$6,833
6	2021	$90,196	$738,223	$6,584
7	2022	$87,148	$710,854	$6,344
8	2023	$84,200	$684,498	$6,112
9	2024	$81,351	$659,118	$5,889
10	2025	$78,596	$634,677	$5,674
11	2026	$75,932	$611,142	$5,467
12	2027	$73,357	$588,478	$5,267
13	2028	$70,868	$566,653	$5,075
14	2029	$68,462	$545,637	$4,890
15	2030	$66,136	$525,399	$4,711
16	2031	$63,888	$505,910	$4,539
17	2032	$61,715	$487,144	$4,373
18	2033	$59,615	$469,073	$4,214
19	2034	$57,584	$451,671	$4,060
20	2035	$55,622	$434,914	$3,911
TOTAL		$1,575,161	$12,753,319	$1,368,771

B/C RATIO	**10.47**

Active Tranportation – 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	$0.035	$0.035	$0.035	$0.035	Half of diversity value*.
Equity objectives	$0.035	$0.035	$0.035	$0.035	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	$0.200	$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	
Land Use Impacts - Table 19 More Walkable and Bikeable Community (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

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

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	Very High	Pedestrian, Bicycle	25%	P & B	25	20
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								
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	0.25	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
R 39	Ped and Bike	Install raised pedestrian crossing	Medium	Pedestrian, Bicycle	30-46%	P & B	35	10

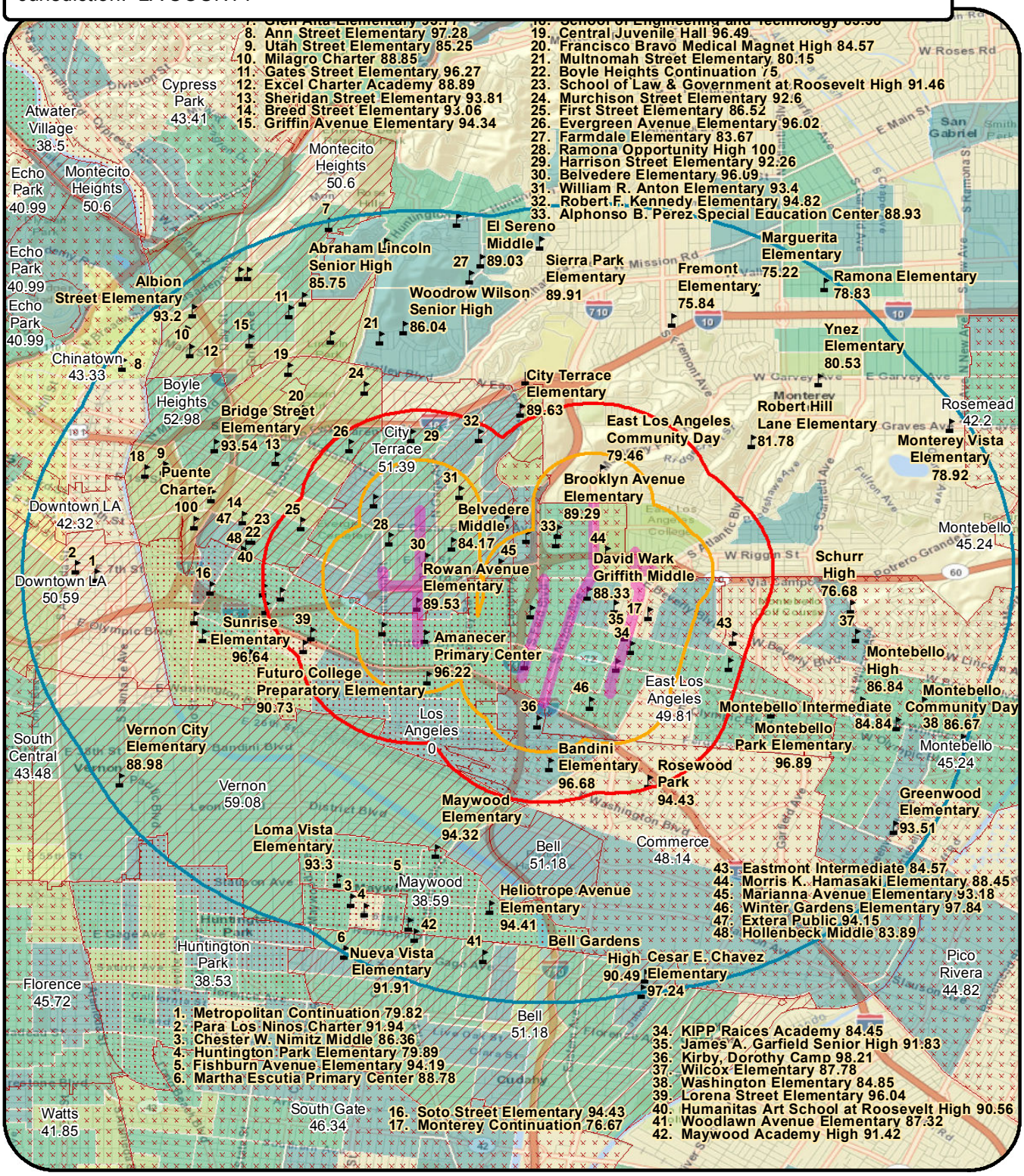
Source: "Local Roadway Safety, Version 1.1, April 2013" by Caltrans http://www.dot.ca.gov/hq/LocalPrograms/HSIP/Documents/hsip/CA_SM4LROv11.pdf

