



STAFF REPORT

Agenda
Item # 8c
Meeting
Date: Oct 15, 2012

SUBMITTED BY

Syed Mustafa

APPROVED BY

James Hartill

TO: HONORABLE MAYOR AND CITY COUNCIL
DATE: OCTOBER 8, 2012
FROM: PUBLIC WORKS
SUBJECT: BROADWAY RAILROAD GRADE SEPARATION

RECOMMENDATION: It is recommended that Council review the existing traffic congestion conditions at the Broadway railroad crossing in the context of an upcoming Caltrain Electrification project and provide direction to staff as follows:

- Should the City pursue a Broadway railroad grade separation project to address the traffic safety and congestion issues at the railroad crossing?
- Should the City advocate and request Caltrain to implement the Broadway railroad grade separation as part of Electrification project?

BACKGROUND: Burlingame currently has six at-grade railroad crossings on Broadway, Oak Grove Ave., North Lane, Howard Ave., Bayswater Ave. and Peninsula Ave. The City used to have a seventh railroad crossing at South Lane that was conditionally closed several years ago as part of Burlingame Ave. train station and platform improvements project.

Based on the currently published weekday schedule, there are approximately 71 trains that run in both north and southbound directions that affect our at-grade crossings. As these trains traverse through Burlingame, the east-west vehicular and pedestrian traffic at these crossings is shut down for the duration. Each time the trains pass by the crossing; the railroad safety gates remain down and closed to traffic for 30 to 50 seconds. Therefore, on any given weekday, the gates are down for a total of 10 to 15 minutes at each crossing preventing the east-west traffic movement. Although all crossings are impacted to varying degrees, Broadway experiences the worst impacts given the high volume of traffic as well as the fact that it is the only gateway to Burlingame from U.S. Highway 101.

The traffic problems at Broadway go back to the early 1960s. In 1965, the City in conjunction with the then Railroad Operator 'Southern Pacific' performed several studies to identify options to alleviate the grade crossing problems. In 1977, the City completed engineering studies and had finalized an environmental impact report to build a grade separation at Broadway. In 1998, the City again revived the issue and worked with Caltrain to address the problems. In 2008-09, the San Mateo County Transportation Authority (SMCTA) initiated the 'Grade Separation Footprint Studies' project which explored various options for grade separations at all railroad crossings throughout the County.

However, these efforts did not result in project implementation and the traffic problems continue to exist.

California Public Utilities Commission (CPUC): Grade separation projects are prioritized and ranked throughout the State by the CPUC. The ranking is based on the severity of safety and traffic problems utilizing a very strictly prescribed formula. In 2011 and in early 2012 staff submitted the Broadway crossing to the CPUC for consideration of a grade separation. The CPUC ranked Broadway as 11th among 76 grade separation projects statewide. Broadway is the only project in the County listed in the 2012 CPUC Priority List for Grade Separations (see attached).

DISCUSSION: Caltrain is currently working on the Electrification project as well as preparing for an eventual 'High Speed Rail (HSR) Blended System'. The electrification project concept involves Aerial Catenary Power Cables, EMUs (Electrical Multiple Units), Power Stations and a PTC (Positive Train Control) signal system. The project at this time is said to include electrification of the right of way without any change in existing vertical rail alignment and no grade separations. Caltrain is currently studying the railroad crossings throughout the Peninsula corridor to understand the local traffic congestion issues and identify potential impacts from the future HSR blended system so that grade separation(s) are prioritized and planned as part of future work to be determined.

Given the concerns and history of traffic congestion problems at Broadway, it is an ideal opportunity to address these issues by including the grade separation in the Electrification Project. If grade separation is not included at this time, the Burlingame community would continue to suffer from traffic congestion problems in the future. Furthermore, Caltrain has promised to restore the train service at Broadway station as part of the Electrification project. Due to close proximity of the station platforms with railroad crossing, trains stopping at Broadway station will significantly increase the current gate down time further exacerbating the traffic problems. Also, Caltrain may add train(s) to meet growing commuter demand which would further worsen the traffic problems at Broadway.

Should the Council desires to pursue the grade separation at Broadway, staff will follow up with Caltrain requesting them to include it in their Electrification Project. It is should be noted that currently there is only \$225 million available for grade separations throughout the County in the Measure A program over the 25 years program.

