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Appendix A

LAX/Aviation Green Line Station



Bikeways and Linear Concepts

IMPERIAL HIGHWAY	
FROM:	La Cienega Blvd.
TO:	Felton Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> 6 lanes with center turn lane 84' wide Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> Add 6' colored bike lanes
FROM:	Felton Ave.
TO:	Inglewood Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> 6 lanes with median 36' wide on either side of the median Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> Add 6' colored bike lanes

120TH STREET	
FROM:	Aviation Blvd.
TO:	La Cienega Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> 4 lanes with on-street parking 56' wide 24-hour traffic volume east of Aviation Blvd. in December 2006: 7,610 Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> Road diet to 2 lanes, center-turn lane, and on-street parking Add 6' bike lanes
FROM:	La Cienega Blvd.
TO:	Felton Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> 4 lanes with on-street parking intermittently allowed on south side only 65' wide Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> Add 6' colored bike lanes with 2' buffer

EL SEGUNDO BOULEVARD	
FROM:	Isis Ave.
TO:	La Cienega Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 6 lanes with median • 34' wide on north side of the median; 35' wide on south side of the median • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 5' colored bike lane in the eastbound direction • Add 4' colored bike lane in the westbound direction • Option: Route bicycles onto bike route on El Segundo Blvd. frontage road with sharrows and wayfinding signage
FROM:	La Cienega Blvd.
TO:	Railroad crossing east of I-405
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 6 lanes with median • 35' wide on north side of the median; 36' wide on south side of the median • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lane in the eastbound direction • Add 5' colored bike lane in the westbound direction
FROM:	Railroad crossing east of I-405
TO:	Inglewood Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 6 lanes, center turn lane, and on-street parking/peak hour travel lane on south side only • 80' wide • 24-hour traffic volume west of Inglewood Ave. in September 2010: 30,155 • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Option 1: Remove 1 travel lane and add 6' colored bike lanes • Option 2: Remove 1 travel lane and add two-way cycle track on north side of roadway • Option 3: If lane removal is infeasible, add Type B sharrows

BNSF RAILWAY RIGHT-OF-WAY	
FROM:	Imperial Hwy.
TO:	El Segundo Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> Railroad right-of-way west of and parallel to Aviation Blvd. within City of El Segundo 	<ul style="list-style-type: none"> Add bicycle path along railroad tracks within railroad right-of-way Coordinate with City of El Segundo and BNSF Railway

AVIATION BOULEVARD BICYCLE IMPROVEMENTS	
FROM:	116th St.
TO:	120th St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> 4 lanes, center turn lane, and on-street parking on east side only 64' wide No parking occupancy data available Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> Widen east sidewalk by 4,' reducing Aviation Blvd. curb-to-curb width to 60' Option 1: Add 4' colored bike lane in southbound direction and Type B sharrows in northbound direction Option 2: Remove on-street parking and add 6' colored bike lanes
FROM:	120th St.
TO:	El Segundo City Limit
EXISTING	PROPOSED
<ul style="list-style-type: none"> 4 lanes, center turn lane, and on-street parking on east side only 67' wide Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> Add 5' colored bike lanes

AVIATION BOULEVARD PEDESTRIAN IMPROVEMENTS	
FROM:	116th St.
TO:	120th St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> Narrow sidewalk on east side of Aviation Blvd. with frequent street crossings 	<ul style="list-style-type: none"> Widen east sidewalk by 4,' creating a furniture zone Add street trees and relocate utility poles within furniture zone Add ADA-compliant driveway ramps Add zebra stripe crosswalks, advanced stop bars, and bulb-outs to cross minor streets

116TH STREET / ISIS AVENUE	
FROM:	Aviation/LAX Station
TO:	El Segundo Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> 2 lanes with on-street parking Isis Ave.: Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> Add bike route with sharrows and wayfinding signs Create opening in wall on south side of Aviation/LAX Station and add path between station and 116th St.

LA CIENEGA BOULEVARD	
FROM:	Los Angeles City Limit
TO:	Pacific Concourse Dr.
EXISTING	PROPOSED
<ul style="list-style-type: none"> 3 lanes in northbound direction, 2 lanes in southbound direction, median, on-street parking in southbound direction only 35' wide on either side of the median Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> Add 5' colored bike lane in northbound direction Add 7' colored bike lane in southbound direction

LA CIENEGA BOULEVARD, CONT.

FROM:	Pacific Concourse Dr.	
TO:	119th Pl.	
EXISTING		PROPOSED
<ul style="list-style-type: none"> • 4 lanes, median, on-street parking in southbound direction only • 35' wide on either side of the median • Proposed bike lane in County Bicycle Master Plan 		<ul style="list-style-type: none"> • Add 7' colored bike lanes
FROM:	119th Pl.	
TO:	120th St.	
EXISTING		PROPOSED
<ul style="list-style-type: none"> • 4 lanes, center turn lane, on-street parking in southbound direction only • 72' wide • Proposed bike lane in County Bicycle Master Plan 		<ul style="list-style-type: none"> • Add 7' colored bike lanes
FROM:	120th St.	
TO:	123rd St.	
EXISTING		PROPOSED
<ul style="list-style-type: none"> • 4 lanes, center turn lane, on-street parking in northbound direction only • 76' wide • Proposed bike lane in County Bicycle Master Plan 		<ul style="list-style-type: none"> • Add 6' colored bike lanes with 2' buffer
FROM:	123rd St.	
TO:	El Segundo Blvd.	
EXISTING		PROPOSED
<ul style="list-style-type: none"> • 6 lanes with median • 35' wide on east side of the median; 36' wide on west side of the median • Proposed bike lane in County Bicycle Master Plan 		<ul style="list-style-type: none"> • Add 5' colored bike lane in northbound direction • Add 6' colored bike lane in southbound direction

Bike Parking

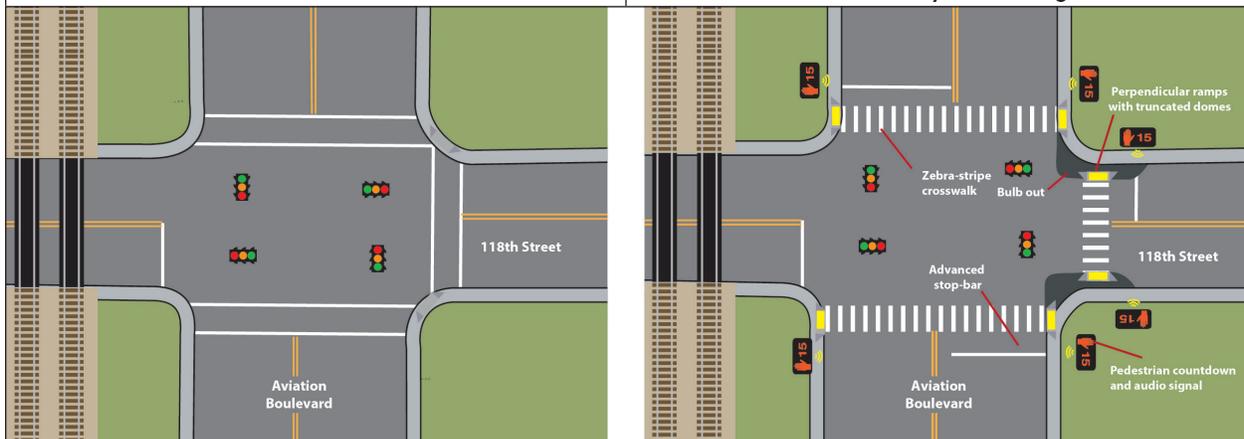
The Aviation/LAX station site falls outside County jurisdiction, and thus is not included in these recommendations.