Attachment L
Disadvantaged Communities Map

Disadvantaged Community (Bike)

Eastside Light Rail Bike Interface Project - Los Angeles County

Jurisdiction: LA COUNTY



Project Area

Distance from Project

- 0.5 Mile
- 1 Mile
- 3 Miles

Percent of Students Ages 5 to 17 Eligible for Free or Reduced Meals

CESScore

- Below 40
- 40 - 50
- Higher than 50

Median Household Income

- < $10,000
- $10,001 to $20,000
- $20,001 to $30,000
- $30,001 to $40,000
- $40,001 to $49,120

1 in = 1.4 miles

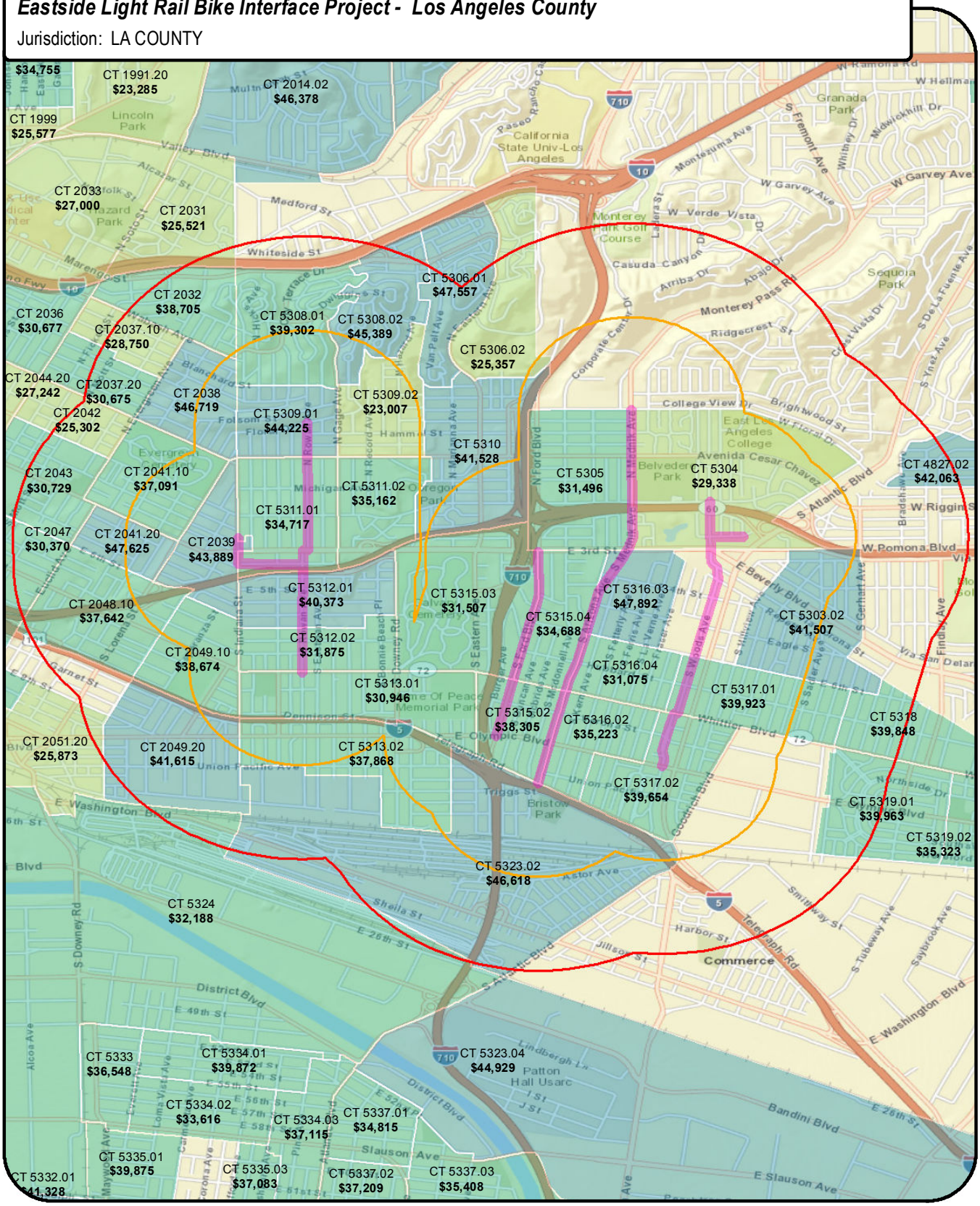
0 2,600 5,200 Feet

Date: 5/8/2014 Document Path: R:\L\LOSX0MTR0002\0600INFO\GS-GIS group\Maps\Disadvantaged_Community_Bike.mxd