Broadway Grade Separations Options: Based on past studies, several options have been identified for grade separation as follows:

- A. Rail at-grade with street overcrossing (\$114 million)
- B. Rail at-grade with street undercrossing (\$157 million)
- C. Rail elevated with street at-grade (\$179 million)
- D. Rail depressed with street at-grade (\$500 million)
- E. Rail partially elevated with street partially depressed (\$214 million)
- F. Rail partially depressed with street partially elevated (\$329 million)

Based on past Council feedback, Options C, D and E were considered to have the least impacts to adjacent properties and businesses. Option E was the most preferred because it would minimize aesthetic and visual impacts in addition to fewer impacts to adjacent properties. All other options were considered to have a higher degree of adverse impacts.

It is noteworthy to mention that the costs for Options D and F exceed the total available Measure A funding for grade separations in the County. Option E would take almost the entire available Measure A countywide funding for grade separations. It is obvious that additional non Measure A funding would be necessary to address the grade separation issues throughout the County.

The cost estimates shown above are preliminary planning level figures and are for two tracks based on 2009 Grade Separation Footprint Studies Report by SMCTA. The actual project costs will need to be determined based on detail engineering, design features of the selected option and market conditions.

BUDGET IMPACT: There is no budget impact anticipated except for staff time in coordinating and following up with Caltrain.

ATTACHMENTS: CPUC Statewide Grade Separation Priority Ranking List; April 20, 2008 Staff Report and Letter from SMCTA soliciting letters of interest for potential grade separation project.

CC: City Manager; City Clerk; Community Development Director

S:\A Public Works Directory\Staff Reports\Broadway grade separation - Oct 15, 2012.docx

PUBLIC UTILITIES COMMISSION

180 Promenade Circle, Suite 115
Sacramento, CA 95834



March 2, 2012

Re: I. 11-07-022 Grade Separation Priority List for Fiscal Year 2012-2013 under Section 2450 et seq. of the California Streets and Highways Code

To: All Nominating Applicants and Other Interested Parties

Pursuant to Administrative Law Judge (ALJ) Seaneen M. Wilson's procedural Ruling issued January 12, 2012 (ALJ Ruling), enclosed is the revised proposed grade separation priority list from the Staff Exhibit. The enclosed priority list (Attachment 1) replaces Appendix A of the Rail Crossings Engineering Section Staff's February 10, 2012 Exhibit entitled "GRADE SEPARATION PRIORITY LIST FOR FISCAL YEARS 2012-2013."

The ALJ Ruling ordered parties to file comments on the initial Staff Exhibit by February 24, 2012. Based on the comments received and staff corrections, the grade separation priority list was revised. A list explaining each change is included as Attachment 2. In summary, the changes relate to minor data corrections. Also, ALJ Wilson has allowed one late nomination from the City of Coachella as explained in Attachment 2.

The ALJ Ruling also set March 2, 2012, as date for the evidentiary hearing schedule to be sent to all parties. Hearings will be held in San Francisco on April 30 – May 1, 2012, and in Los Angeles on May 3, 2012. The schedule for parties to appear at the hearings is enclosed as Attachment 3. Each party, or its representative, nominating a crossing for inclusion in the Priority List is required to appear in person at the hearings to present evidence concerning the nomination. Supplemental data may be submitted at the hearings in support of a nomination. The data may include facts not known at time of nomination.

If you have any questions or comments regarding the revised Staff Exhibit or Hearing Schedule, please contact Commission staff, Rosa Muñoz at (213) 576-7078, e-mail:

Rosa.Munoz@cpuc.ca.gov

Sincerely,

A handwritten signature in black ink that reads "Daren Gilbert".

Daren Gilbert, Manager
Rail Transit & Crossings Branch
Consumer Protection & Safety Division