Intersection Improvements

1) 116TH STREET/STATION DRIVEWAY AND AVIATION BOULEVARD	
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 116th St./station driveway has 4 lanes • Aviation Blvd. has 4 lanes, center turn lane, and parking on the east side • Signalized T-intersection • All pedestrian crossings across Aviation Blvd. prohibited • Bus stop on Aviation Blvd. (northbound, near side) • Existing pedestrian countdown signals on east leg of intersection 	<ul style="list-style-type: none"> • Open crossing across Aviation Blvd. on south leg of intersection in conjunction with bicycle path along BNSF Railway right-of-way. At time of path construction, add to south leg: <ul style="list-style-type: none"> - Zebra-stripe crosswalk (1) - Pedestrian countdown signals (2) - Audio signals (2) - Advanced stop bar (1) - Crossing islands (1 pair) - Directional curb ramps (2) • Add zebra-stripe crosswalk to east leg (1) • Add audio signals to east leg (2) • Add advanced stop bar to east leg (1) • Reduce curb returns on east leg (2) • Coordinate with City of Los Angeles and City of El Segundo

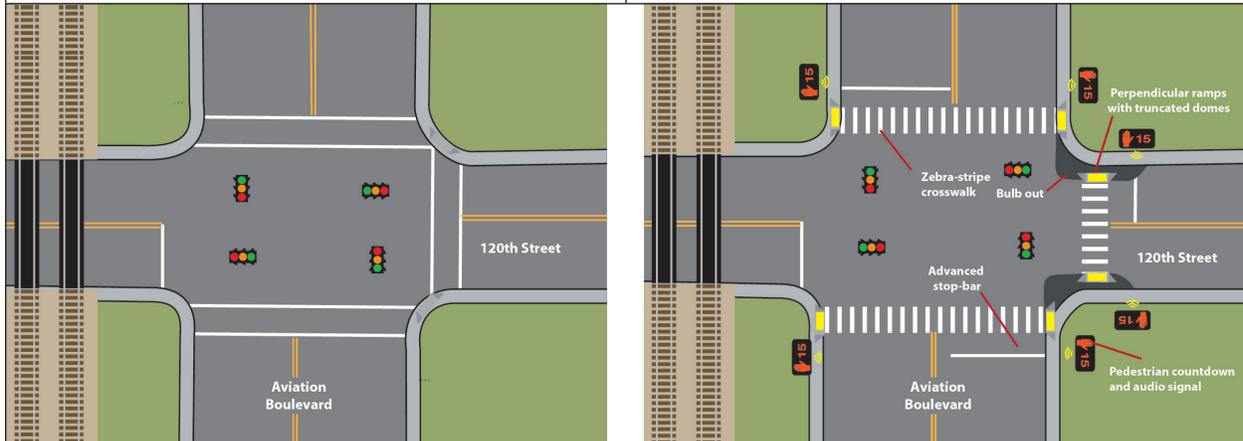
2) 118TH STREET AND AVIATION BOULEVARD

EXISTING	PROPOSED
<ul style="list-style-type: none"> • 118th St. has 2 lanes with on-street parking • Aviation Blvd. has 4 lanes, center turn lane, and parking on the east side • Signalized intersection • ADA-noncompliant landing areas on west side of intersection 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to north, east, and south legs (3) • Add pedestrian countdown signals to north, east, and south legs (6) • Add audio signals to north, east, and south legs (6) • Add advanced stop bars to north, east, and south legs (3) • Add bulb-outs on northeast and southeast corners to cross 118th St. (2) • Add curb ramps on west side of intersection to cross Aviation Blvd. (2) • Coordinate with City of El Segundo



3) 120TH STREET AND AVIATION BOULEVARD

EXISTING	PROPOSED
<ul style="list-style-type: none"> • 120th St. has 2 lanes with on-street parking • Aviation Blvd. has 4 lanes, center turn lane, and parking on the east side • Signalized intersection • ADA-noncompliant landing areas on west side of intersection 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to north, east, and south legs (3) • Add pedestrian countdown signals to north, east, and south legs (6) • Add audio signals to north, east, and south legs (6) • Add advanced stop bars to north, east, and south legs (3) • Add bulb-outs on northeast and southeast corners to cross 120th St. (2) • Add curb ramps on west side of intersection to cross Aviation Blvd. (2) • Coordinate with City of El Segundo



4) 120TH STREET AND ISIS AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • 120th St. has 2 lanes with on-street parking • Isis Ave. has 2 lanes with on-street parking • Signalized intersection • Yellow lateral line crosswalks for all crossings and truncated domes on all corners 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add pedestrian countdown signals to all crossings (8) • Add audio signals to all signalized crossings (8) • Add advanced stop bars to all crossings (4) • Add bulb-outs on all curb faces to cross 120th St. and Isis Ave. (8)

Los Angeles County Transit Oriented Districts Access Study

This summary page provides definitions for some of the more commonly used abbreviations in these cost estimates. It also includes some notes on the variances for contingencies for each improvement.

Abbreviation/Term Used	Definition/Explanation
AC	Asphalt Concrete
CMB	Center Median Barrier
EA	Each (cost per item)
LF	Linear Foot
LS	Lump Sum (amount per improvement)
MI	Mile
PCC	Portland Cement Concrete
PE	Preliminary Engineering
SF	Square Feet
Contingency	The amount added to a cost estimate that covers unexpected expenses. This estimate typically stands at 20%, but the contingency tends to increase when the recommended improvements are not standard. Because these improvements tend to be more complex, the cost estimates build in an extra contingency to cover unforeseen expenses.

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:

AVIATION/LAX

Prepared by: RS

Approved by:

Date:

11/7/2012

		Location	Cost
Bikeways and Linear Concepts			
	1	IMPERIAL HWY from La Cienega Blvd to Felton Ave	\$ 85,120.00
	2	IMPERIAL HWY from Felton Ave to Inglewood Ave	\$ 83,904.00
	3	120TH STREET from Aviation Blvd to La Cienega Blvd	\$ 164,000.00
	4	120TH STREET from La Cienega Blvd to Felton Ave	\$ 87,040.00
	5	EL SEGUNDO BLVD from Isis Ave to La Cienega Blvd (Option 1)	\$ 57,600.00
		EL SEGUNDO BLVD from Isis Ave to La Cienega Blvd (Option 2) - \$8550	\$ -
	6	EL SEGUNDO BLVD from La Cienega Blvd to RXR Xing east of I-405	\$ 54,400.00
	7	EL SEGUNDO BLVD from RXR Xing east of I-405 to Inglewood Ave (Option 1)	\$ 166,336.00
		EL SEGUNDO BLVD from RXR Xing east of I-405 to Inglewood Ave (Option 2) - \$137,600	\$ -
		EL SEGUNDO BLVD from RXR Xing east of I-405 to Inglewood Ave (Option 3) - \$8170	\$ -
	8	BNSF R/W from Imperial Hwy to El Segundo Blvd	\$ 1,530,000.00
	9	AVIATION BLVD PED AND BIKE IMPROVEMENTS from 116th St to 120th St (Option 1)	\$ 324,224.00
		AVIATION BLVD PED AND BIKE IMPROVEMENTS from 116th St to 120th St (Option 2) - \$491,796	\$ -
	10	AVIATION BLVD BICYCLE IMPROVEMENTS from 120th St to El Segundo City Limit	\$ 84,480.00
	11	ISIS AVE/116TH ST from Aviation/LAX Station to El Segundo Blvd	\$ 181,600.00
	12	LA CIENEGA BLVD from LA City Limit to Pacific Concourse Dr	\$ 64,000.00
	13	LA CIENEGA BLVD from Pacific Concourse Dr to 119th PI	\$ 41,600.00
	14	LA CIENEGA BLVD from 119th PI to 120th St	\$ 22,400.00
	15	LA CIENEGA BLVD from 120th St to 123rd St	\$ 57,600.00
	16	LA CIENEGA BLVD from 123rd St to El Segundo Blvd	\$ 128,000.00
Intersection Improvements			
	1	AVIATION BLVD and 116TH ST / STATION DRIVEWAY	\$ 67,196.80
	2	AVIATION BLVD and 118TH ST	\$ 106,608.00
	3	AVIATION BLVD and 120TH ST	\$ 131,976.00
	4	120TH ST and ISIS AVE	\$ 212,510.40
ENGINEER'S ESTIMATE GRAND TOTAL			\$ 3,650,595.20