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

Eastside Light Rail Bike Interface Project - Los Angeles County

Jurisdiction: LA COUNTY



Project Area

Distance from Project

0.5 Mile

1 Mile

Median Household Income

< $10,000

$10,001 to $20,000

$20,001 to $30,000

$30,001 to $40,000

$40,001 to $49,120

1 in = 0.69 miles

0 1,800 3,600 Feet

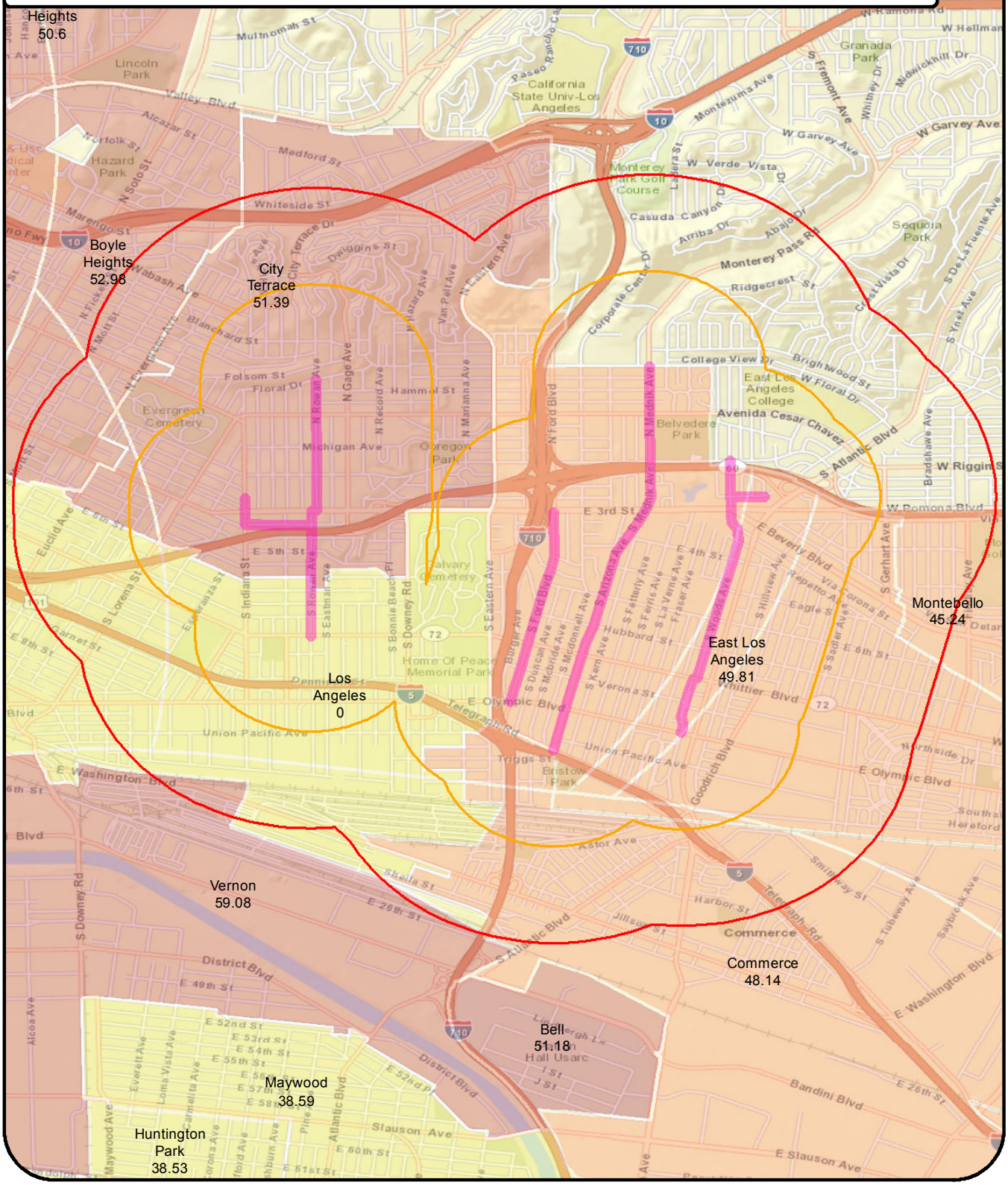
US Census ACS 2012 Data

Date: 5/8/2014 Document Path: R:\L\LOSX0MTR0002\0600INFO\GS-GIS group\Maps\MedianHouseholdIncome.mxd