Enclosure

C: ALJ Seaneen M. Wilson
Bruce Plowman, Caltrans

APPENDIX A – Revised Proposed Priority List for Fiscal Years 2012-2013 By Rank

Rank	Agency	Crossing Location	PUC ID	DOT ID	Railroad	VEH	TRN	LTRN	Cost Share (M)	AH/WC	BD/HC	VS/SR	RS/AS	CG/POF	PT/AP	OF/DE	SCF/SF	Priority Index	
	Authority (Santa Ana)																		
13	City of Riverside	Riverside Avenue	003-55.60	811012J	UPRR	16426	33	0	5000	9	2	1	4	11	4	12.0	34.1	1118.2	
	Greater Bakersfield Separation of Grade District	Morning Drive (SR 184)	001B-317.50	757413M	UPRR	16400	54	0	5000	5	3	3	5	12	0	12.0	34.7	1097.4	
	Orange County Transportation Authority	Orangethorpe Avenue	101OR-166.20	026640A	SCRRA	25466	52	0	5000	3	2	2	6	6.0	7	9.0	32.0	1091.4	
15	(Anaheim)																		
16	Los Angeles County DPW	Fullerton Road	003-21.40	810880T	UPRR	20758	41	0	5000	5	2	1	5	10	5	8.5	31.8	1053.1	
			001B-490.20																
			001B-490.30																
			001B-490.70	746879A															
			001B-491.20	746880U															
				746882H															
17	Alameda Corridor-East Construction Authority	Ramona Street Mission Drive Del Mar Avenue San Gabriel Blvd		746883P	UPRR	89740	15	0	20000	13	2	1	5	36	1	18.5	63.7	1005.9	
			001B-517.40 & 810896P	746936L															
18	City of Montclair	Monte Vista Avenue	003-35.00	810896P	UPRR	11948	80	0	5000	4	5	2	5	19	5	10.5	46.5	1002.3	
19	County of Riverside	Clay Street	003-50.90	906015V	UPRR	15782	34	0	5000	7	1	1	5	10	4	10.0	30.5	889.1	
20	City of Riverside	Mary Street	002B-13.00	026499F	BNSF	11700	85	0	5000	3	4	2	4	10	5	12.0	37.3	832.9	
21	City of Fullerton	Raymond Avenue	002B-45.00	026581A	BNSF	16200	82	0	5000	2	4	1	4	9	4	9.0	31.0	828.0	
	Orange County Transportation Authority																		
22	(Anaheim)	Ball Road	101OR-169.20	026649L	SCRRA	34867	52	0	5000	1	2	2	6	9.6	7	13.5	40.1	765.3	
23	Madera County	Avenue 12	002-	028601R	BNSF	11650	42	0	6012	7	2	5	6	4	4	10.5	31.7	682.8	

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	Angeles		& 101RI-481.70	& 811040M														
35	City of Elk Grove	Grant Line Road	001BEL-53.94	752746W	UPRR	16081	24	0	5000	3	2	5	2	5.96	2	9	25.9	334.7
36	Kern County	Kratzmeyer Road	002-897.33	028380R	BNSF	3865	37	0	5000	9.2	2	5	4	8	4	10.0	32.8	324.5
37	City of Redding	South Street	001C-258.00	750509D	UPRR	7523	49	0	5000	3	1	0	2	10	1	11.0	25.4	320.3
			003-38.30 & 001B-520.70	810907A & 746944D	UPRR	5737	80	0	5000	2	3	1	4	17.2	5	10.0	40.2	315.6
38	City of Ontario	Campus Avenue	001B-222.50	750625S	UPRR	11495	17	0	5000	6	1	3	5	7.68	0	11.5	8	301.8
39	County of Fresno	Mountain View Avenue	002-895.20	028376B	BNSF	12000	37	0	5000	2	2	5	4	7	4	10.0	31.7	298.1
40	Kern County	Hageman Road																
41	City of Hayward	Tennyson Road	001D-23.00	749774W	UPRR	26415	28	0	11256	3	1	1	3	6.4	15	30		292.8
	San Bernardino County	Vista Road	002-22.00	026068N	BNSF & UPRR	6470	103	0	5000	1	1	5	2	8	1	9.0	26.0	292.6
			001DA-36.20 & 004G-6.70	750073E & 833885S	UPRR/ VTA	15713	28	0	5000	2	2	1	0	13	0	10.5	26.5	290.5
43	City of Fremont	Warren Avenue																
44	City of Ontario	Milliken Avenue (3-43.4)	003-43.40	810913D	UPRR	20217	21	0	5000	2	2	4	5	11	4	9.5	35.3	290.1
	Los Angeles County DPW	Avenue S	101VY-66.92	750601D	SCRRA	21240	30	0	5000	1	1	5	3	9	5	10.5	33.5	288.4
46	City of Shafter	Leido Highway	002-905.13	028390W	BNSF	9141	35	0	5000	3	2	1	4	9	4	9.5	29.3	285.2
	Los Angeles County DPW	El Segundo Boulevard	001BBH-492.60 & 084L-10.40	747868R	UPRR/L ACMTA	8352	4	247	5000	4	3	1	2	12	10	12.5	40.5	280.2
	San Bernardino Associated Governments (SANBAG)	Lenwood Road	002-5.70	026062X	BNSF & UPRR	4684	84	0	5000	2	5	5	6	9	1	9.5	35.7	271.8
48	San Bernardino	Laurel Street	002B-02.10	026449C	BNSF	3231	92	0	5000	3	5	1	1	9.2	3	9.0	28.2	266.0