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
 Location: #1 IMPERIAL HWY from La Cienega Blvd to Felton Ave
 Prepared by: RS Approved by:
 Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
2660	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 53,200.00
		SUBTOTAL		\$ 53,200.00
		Contingency	20%	\$ 10,640.00
		Total PE	20%	\$ 10,640.00
		Construction Engineering	20%	\$ 10,640.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 85,120.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
Location: #2 IMPERIAL HWY from Felton Ave to Inglewood Ave
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
2622	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 52,440.00
		SUBTOTAL		\$ 52,440.00
		Contingency	20%	\$ 10,488.00
		Total PE	20%	\$ 10,488.00
		Construction Engineering	20%	\$ 10,488.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 83,904.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
Location: #3 120TH STREET from Aviation Blvd to La Cienega Blvd
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.5	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 82,500.00
1	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 20,000.00
		SUBTOTAL		\$ 102,500.00
		Contingency	20%	\$ 20,500.00
		Total PE	20%	\$ 20,500.00
		Construction Engineering	20%	\$ 20,500.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 164,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
Location: #4 120TH STREET from La Cienega Blvd to Felton Ave
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
2720	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 54,400.00
		SUBTOTAL		\$ 54,400.00
		Contingency	20%	\$ 10,880.00
		Total PE	20%	\$ 10,880.00
		Construction Engineering	20%	\$ 10,880.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 87,040.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
Location: #5 EL SEGUNDO BLVD from Isis Ave to La Cienega Blvd (Option 1)
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1800	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 36,000.00
		SUBTOTAL		\$ 36,000.00
		Contingency	20%	\$ 7,200.00
		Total PE	20%	\$ 7,200.00
		Construction Engineering	20%	\$ 7,200.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 57,600.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station **AVIATION/LAX**
 Location : #5 **EL SEGUNDO BLVD from Isis Ave to La Cienega Blvd (Option 2)**
 Prepared by: RS Approved by:
 Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.18	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 4,500.00
		SUBTOTAL		\$ 4,500.00
		Contingency	50%	\$ 2,250.00
		Total PE	20%	\$ 900.00
		Construction Engineering	20%	\$ 900.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 8,550.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
Location: #6 EL SEGUNDO BLVD from La Cienega Blvd to RXR Xing e/o I-405
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1700	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 34,000.00
		SUBTOTAL		\$ 34,000.00
		Contingency	20%	\$ 6,800.00
		Total PE	20%	\$ 6,800.00
		Construction Engineering	20%	\$ 6,800.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 54,400.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
Location: #7 EL SEGUNDO BLVD from RXR Xing to Inglewood Ave (Option 1)
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
4520	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 90,400.00
REMOVALS				
2260	LF	Striping Removal	\$ 6.00	\$ 13,560.00
		SUBTOTAL		\$ 103,960.00
		Contingency	20%	\$ 20,792.00
		Total PE	20%	\$ 20,792.00
		Construction Engineering	20%	\$ 20,792.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 166,336.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station AVIATION/LAX
Location: #7 EL SEGUNDO BLVD from RXR Xing to Inglewood Ave (Option 2)
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.43	Mi	Cycle Tracks	\$ 200,000.00	\$ 86,000.00
		SUBTOTAL		\$ 86,000.00
		Contingency	20%	\$ 17,200.00
		Total PE	20%	\$ 17,200.00
		Construction Engineering	20%	\$ 17,200.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 137,600.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
Location: #7 EL SEGUNDO BLVD from RXR Xing to Inglewood Ave (Option 3)
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.43	Mi	Class III - Bike Routes (Sharrows Only)	\$ 10,000.00	\$ 4,300.00
		SUBTOTAL		\$ 4,300.00
		Contingency	50%	\$ 2,150.00
		Total PE	20%	\$ 860.00
		Construction Engineering	20%	\$ 860.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 8,170.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
Location: #8 BNSF R/W from Imperial Hwy to El Segundo Blvd
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
60000	SF	AC Pavement/Base	\$ 15.00	\$ 900,000.00
		SUBTOTAL		\$ 900,000.00
		Contingency	30%	\$ 270,000.00
		Total PE	20%	\$ 180,000.00
		Construction Engineering	20%	\$ 180,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 1,530,000.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
 Location: #9 AVIATION BLVD from 116th St to 120th St (Option 1)
 Prepared by: RS Approved by:
 Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.38	Mi	Class III - Bike Routes (Sharrows Only)	\$ 10,000.00	\$ 3,800.00
180	LF	Roadway Striping	\$ 8.00	\$ 1,440.00
2000	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 40,000.00
2000	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 44,000.00
7200	SF	PCC Sidewalk	\$ 12.00	\$ 86,400.00
18	EA	Curb Ramp	\$ 1,500.00	\$ 27,000.00
		SUBTOTAL		\$ 202,640.00
		Contingency	20%	\$ 40,528.00
		Total PE	20%	\$ 40,528.00
		Construction Engineering	20%	\$ 40,528.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 324,224.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
Location: #9 AVIATION BLVD from 116th St to 120th St (Option 2)
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
180	LF	Roadway Striping	\$ 8.00	\$ 1,440.00
4000	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 80,000.00
2000	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 44,000.00
7200	SF	PCC Sidewalk	\$ 12.00	\$ 86,400.00
18	EA	Curb Ramp	\$ 1,500.00	\$ 27,000.00
1	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 20,000.00
		SUBTOTAL		\$ 258,840.00
		Contingency (Landscaping, etc.)	50%	\$ 129,420.00
		Total PE	20%	\$ 51,768.00
		Construction Engineering	20%	\$ 51,768.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 491,796.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
Location: #10 AVIATION BLVD from 120th St to City Limit
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
2640	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 52,800.00
		SUBTOTAL		\$ 52,800.00
		Contingency	20%	\$ 10,560.00
		Total PE	20%	\$ 10,560.00
		Construction Engineering	20%	\$ 10,560.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 84,480.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
Location: #11 116TH ST/ISIS AVE from Aviation/LAX Station to El Segundo Blvd
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1.74	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 43,500.00
1	LS	Modify existing wall and add pathway	\$ 70,000.00	\$ 70,000.00
		SUBTOTAL		\$ 113,500.00
		Contingency	20%	\$ 22,700.00
		Total PE	20%	\$ 22,700.00
		Construction Engineering	20%	\$ 22,700.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 181,600.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
Location: #12 LA CIENEGA BLVD from LA City Limit to Pacific Concourse Dr
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
2000	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 40,000.00
		SUBTOTAL		\$ 40,000.00
		Contingency	20%	\$ 8,000.00
		Total PE	20%	\$ 8,000.00
		Construction Engineering	20%	\$ 8,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 64,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
Location: #13 LA CIENEGA BLVD from Pacific Concourse Dr to 119th PI
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1300	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 26,000.00
		SUBTOTAL		\$ 26,000.00
		Contingency	20%	\$ 5,200.00
		Total PE	20%	\$ 5,200.00
		Construction Engineering	20%	\$ 5,200.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 41,600.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
Location: #14 LA CIENEGA BLVD from 119th PI to 120th St
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
700	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 14,000.00
		SUBTOTAL		\$ 14,000.00
		Contingency	20%	\$ 2,800.00
		Total PE	20%	\$ 2,800.00
		Construction Engineering	20%	\$ 2,800.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 22,400.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
Location: #15 LA CIENEGA BLVD from 120th St to 123rd St
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1800	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 36,000.00
		SUBTOTAL		\$ 36,000.00
		Contingency	20%	\$ 7,200.00
		Total PE	20%	\$ 7,200.00
		Construction Engineering	20%	\$ 7,200.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 57,600.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
Location: #16 LA CIENEGA BLVD from 123rd St to El Segundo Blvd
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
4000	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 80,000.00
		SUBTOTAL		\$ 80,000.00
		Contingency	20%	\$ 16,000.00
		Total PE	20%	\$ 16,000.00
		Construction Engineering	20%	\$ 16,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 128,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: AVIATION/LAX
Location: #1 AVIATION BLVD AND 116TH ST / STATION DWY
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
197	LF	Roadway Striping	\$ 8.00	\$ 1,576.00
148	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 3,256.00
264	SF	PCC Sidewalk	\$ 12.00	\$ 3,168.00
4	EA	Curb Ramp	\$ 1,500.00	\$ 6,000.00
4	EA	Pedestrian countdown signals	\$ 800.00	\$ 3,200.00
4	EA	Audio ped signals	\$ 500.00	\$ 2,000.00
1	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
133	LF	Striping Removal	\$ 6.00	\$ 798.00
400	SF	AC Pavement Removal	\$ 5.00	\$ 2,000.00
		SUBTOTAL		\$ 41,998.00
		Contingency	20%	\$ 8,399.60
		Total PE	20%	\$ 8,399.60
		Construction Engineering	20%	\$ 8,399.60
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 67,196.80