CalEnviroScreen (CES) Scores Map

Eastside Light Rail Bike Interface Project - Los Angeles County

Jurisdiction: LA COUNTY



Project Area

Distance from Project

- 0.5 Mile
- 1 Mile

CalEnviroScreen (CES) Scores

- Below 40
- 40 - 50
- Higher than 50

1 in = 0.69 miles

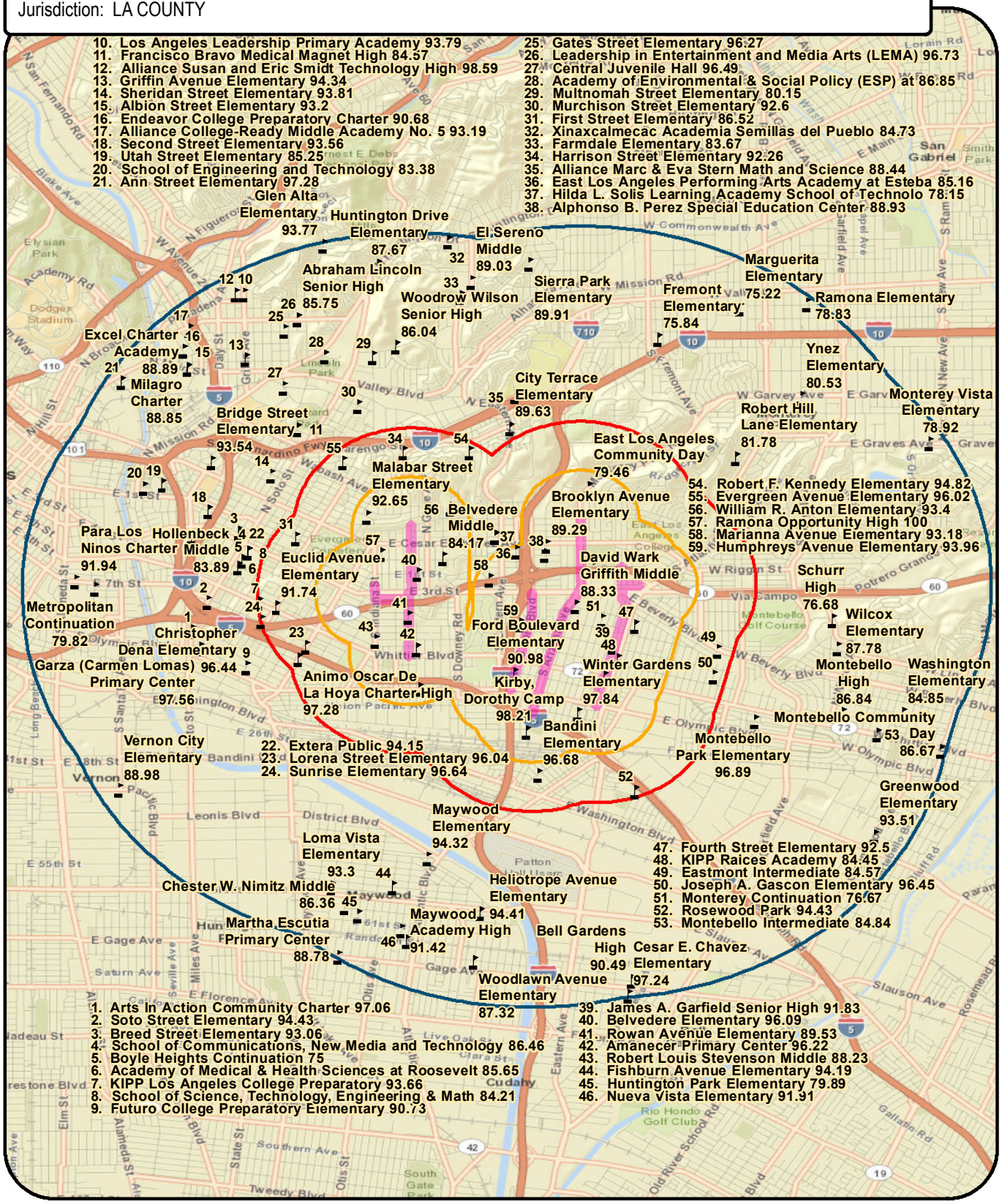
0 1,800 3,600 Feet

Date: 5/8/2014 Document Path: R:\L\LOSX0MTR0002\0600INFO\GS-GIS group\Maps\CESMap.mxd

Free Lunch Schools Map (2012)

Eastside Light Rail Bike Interface Project - Los Angeles County

Jurisdiction: LA COUNTY



Project Area

Distance from Project

- 0.5 Mile
- 1 Mile
- 3 Miles

Percent of Students Ages 5 to 17 Eligible for Free or Reduced Meals

1 in = 1.4 miles

0 1,800 3,600 Feet

Sources: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013; CA Dept of Education, 2012; LA Metro

Date: 5/8/2014 Document Path: R:\L\LOSX0MTR0002\0600INFO\GS-GIS group\Maps\FreeLunchSchoolsMap.mxd