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Rank	Agency	Crossing Location	PUC ID	DOT ID	Railroad	VEH	TRN	LTRN	Cost Share (M)	AH/WC	BD/HC	VS/SR	RS/AS	CG/POF	PT/AP	OF/DE	SCF/SF	Priority Index
62	City of Newark	Central Avenue	001L-31.10	749943G	UPRR	11291	31	0	5000	0	2	2	4	9	4	9.5	30.6	100.6
63	City of Lathrop	Lathrop Road	001BEL-92.84	752781K	UPRR	12975	22	0	4000	0	1	3	4	8	3	9.5	28.5	99.9
64	City of Ontario	Vineyard Avenue	001B-522.40	746960M	UPRR	9939	33	0	5000	0	2	3	4	6	1	13.0	29.0	94.6
65	Los Angeles County DPW	Sierra Highway at Barrel Springs Road	101VY-65.58 & 101VY-65.77	750600W & 750644W	SCRRA	2894	30	0	5000	2	2	2	8	11	10	7.5	40.9	93.0
66	City of Rocklin	Midas Avenue	001AI-110.90 & 001A-110.90	750568F & 750569M	UPRR	7845	27	0	3975	0	4	0	0	18	4	11.0	36.8	90.1
67	Kern County	Rosedale Highway (SR 58)	103Q-113.20	029473N	SJVR	49500	7	0	5000	0	1	3	0	3	0	11.0	18.0	87.3
68	Port of Stockton	Navy Drive*	002-1123.60-B	029634G	BNSF	17500	19	0	5000	6	4	2	0	2	2	4.0	20.0	86.5
69	Madera County Road Department	Avenue 9	002-1011.50	028595P	BNSF	5985	42	0	6302	0	2	5	6	8	4	9.0	34.2	74.0
70	Kern County	Reina Road Renfro Road Jenkins Road	002-896.62	028379W	BNSF	1150	37	0	5000	4	1	5	4	4	4	11.0	28.8	71.4
71	San Joaquin County	Lower Sacramento Road*	001BEL-65.94-B	752925M	UPRR	4860	28	0	5000	10	4	5	1.3	6	5	8.0	39.3	66.5
72	Kern County	Snow Road	001B-307.40	756948H	UPRR	16000	13	0	5000	0	1	3	4	6	0	10.0	24.0	65.6
73	Kern County	Airport Drive*	001B-309.60-B	756943Y	UPRR	24583	12	0	5000	0	0	0	0.4	2	2	2.0	6.4	65.4
74	City of Torrance	Plaza Del Amo/Washington Avenue	002H-22.10	028101T	BNSF	5000	16	0	5000	0	4	1	0	10	0	10.0	25.0	41.0
75	San Bernardino County	Newberry Road	002-724.80	026044A	BNSF	196	85	0	5000	0	1	5	7	7.2	1	7.0	28.2	31.5
76	City of Brentwood	Lone Tree Way	001B-59.10	751831H	UPRR	19020	1	0	5000	0	1	3	2	5.2	0	7	18.2	22.0

Summary of Changes from Original Proposed Priority List in the February 10, 2012 Staff Exhibit