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	AVIATION/LAX
Location: #2	AVIATION BLVD AND 118TH ST
Prepared by: RS	Approved by:
Date:	11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	LS	Roadway Striping	\$ 10,000.00	\$ 10,000.00
173	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 3,806.00
884	SF	PCC Sidewalk	\$ 12.00	\$ 10,608.00
6	EA	Curb Ramp	\$ 1,500.00	\$ 9,000.00
6	LS	Pedestrian countdown signals	\$ 800.00	\$ 4,800.00
6	EA	Audio ped signals	\$ 500.00	\$ 3,000.00
1	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
166	LF	Striping Removal	\$ 6.00	\$ 996.00
884	SF	AC Pavement Removal	\$ 5.00	\$ 4,420.00
		SUBTOTAL		\$ 66,630.00
		Contingency	20%	\$ 13,326.00
		Total PE	20%	\$ 13,326.00
		Construction Engineering	20%	\$ 13,326.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 106,608.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	AVIATION/LAX
Location: #3	AVIATION BLVD AND 120TH ST
Prepared by: RS	Approved by:
Date:	11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	LS	Roadway Striping	\$ 20,000.00	\$ 20,000.00
197	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 4,334.00
1191	SF	PCC Sidewalk	\$ 12.00	\$ 14,292.00
6	EA	Curb Ramp	\$ 1,500.00	\$ 9,000.00
6	LS	Pedestrian countdown signals	\$ 800.00	\$ 4,800.00
6	EA	Audio ped signals	\$ 500.00	\$ 3,000.00
1	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
184	LF	Striping Removal	\$ 6.00	\$ 1,104.00
1191	SF	AC Pavement Removal	\$ 5.00	\$ 5,955.00
		SUBTOTAL		\$ 82,485.00
		Contingency	20%	\$ 16,497.00
		Total PE	20%	\$ 16,497.00
		Construction Engineering	20%	\$ 16,497.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 131,976.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	AVIATION/LAX
Location: #4	120TH ST AND ISIS AVE
Prepared by: RS	Approved by:
Date:	11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
180	LF	Roadway Striping	\$ 8.00	\$ 1,440.00
468	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 10,296.00
3387	SF	PCC Sidewalk	\$ 12.00	\$ 40,644.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
8	LS	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification (Loop Restoration)	\$ 40,000.00	\$ 40,000.00
REMOVALS				
184	LF	Striping Removal	\$ 6.00	\$ 1,104.00
3387	SF	AC Pavement Removal	\$ 5.00	\$ 16,935.00
		SUBTOTAL		\$ 132,819.00
		Contingency	20%	\$ 26,563.80
		Total PE	20%	\$ 26,563.80
		Construction Engineering	20%	\$ 26,563.80
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 212,510.40

Appendix B

Vermont Green Line Station



Bikeways and Linear Concepts

110TH STREET	
FROM:	Western Ave.
TO:	Vermont Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking • Proposed bicycle boulevard in County Bicycle Master Plan west of Budlong Ave. 	<ul style="list-style-type: none"> • Add bicycle boulevard

UNION PACIFIC RAILROAD RIGHT-OF-WAY / 117TH STREET	
FROM:	Van Ness Ave.
TO:	Budlong Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • Single-track railroad right-of-way 	<ul style="list-style-type: none"> • Add bike path parallel to railroad tracks within railroad right-of-way
FROM:	Budlong Ave.
TO:	Vermont Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • Railroad right-of-way: Single-track right-of-way • 117th St.: 2 lanes with on-street parking 	<ul style="list-style-type: none"> • Option 1: Add bike path parallel to railroad tracks within railroad right-of-way • Option 2: Add bike route with sharrows and wayfinding signs on 117th St.

120TH STREET	
FROM:	Western Ave.
TO:	Vermont Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes with on-street parking • 64' wide • 24-hour traffic volume west of Vermont Ave. in December 2006: 9,789 • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Road diet to 2 lanes, center-turn lane, and on-street parking • Add 6' bike lanes

WESTERN AVENUE	
FROM:	108th St.
TO:	Imperial Hwy.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes, center turn lane, and on-street parking • 76' wide • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lanes
FROM:	Imperial Hwy.
TO:	End of median north of I-105
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 6 lanes with median • 36' wide on either side of the median • 24-hour traffic volume south of Imperial Hwy. in March 2012: 24,972 • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Road diet to 4 lanes with median • Add 6' colored bike lanes with 2' buffer
FROM:	End of median north of I-105
TO:	120th St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes with center turn lane • 84' wide • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lanes with 2' buffer

DENKER AVENUE	
FROM:	Century Blvd.
TO:	Imperial Hwy.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking • Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add bike route with sharrows and wayfinding signs • Convert four-way stops at the intersections of Denker Ave./107th St. and Denker Ave./110th St. to traffic circles

NORMANDIE AVENUE	
FROM:	Century Blvd.
TO:	El Segundo Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes with on-street parking • 60' wide • 24-hour traffic volume south of 120th St. in January 2007: 13,159 • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Road diet to 2 lanes, center-turn lane, and on-street parking • Add 6' colored bike lanes

BUDLONG AVENUE	
FROM:	Century Blvd.
TO:	El Segundo Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking • Proposed bicycle boulevard in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add bicycle boulevard • Convert four-way stops at the intersections of Budlong Ave./112th St. and Budlong Ave./119th St. to mini circles • Convert 111th St., where Budlong Ave. bike route jogs, to two-way yield street

VERMONT AVENUE: WEST SIDE (SOUTHBOUND) IN COUNTY, EAST SIDE (NORTHBOUND) IN CITY OF LOS ANGELES	
FROM:	Century Blvd.
TO:	I-105 Westbound Ramps
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 6 lanes, center median, bike lane in northbound direction, and on-street parking • 45.5' wide on west side of the median • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lane in southbound direction

VERMONT AVENUE, CONT.	
FROM:	I-105 Westbound Ramps
TO:	I-105 Eastbound Ramps/116th Pl.
EXISTING	PROPOSED
<ul style="list-style-type: none"> 6 lanes, center turn lane, bike lane in northbound direction, and block-long bus stops 155' wide Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> Add 6' colored bike lane in southbound direction
FROM:	I-105 Eastbound Ramps/116th Pl.
TO:	120th St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> 6 lanes, center median, and on-street parking 43' wide on west side of the median Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> Add 5' colored bike lane in southbound direction
FROM:	120th St.
TO:	El Segundo Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> 6 lanes, center median, and on-street parking 50' wide on west side of the median Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> Add 6' colored bike lane with 2' buffer in southbound direction

Bike Parking

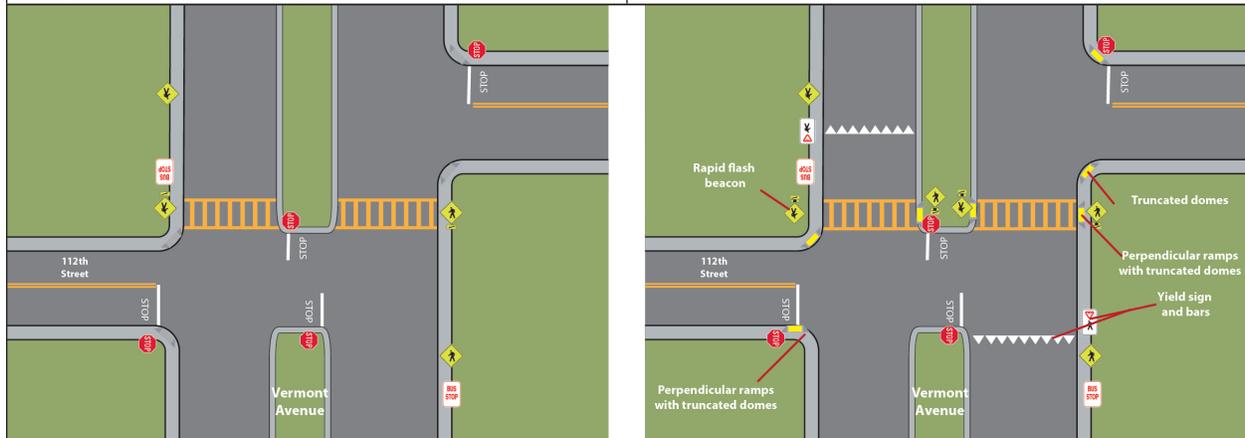
Currently, there is no bicycle parking at the station. We recommend adding bicycle racks and lockers to the station following the Guidelines for Bicycle Parking. The sidewalk in front of the station should be widened by 10' to create space for bicycle parking and to improve the waiting area and access for passengers.