Attachment M
Letters of Support

COUNTY OF LOS ANGELES
Public Health

JONATHAN E. FIELDING, M.D., M.P.H.
Director and Health Officer

CYNTHIA A. HARDING, M.P.H.
Chief Deputy Director

Division of Chronic Disease and Injury Prevention
Paul Simon, M.D., M.P.H.
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PLACE Program
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BOARD OF SUPERVISORS

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Michael D. Antonovich
Fifth District

May 13, 2014

Ms. Teresa McWilliams
State of California
Department of Transportation
Division of Local Assistance
P.O. Box 942874, MS-1
Sacramento, CA 94274-0001

Dear Ms. McWilliams:

EASTSIDE LIGHT RAIL BIKE INTERFACE PROJECT
ACTIVE TRANSPORTATION PROGRAM CYCLE 1 - GRANT APPLICATION

The Los Angeles County Department of Public Health would like to support the Los Angeles County Department of Public Works' application under the State of California Active Transportation Program.

The proposed bicycle improvements project in East Los Angeles encourages bicycling and enhances the bicycle-related amenities in the four Eastside Gold Line Extension station areas. The project will construct four north-south bikeways to connect to the Metro Gold Line and further increase the connectivity of the existing bikeway network. This project will also enhance the bikeway network with the potential to encourage more cycling in the project area as well as provide more options for the existing riders. This will help to establish cycling as a more viable mode of transportation in Los Angeles County.

This project will enhance the ability of local residents to get regular physical activity, which is essential for maintaining a healthy body weight and can provide major protective effects against heart disease, diabetes, and some forms of cancer. Studies have shown that infrastructure designed for pedestrians and bicyclists can encourage greater physical activity and lead to healthier communities.

Therefore, we would like to affirm our support of the County's application for grant funds for the project.

Sincerely,

Jean Armbruster, MA
Director, PLACE Program

Los Angeles County Bicycle Coalition
634 S. Spring St. Suite 821
Los Angeles, CA 90014
Phone 213.629.2142
Facsimile 213.629.2259
www.la-bike.org

May 16, 2014

Ms. Teresa McWilliam
Caltrans, Division of Local Assistance, MS-1
Attention: Chief, Office of Active Transportation and Special Programs
P.O. Box 942874
Sacramento, CA 95814

Support for Eastside Access Bikeways, County of Los Angeles
Active Transportation Program

Dear Ms. McWilliam:

The Los Angeles County Bicycle Coalition (LACBC) supports the Los Angeles County Department of Public Works' application to the Active Transportation Program to improve First-Mile/Last-Mile connections to the Eastside Metro Gold Line stations in unincorporated East Los Angeles. LACBC served on the Metro First/Last Mile Strategic Plan Technical Advisory Committee, a countywide effort to begin planning for bicycle and pedestrian access around Metro stations. Our experience leading community rides to help scope this project directly informed our recommendations for countywide planning around transit station access.

LACBC bike counts recently demonstrated that existing bicycling rates are highest in low-income communities and that adding bike lanes as proposed on average doubles bicycle ridership. We appreciate the County's focus on implementing the 2012 Bicycle Master Plan in low-income communities and believe this priority aligns well with the State's.

More than 90 percent of Metro customers do not use a car to access transit, yet station design has only recently begun to regularly consider the access needs of bicyclists and pedestrians. LACBC seeks to identify good examples of station area planning and support the widespread implementation of best practices. This project is such a best practice and merits funding from the State.

If you have any questions about this support, I can be reached at (213) 629-2142, ext. 127.

Sincerely,

Eric Bruins
Planning and Policy Director

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

Arthur T. Leahy
Chief Executive Officer
213.922.6888 Tel
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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 Eastside Light Rail Bike Interface 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 Eastside Light Rail Bike Interface Project in the County of Los Angeles. 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 bicyling 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 County of Los Angeles' efforts and contribution towards a sustainable transportation future. We respectfully request a favorable consideration of the Eastside Light Rail Bike Interface Project for the ATP grant.

Sincerely,

Arthur T. Leahy

Arthur T. Leahy
Chief Executive Officer