AGENCY	CROSSING	PUC ID	DOT ID	Railroad	Revisions
Alameda Corridor-East Construction Authority	Nogales Street	003-22.40	811479J	UPRR	Corrected train count from a total of 40 to 41 and passenger train count of 21 for a PT value of 5 remains.
City of Coachella	Avenue 52	001B-615.50	760723K	UPRR	Due to the application nomination being lost in the mail, late nominated was accepted by ALJ Wilson.
City of Stockton	West Lane	001BEL-82.14	752897L	UPRR	Corrected lead agency from "San Joaquin County" to "City of Stockton."
City of Tulare	Bardsley Avenue	001B-250.70	756982P	UPRR	City requested accident history (AH) be reconsidered, the attachment to their comment listed a number of incidents that were not "vehicle and pedestrian accidents involving trains at crossing," per OI definition and Federal Railroad Administration incident definition, therefore do not count toward crossing AH. No change to AH, AH=2.
City of Tulare	Cartmill Avenue	001B-247.90	756975E	UPRR	City requested accident history (AH) be reconsidered, the attachment to their comment listed a number of incidents that were not "vehicle and pedestrian accidents involving trains at crossing," per OI definition and Federal Railroad Administration incident definition, therefore do not count toward crossing AH. No change to AH, AH=1.
Kern County	Rosedale Highway (SR 58)	103Q-113.20	029473N	SJVR	County consultant requested staff to reconsider Community Impact (CI) increased from 6 to 7) and update Blocking Delay increased from 18 to 20 minutes (BD value of 1 remains).
Los Angeles County DPW	Turnbull Canyon Road	003-17.20	810867E	UPRR	Corrected train count from a total of 40 to 41 and passenger train count of 36 to 21 for a PT value of 5.
Los Angeles County DPW	Fairway Drive	003-23.40	810883N	UPRR	Corrected train count from a total of 40 to 41 and passenger train count of 36 to 21 for a PT value of 5.
Los Angeles County DPW	Fullerton Road	003-21.40	810880T	UPRR	Corrected train count from a total of 40 to 41 and passenger train count of 36 to 21 for a PT value of 5.

Appearance Schedule For Evidentiary Hearings (Page 2 of 2)

Thursday, May 3rd
Location: California Public Utilities Commission
320 W 4th Street, PUC Hearing Room, 5th Floor
Los Angeles, CA 90013
General Information Number: (213) 576-7000

Thursday, May 3rd	Nominating Applications (45)
Morning Session Starts At 10:00 a.m.	<ul style="list-style-type: none">• CPUC Staff• Caltrans• City of Los Angeles (2)• Port of Los Angeles (1)• County of Riverside (2)• City of Torrance (1)• City of Riverside (4)• OCTA (5)• City of Ontario (6)• City of Fullerton (2)
Afternoon Session Resumes At 1:30 p.m.	<ul style="list-style-type: none">• County of Los Angeles (6)• City of Santa Fe Springs (2)• City of Coachella (1)• Alameda Corridor East (3)• County of San Bernardino (5)• SANBAG (3)• City of Corona (1)• City of Montclair (1)

The number in parentheses reflects the number of projects nominated by that party.

- 1 – Rail at-grade with street overcrossing
- 2 – Rail at-grade with street undercrossing
- 3 – Rail elevated with street at-grade
- 4 – Rail depressed with street at-grade (trench)
- 5 – Rail partially elevated with street partially depressed
- 6 – Rail partially depressed with street partially elevated

Because of the close proximity of existing crossings between Oak Grove Avenue and Peninsula Avenue, the impact of selecting one option at any of these crossings would likely impact all the other crossings. As a result, staff requested the TA to study the entire rail corridor involving fully depressed, fully elevated as well as a combination of partially elevated and partially depressed options through the City which are included in the presentation.

Grade Separation of Broadway:

Although the Footprint Study evaluated all at-grade crossings in the City, the Broadway crossing is the only identified high priority grade separation project. This is due to its high traffic volume, safety concerns, and traffic congestion issues. In addition, the Broadway grade separation is listed in the Regional Transportation Plan and has been on the grade separation projects list for over 25 years. The other crossings in the City have significantly lower traffic volumes and congestion issues, and therefore do not justify grade separation at this time. It should be noted that because Broadway is at a distance of approximately a mile from Oak Grove Avenue and Millbrae Avenue, could be possibly grade separated independently without impacting the other crossings.

Grade Separation Footprint Study and High Speed Rail project: The Grade Separation Footprint Study was performed separately and independently of the High Speed Rail project. Therefore, the study is only relevant in the absence of the High Speed Rail project.

Coordination with Caltrain electrification project: It is believed that the Caltrain electrification project will not require grade separations at existing crossings. However if it is combined with the High Speed Rail project it may require grade separations. In addition, the High Speed Rail may potentially impact Caltrain electrification efforts. Therefore, staff believes that a fully coordinated and comprehensive study of High Speed Rail, Caltrain electrification, and grade separations would be necessary to ascertain the full extent of benefits and impacts from these combined projects.

BUDGET IMPACT: The Grade Separation Footprint Study is funded by the TA using Measure A funds.

EXHIBITS: Summary of options with cost estimate ranges for two and four track alternatives for all the railroad crossings in the City.