Intersection Improvements

1) 110TH STREET AND VERMONT AVENUE	
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 110th St. has 2 lanes and on-street parking • Vermont Ave. has 6 lanes, center median, bike lane in the northbound direction, and on-street parking • Stop-controlled offset intersection for 110th St. • Bus stops on Vermont Ave. (northbound, near side; southbound, near side) • Existing ladder crosswalk across the south approach of Vermont Ave. with pedestrian crossing signs and advanced pedestrian warning signs 	<ul style="list-style-type: none"> • Add advanced yield markings (2) • Add advanced yield signs (2) • Add rectangular rapid flashing beacons (4) • Add bulb-out on the southwest corner to cross Vermont Ave. (1)

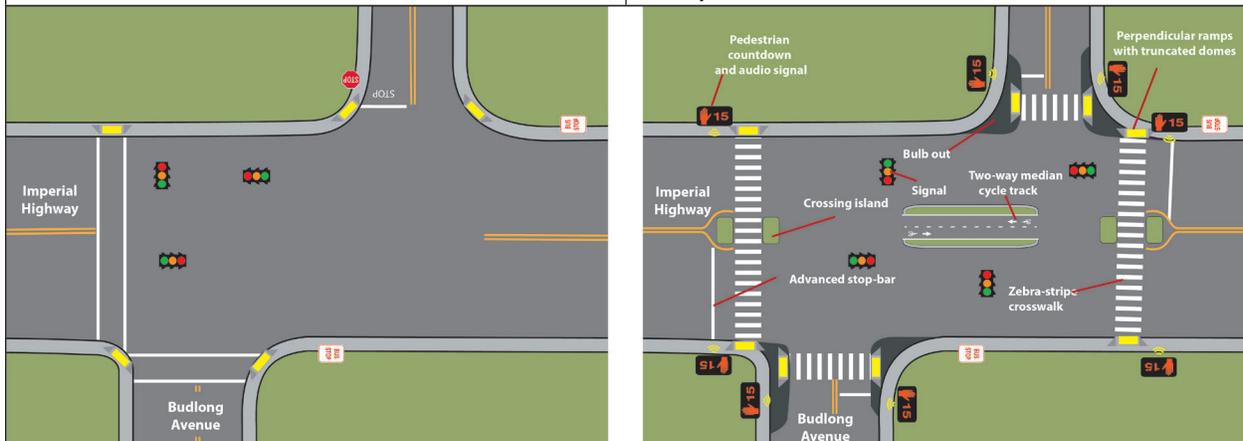
2) 112TH STREET AND VERMONT AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • 112th St. has 2 lanes and on-street parking • Vermont Ave. has 6 lanes, center median, bike lane in the northbound direction, and on-street parking • Stop-controlled offset intersection for 112th St. • Bus stops on Vermont Ave. (northbound, near side; southbound, near side) • Existing yellow ladder crosswalk across the north approach of Vermont Ave. with pedestrian crossing signs and advanced pedestrian warning signs 	<ul style="list-style-type: none"> • Add advanced yield markings (2) • Add advanced yield signs (2) • Add rectangular rapid flashing beacons (4) • Add sidewalk and curb ramps to Vermont Ave. median island on north side of intersection



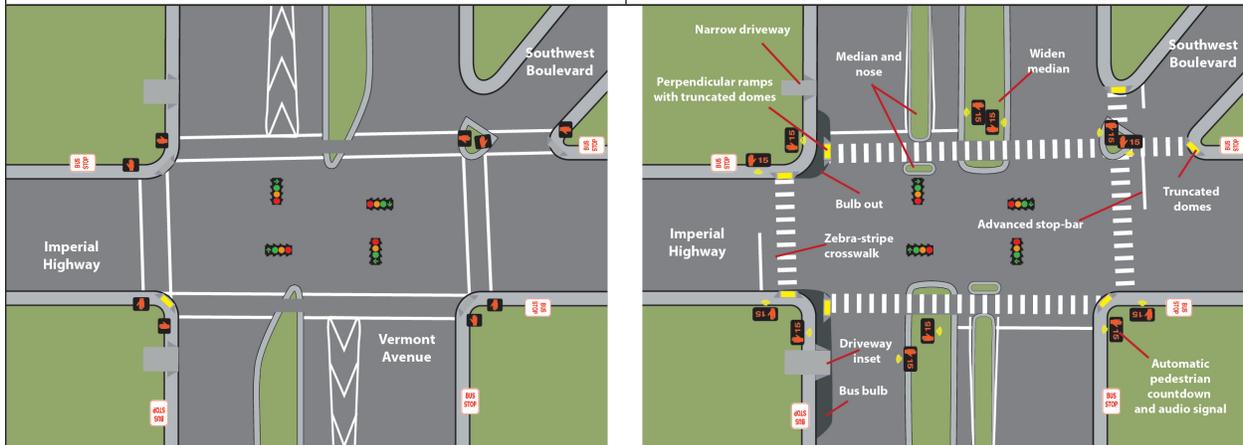
3) IMPERIAL HIGHWAY AND BUDLONG AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> Imperial Hwy. has 6 lanes and a center-turn lane Budlong Ave. has 2 lanes and on-street parking Stop-controlled offset intersection for Budlong Ave. Pedestrian crossing of east approach of west leg of Budlong Ave. prohibited Bus stops on Imperial Hwy. (eastbound, far side of west leg of Budlong Ave.; westbound, near side of east leg of Budlong Ave.) 5 diagonal ramps with truncated domes 	<ul style="list-style-type: none"> Signalize intersection of Imperial Hwy. and east leg of Budlong Ave. Add zebra-stripe crosswalks across south approach of west leg of Budlong Ave. to cross Budlong Ave., west approach of west leg of Budlong Ave. to cross Imperial Hwy., north approach of east leg of Budlong Ave. to cross Budlong Ave., and east approach of east leg of Budlong Ave. to cross Imperial Hwy. (4) Add pedestrian countdown signals to all crossings (8) Add audio signals to all crossings (8) Add advanced stop bars to all crossings (4) Add bulb-outs on the northeast, northwest, southeast, and southwest corners to cross Budlong Ave. (4) Add crossing islands to cross Imperial Hwy. on west approach of west leg of Budlong Ave. and on east approach of east leg of Budlong Ave. (2 pairs) Remove left turn pockets on Imperial Hwy. between east and west legs of Budlong Ave. and replace with 2-way median cycletrack



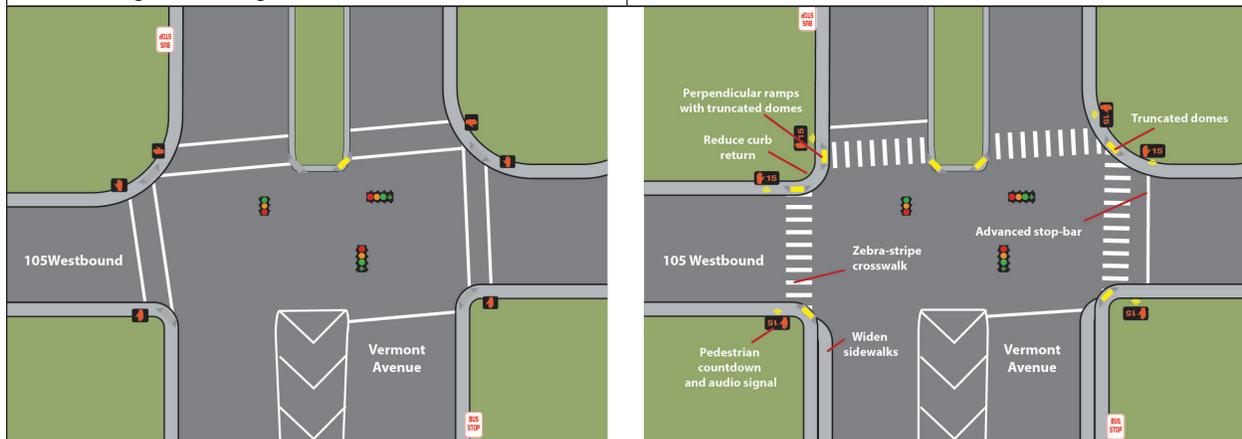
4) IMPERIAL HIGHWAY, VERMONT AVENUE, AND SOUTHWEST BOULEVARD

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Imperial Hwy. has 6 lanes and a center-turn lane • Vermont Ave. has 6 lanes, center median / left turn lanes, bike lane in the northbound direction, and on-street parking • Southwest Blvd. has 2 lanes and on-street parking • Signalized intersection with protected left turns from Imperial Hwy. and Vermont Ave.; access to Southwest Blvd. is stop-controlled • Bus stops on Imperial Hwy. (eastbound, far side; westbound, near side and far side) and Vermont Ave. (southbound, far side; northbound, near side) • 1 diagonal ramp with truncated domes on the southwest corner • 2-stage crossing to cross Vermont Ave. 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (6) • Add pedestrian countdown signals to all signalized crossings (12) • Add audio signals to all signalized crossings (12) • Add advanced stop bars to all crossings (5) • Remove pushbuttons and set walk phase to automatic • Narrow driveway and add bulb-out to the northwest corner to cross Vermont Ave. (1) • Add bus bulb with inset driveway to the southwest corner to cross Vermont Ave. (1) • Widen median islands on Vermont Ave. by removing taper • Modify noses of median islands: widen width of curb ramps/pedestrian refuge area for ADA compliance • Add additional median islands on Vermont Ave. to hatched areas between through and left turn lanes; add median nose to create refuge area (2 pairs)



5) INTERSTATE 105 WESTBOUND RAMPS AND VERMONT AVENUE: VERMONT/ATHENS STATION

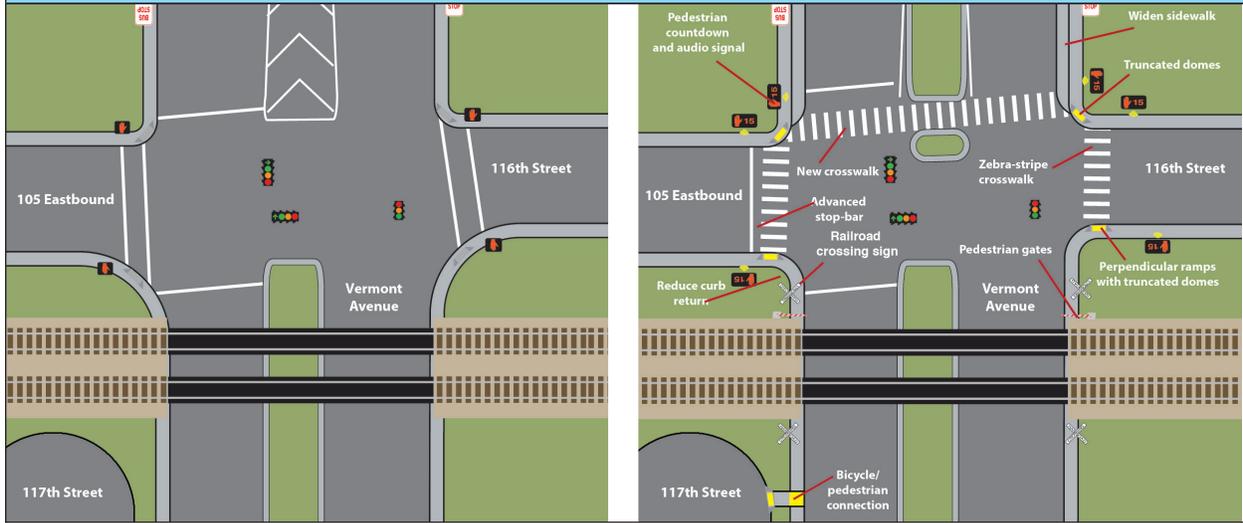
EXISTING	PROPOSED
<ul style="list-style-type: none"> • I-105 ramps have 2 lanes • Vermont Ave. has 6 lanes, center median / left turn lanes, bike lane in the northbound direction, and on-street parking • Signalized intersection with protected left turns from northbound Vermont Ave. • Pedestrian crossing of south approach of Vermont Ave. prohibited • Bus stops on Vermont Ave. (northbound and southbound, midblock at Vermont/Athens Station) • Existing pedestrian countdown signals at all permitted crossings • 1 diagonal ramp with truncated domes on east side of median island • 2-stage crossing to cross Vermont Ave. 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks across west, north, and east approaches (3) • Add audio signals to all crossings (6) • Add advanced stop bars to southbound and westbound approaches (2) • Add truncated domes to southwest corner (1) • Widen east and west sidewalks along Vermont Ave. by 10' between I-105 westbound ramps and I-105 eastbound ramps/116th Pl. (2) • Reduce curb returns on northwest corner to cross I-105 ramps and Vermont Ave. (1) • Coordinate with Caltrans and City of Los Angeles



6) INTERSTATE 105 EASTBOUND RAMPS/116TH PLACE AND VERMONT AVENUE: VERMONT/ATHENS STATION

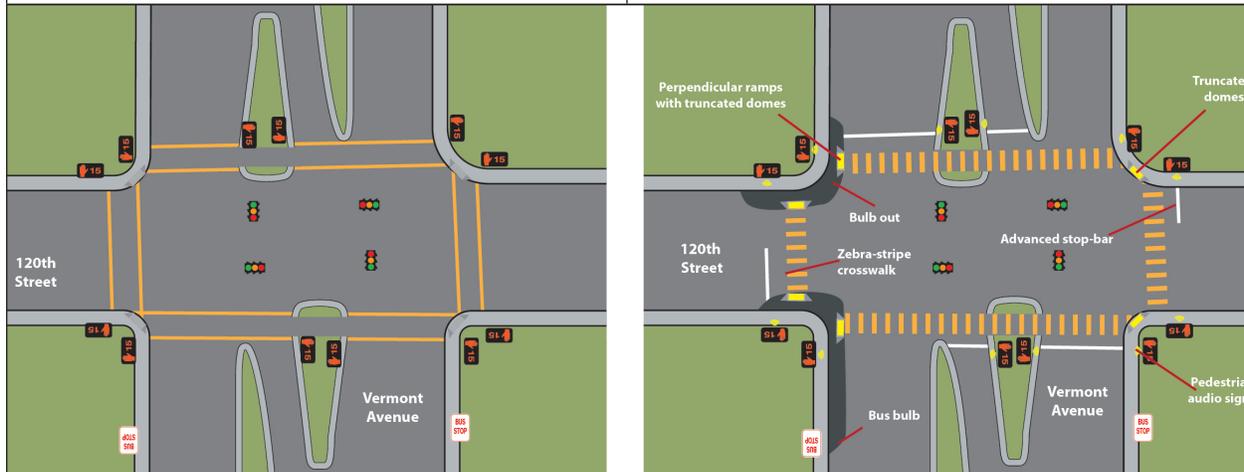
EXISTING	PROPOSED
<ul style="list-style-type: none"> • I-105 ramps/116th Pl. have 2 lanes • Vermont Ave. has 6 lanes, center median / left turn lanes, bike lane in the northbound direction, and on-street parking • Signalized intersection with protected left turns from southbound Vermont Ave. • All pedestrian crossings across Vermont Ave. prohibited • Bus stops on Vermont Ave. (northbound and southbound, midblock at Vermont/Athens Station) • Railroad tracks parallel to I-105 ramps/116th Pl. south of intersection 	<ul style="list-style-type: none"> • Open pedestrian crossing across north leg to cross Vermont Ave. • Add zebra-stripe crosswalks across west, north, and east approaches (3) • Add pedestrian countdown signals to all crossings (6) • Add audio signals to all crossings (6) • Add advanced stop bars to southbound and eastbound approaches (2) • On north leg of intersection, add median island to hatched area between southbound through and left turn lanes; add median nose to create refuge area (1 pair) • Widen east and west sidewalks along Vermont Ave. by 10' between I-105 westbound ramps and I-105 eastbound ramps/116th Pl. (2) • Reduce curb returns on southwest and southeast corners to cross I-105 ramps/116th Pl. (2) • Add pedestrian gate arms to the railroad crossings at the southwest and southeast corners (2) • Add concrete railroad crossing track insets to southbound Vermont Ave. mirroring those present on northbound Vermont Ave. • Add bicycle/pedestrian connection from Vermont Ave. to 117th St. consisting of a short path and curb ramps • Coordinate with Caltrans, City of Los Angeles, and Union Pacific Railroad

INTERSTATE 105 EASTBOUND RAMPS/116TH PLACE AND VERMONT AVENUE: VERMONT/ATHENS STATION, CONT.