C: City Clerk, City Manager



SAN MATEO COUNTY
**Transportation
Authority**

BOARD OF DIRECTORS 2012

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EXECUTIVE DIRECTOR

RECEIVED

September 28, 2012

OCT 02 2012

Syed Murtuza
Public Works Director
501 Primrose Road
Burlingame CA 94010

Dept. of Public Works
City of Burlingame

The San Mateo County Transportation Authority (TA) is soliciting Letters of Interest from eligible grade separation project sponsors for potential project candidates under the New Measure A *Grade Separation* program.

The Letters of Interest would assist the TA in preparing a Call for Projects (CFP) that would be used to prioritize projects for fund allocations for preliminary design and initial environmental work. But before doing so, we would like to solicit information from eligible sponsors to better frame the competitive process since the amount of funding is limited.

Eligible sponsors include the cities within San Mateo County, the County of San Mateo, the Peninsula Corridor Joint Powers Board and SamTrans.

In 2004, the voters of San Mateo County reauthorized the Measure A program and approved the half-cent sales tax for another 25 years (2009 – 2033). A provision of the Expenditure Plan provides that 15 percent of the sales tax revenues be allocated to eliminate at-grade rail crossings through the Grade Separation program. It is estimated that the sales tax will generate \$225 million (in 2004\$) over the 25-year life of the measure.

A description of the *Grade Separation* program from the 2004 Expenditure Plan is enclosed as Exhibit "A".

At its December 3, 2009 meeting, the TA Board had approved the New Measure A Program Implementation Plan but deferred decision on how to implement programming of funds in the *Grade Separation* program. This was done to better coordinate grade separation needs with the California High Speed Rail project. The State recently appropriated funding for the Caltrain Early Investment Program to implement the Caltrain Advanced Signal System (CBOSS/PTC) project and improvements that allow the operation of electrified Caltrain service. The Caltrain Early Investment Program projects would prepare the corridor for a future blended system that supports Caltrain and high-speed rail service.

In light of this latest development, the TA considers it prudent to begin some planning and environmental work on possible grade separation projects in the Caltrain corridor to further support the future blended system.

SAN MATEO COUNTY TRANSPORTATION AUTHORITY
1250 San Carlos Ave. – P.O. Box 3006
San Carlos, CA 94070-1306 (650)508-6219



SAN MATEO COUNTY
**Transportation
Authority**

2004 Transportation Expenditure Plan

- Developed with extensive public input
- Approved by the San Mateo County Transportation Authority, San Mateo County Board of Supervisors, each of the 20 cities within San Mateo County and the Metropolitan Transportation Commission

CANDIDATE GRADE SEPARATION PROJECTS

City	Street	City	Street
South San Francisco	Linden Avenue	San Mateo	25 th Avenue
San Bruno	Scott Street	Redwood City	Whipple Avenue
San Bruno	San Bruno Avenue	Redwood City	Brewster Avenue
San Bruno	San Mateo Avenue	Redwood City	Broadway
San Bruno	Angus Avenue	Redwood City	Maple Street
Millbrae	Center Street	Redwood City	Main Street
Burlingame	Broadway	Redwood City	Chestnut Street
Burlingame	Oak Grove Avenue	Redwood City	Middlefield Road
Burlingame	North Lane	Redwood City	2 nd Avenue
Burlingame	South Lane	Redwood City	5 th Avenue
Burlingame	Howard Avenue	Atherton	Fair Oaks Lane
Burlingame	Bayswater Avenue	Atherton	Watkins Avenue
Burlingame	Peninsula Avenue	Menlo Park	Encinal Avenue
San Mateo	Villa Terrace	Menlo Park	Glenwood Avenue
San Mateo	Bellevue Avenue	Menlo Park	Oak Grove Avenue
San Mateo	1 st Avenue	Menlo Park	Ravenswood
San Mateo	2 nd Avenue	Menlo Park	Marsh Road
San Mateo	3 rd Avenue	Menlo Park	Chilco Street
San Mateo	4 th Avenue	Menlo Park	Willow Road SR 84
San Mateo	5 th Avenue	East Palo Alto	University Avenue
San Mateo	9 th Avenue		

CANDIDATE UPGRADE OF EXISTING GRADE SEPARATION PROJECTS

San Mateo	Poplar Avenue	San Mateo	Mt. Diablo Ave.
San Mateo	Santa Inez Avenue	San Mateo	Tilton Avenue
		Menlo Park	Highway 101

E. Pedestrian and Bicycle

Project: *1. Pedestrian and Bicycle Facilities*
Cost: \$70 million. Sales tax contribution estimated at \$45 million. State \$25 million.
Sponsors: Cities and County of San Mateo