7) 120TH STREET AND VERMONT AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • 120th St. has 4 lanes, left turn lane, and on-street parking • Vermont Ave. has 6 lanes, center median / left turn lanes, and on-street parking • Signalized intersection with permissive left turns • Bus stops on Vermont Ave. (northbound, near side and far side; southbound, far side) • Yellow lateral line crosswalks and pedestrian countdown signals for all crossings 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add audio signals to all crossings (12) • Add advanced stop bars to all crossings (4) • Add bulb-outs on the northwest corner to cross 120th St. and Vermont Ave. and on the southwest corner to cross 120th St. (3) • Add bus bulb on the southwest corner to cross Vermont Ave. (1)



Los Angeles County Transit Oriented Districts Access Study

This summary page provides definitions for some of the more commonly used abbreviations in these cost estimates. It also includes some notes on the variances for contingencies for each improvement.

Abbreviation/Term Used	Definition/Explanation
AC	Asphalt Concrete
CMB	Center Median Barrier
EA	Each (cost per item)
LF	Linear Foot
LS	Lump Sum (amount per improvement)
MI	Mile
PCC	Portland Cement Concrete
PE	Preliminary Engineering
SF	Square Feet
Contingency	The amount added to a cost estimate that covers unexpected expenses. This estimate typically stands at 20%, but the contingency tends to increase when the recommended improvements are not standard. Because these improvements tend to be more complex, the cost estimates build in an extra contingency to cover unforeseen expenses.

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:

VERMONT-ATHENS STATION

Prepared by: RS

Approved by:

Date:

11/7/2012

		Location	Cost
Bikeways and Linear Concepts			
	1	110TH ST from Western Ave to Vermont Ave	\$ 40,000.00
	2	U.P.R.R. R/W/117TH ST from Van Ness Ave to Budlong Ave	\$ 1,913,600.00
	3	U.P.R.R. R/W/117TH ST from Budlong Ave to Vermont Ave (Option 2 = \$14,250)	\$ 322,560.00
	4	120TH ST from Western Ave to Vermont Ave	\$ 360,000.00
	5	WESTERN AVE from 108th St to Imperial Hwy	\$ 148,480.00
	6	WESTERN AVE from Imperial Hwy to north of I-105	\$ 202,336.00
	7	WESTERN AVE from north of I-105 to 120th St	\$ 118,656.00
	8	DENKER AVE from Century Blvd to Imperial Hwy	\$ 424,000.00
	9	NORMANDIE AVE from Century Blvd to El Segundo Blvd	\$ 1,121,920.00
	10	BUDLONG AVE from Century Blvd to El Segundo Blvd	\$ 428,800.00
	11	VERMONT AVE from Century Blvd to I-105 WB Ramps	\$ 96,000.00
	12	VERMONT AVE from I-105 WB Ramps to I-105 EB Ramps/116th PI	\$ 14,400.00
	13	VERMONT AVE from I-105 EB Ramps/116th PI to 120th St	\$ 28,800.00
	14	VERMONT AVE from 120th St to El Segundo Blvd	\$ 62,720.00
Intersection Improvements			
	1	110TH ST and VERMONT AVE	\$ 99,312.00
	2	112TH ST and VERMONT AVE	\$ 105,920.00
	3	IMPERIAL HWY and BUDLONG AVE	\$ 476,848.00
	4	IMPERIAL HWY and VERMONT AVE and SOUTHWEST BLVD	\$ 476,336.00
	5	I-105 WB RAMPS and VERMONT AVE	\$ 302,240.00
	6	I-105 EB RAMPS and VERMONT AVE/116TH PL	\$ 784,176.00
	7	120TH ST and VERMONT AVE	\$ 199,720.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$ 7,726,824.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: VERMONT / ATHENS STATION
Location: #1 110TH ST from Western Ave to Vermont Ave
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 25,000.00
		SUBTOTAL		\$ 25,000.00
		Contingency	20%	\$ 5,000.00
		Total PE	20%	\$ 5,000.00
		Construction Engineering	20%	\$ 5,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 40,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: VERMONT / ATHENS STATION
Location: #2 U.P.R.R. R/W-117TH ST from Van Ness Ave to Budlong Ave
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
7000	LF	Roadway Striping	\$ 8.00	\$ 56,000.00
140000	SF	AC Pavement	\$ 8.00	\$ 1,120,000.00
1	SF	Traffic Signal Modification	\$ 20,000.00	\$ 20,000.00
		SUBTOTAL		\$ 1,196,000.00
		Contingency	20%	\$ 239,200.00
		Total PE	20%	\$ 239,200.00
		Construction Engineering	20%	\$ 239,200.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 1,913,600.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: VERMONT / ATHENS STATION
Location: #3 U.P.R.R. R/W-117TH ST from Budlong Ave to Vermont Ave (Option 1)
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1200	LF	Roadway Striping	\$ 8.00	\$ 9,600.00
24000	SF	AC Pavement	\$ 8.00	\$ 192,000.00
		SUBTOTAL		\$ 201,600.00
		Contingency	20%	\$ 40,320.00
		Total PE	20%	\$ 40,320.00
		Construction Engineering	20%	\$ 40,320.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 322,560.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: VERMONT / ATHENS STATION
Location: #3 U.P.R.R. R/W-117TH ST from Budlong Ave to Vermont Ave **(Option 2)**
Prepared by: _____ **Approved by:** _____
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.3	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 7,500.00
		SUBTOTAL		\$ 7,500.00
		Contingency	50%	\$ 3,750.00
		Total PE	20%	\$ 1,500.00
		Construction Engineering	20%	\$ 1,500.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 14,250.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: VERMONT / ATHENS STATION
Location: #4 120TH ST from Western Ave to Vermont Ave
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 165,000.00
3	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 60,000.00
		SUBTOTAL		\$ 225,000.00
		Contingency	20%	\$ 45,000.00
		Total PE	20%	\$ 45,000.00
		Construction Engineering	20%	\$ 45,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 360,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: VERMONT / ATHENS STATION
Location: #5 WESTERN AVE from 108th St to Imperial Hwy
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
2640	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 52,800.00
2	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 40,000.00
		SUBTOTAL		\$ 92,800.00
		Contingency	20%	\$ 18,560.00
		Total PE	20%	\$ 18,560.00
		Construction Engineering	20%	\$ 18,560.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 148,480.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: VERMONT / ATHENS STATION
Location: #6 WESTERN AVE from Imperial Hwy to end of median n/o I-105
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.3	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 49,500.00
	Mi	Cycle Tracks	\$ 40,000.00	\$ -
	Mi	Bicycle Boulevard	\$ 30,000.00	\$ -
1320	LF	Roadway Striping	\$ 8.00	\$ 10,560.00
1320	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 26,400.00
2	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 40,000.00
		SUBTOTAL		\$ 126,460.00
		Contingency	20%	\$ 25,292.00
		Total PE	20%	\$ 25,292.00
		Construction Engineering	20%	\$ 25,292.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 202,336.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: VERMONT / ATHENS STATION
Location: #7 WESTERN AVE from end of median n/o I-105 to 120th St
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1220	LF	Roadway Striping	\$ 8.00	\$ 9,760.00
1220	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 24,400.00
2	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 40,000.00
REMOVALS				
		SUBTOTAL		\$ 74,160.00
		Contingency	20%	\$ 14,832.00
		Total PE	20%	\$ 14,832.00
		Construction Engineering	20%	\$ 14,832.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 118,656.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: VERMONT / ATHENS STATION
Location: #8 DENKER AVE from Century Blvd to Imperial Hwy
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 25,000.00
1	Mi	Bicycle Boulevard	\$ 60,000.00	\$ 60,000.00
4	LS	Traffic Circle	\$ 35,000.00	\$ 140,000.00
2	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 40,000.00
		SUBTOTAL		\$ 265,000.00
		Contingency	20%	\$ 53,000.00
		Total PE	20%	\$ 53,000.00
		Construction Engineering	20%	\$ 53,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 424,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: VERMONT / ATHENS STATION
Location: #9 NORMANDIE AVE from Century Blvd to El Segundo Blvd
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
2	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 330,000.00
10560	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 211,200.00
8	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 160,000.00
		SUBTOTAL		\$ 701,200.00
		Contingency	20%	\$ 140,240.00
		Total PE	20%	\$ 140,240.00
		Construction Engineering	20%	\$ 140,240.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 1,121,920.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: VERMONT / ATHENS STATION
Location: #10 BUDLONG AVE from Century Blvd to El Segundo Blvd
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
2	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 50,000.00
1000	LF	Roadway Striping	\$ 8.00	\$ 8,000.00
6	LS	Traffic Circle	\$ 35,000.00	\$ 210,000.00
		SUBTOTAL		\$ 268,000.00
		Contingency	20%	\$ 53,600.00
		Total PE	20%	\$ 53,600.00
		Construction Engineering	20%	\$ 53,600.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 428,800.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: VERMONT / ATHENS STATION
Location: #11 VERMONT AVE from Century Blvd to I-105 WB Ramps
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
3000	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 60,000.00
		SUBTOTAL		\$ 60,000.00
		Contingency	20%	\$ 12,000.00
		Total PE	20%	\$ 12,000.00
		Construction Engineering	20%	\$ 12,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 96,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: VERMONT / ATHENS STATION
Location: #12 VERMONT AVE from I-105 WB Ramps to I-105 EB Ramps
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
300	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 6,000.00
		SUBTOTAL		\$ 6,000.00
		Contingency (Caltrans)	100%	\$ 6,000.00
		Total PE	20%	\$ 1,200.00
		Construction Engineering	20%	\$ 1,200.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 14,400.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: VERMONT / ATHENS STATION
Location: #13 VERMONT AVE from I-105 EB Ramps to 120th St
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
900	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 18,000.00
		SUBTOTAL		\$ 18,000.00
		Contingency	20%	\$ 3,600.00
		Total PE	20%	\$ 3,600.00
		Construction Engineering	20%	\$ 3,600.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 28,800.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: VERMONT / ATHENS STATION
Location: #14 VERMONT AVE from 120th St to El Segundo Blvd
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1400	LF	Roadway Striping	\$ 8.00	\$ 11,200.00
1400	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 28,000.00
		SUBTOTAL		\$ 39,200.00
		Contingency	20%	\$ 7,840.00
		Total PE	20%	\$ 7,840.00
		Construction Engineering	20%	\$ 7,840.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 62,720.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	VERMONT / ATHENS STATION
Location: #1	110TH ST AND VERMONT BLVD
Prepared by: RS	Approved by:
Date:	11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
100	LF	Roadway Striping	\$ 8.00	\$ 800.00
2	EA	Signs	\$ 1,000.00	\$ 2,000.00
75	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 1,650.00
360	SF	PCC Sidewalk	\$ 12.00	\$ 4,320.00
1	EA	Curb Ramp	\$ 1,500.00	\$ 1,500.00
4	EA	Traffic Signal Modification (flashing beacons)	\$ 10,000.00	\$ 40,000.00
REMOVALS				
1	LS	Striping Removal	\$ 10,000.00	\$ 10,000.00
360	SF	AC Pavement Removal	\$ 5.00	\$ 1,800.00
		SUBTOTAL		\$ 62,070.00
		Contingency	20%	\$ 12,414.00
		Total PE	20%	\$ 12,414.00
		Construction Engineering	20%	\$ 12,414.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 99,312.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	VERMONT / ATHENS STATION
Location: #2	112TH ST AND VERMONT BLVD
Prepared by: RS	Approved by:
Date:	11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
100	LF	Roadway Striping	\$ 8.00	\$ 800.00
2	EA	Signs	\$ 1,000.00	\$ 2,000.00
1200	SF	PCC Sidewalk	\$ 12.00	\$ 14,400.00
2	EA	Curb Ramp	\$ 1,500.00	\$ 3,000.00
4	EA	Traffic Signal Modification (flashing beacons)	\$ 10,000.00	\$ 40,000.00
REMOVALS				
	LF	Striping Removal	\$ 6.00	\$ -
1200	SF	AC Pavement Removal	\$ 5.00	\$ 6,000.00
		SUBTOTAL		\$ 66,200.00
		Contingency	20%	\$ 13,240.00
		Total PE	20%	\$ 13,240.00
		Construction Engineering	20%	\$ 13,240.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 105,920.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: VERMONT / ATHENS STATION
Location: #3 IMPERIAL HWY and BUDLONG AVE
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	LS	Cycle Tracks	\$ 15,000.00	\$ 15,000.00
1	LS	Roadway Striping	\$ 20,000.00	\$ 20,000.00
460	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 10,120.00
1530	SF	PCC Sidewalk	\$ 12.00	\$ 18,360.00
5	EA	Curb Ramp	\$ 1,500.00	\$ 7,500.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	EA	Traffic Signal Installation	\$ 200,000.00	\$ 200,000.00
REMOVALS				
1500	LF	Striping Removal	\$ 6.00	\$ 9,000.00
1530	SF	AC Pavement Removal	\$ 5.00	\$ 7,650.00
		SUBTOTAL		\$ 298,030.00
		Contingency	20%	\$ 59,606.00
		Total PE	20%	\$ 59,606.00
		Construction Engineering	20%	\$ 59,606.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 476,848.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: VERMONT / ATHENS STATION
Location: #4 IMPERIAL HWY and VERMONT and SOUTHWEST
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	LS	Roadway Striping	\$ 30,000.00	\$ 30,000.00
7605	SF	Aggregate Base	\$ 5.00	\$ 38,025.00
900	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 19,800.00
7605	SF	PCC Sidewalk	\$ 12.00	\$ 91,260.00
6	EA	Curb Ramp	\$ 1,500.00	\$ 9,000.00
12	EA	Pedestrian countdown signals	\$ 800.00	\$ 9,600.00
12	EA	Audio ped signals	\$ 500.00	\$ 6,000.00
1	LS	Traffic Signal Modification	\$ 50,000.00	\$ 50,000.00
REMOVALS				
1000	LF	Striping Removal	\$ 6.00	\$ 6,000.00
7605	SF	AC Pavement Removal	\$ 5.00	\$ 38,025.00
		SUBTOTAL		\$ 297,710.00
		Contingency	20%	\$ 59,542.00
		Total PE	20%	\$ 59,542.00
		Construction Engineering	20%	\$ 59,542.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 476,336.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	VERMONT / ATHENS STATION
Location: #5	I-105 WB RAMPS and VERMONT AVE
Prepared by: RS	Approved by:
Date:	11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	LS	Roadway Striping	\$ 30,000.00	\$ 30,000.00
100	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 2,200.00
8500	SF	PCC Sidewalk	\$ 12.00	\$ 102,000.00
3	EA	Curb Ramp	\$ 1,500.00	\$ 4,500.00
6	EA	Pedestrian countdown signals	\$ 800.00	\$ 4,800.00
6	EA	Audio ped signals	\$ 500.00	\$ 3,000.00
2	EA	Traffic Signal Modification	\$ 20,000.00	\$ 40,000.00
REMOVALS				
400	LF	Striping Removal	\$ 6.00	\$ 2,400.00
		SUBTOTAL		\$ 188,900.00
		Contingency	20%	\$ 37,780.00
		Total PE	20%	\$ 37,780.00
		Construction Engineering	20%	\$ 37,780.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 302,240.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: VERMONT / ATHENS STATION
Location: #6 I-105 EB RAMPS and VERMONT AVE
Prepared by: RS **Approved by:**
Date: 11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
555	LF	Roadway Striping	\$ 8.00	\$ 4,440.00
9350	SF	Aggregate Base	\$ 5.00	\$ 46,750.00
720	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 15,840.00
9350	SF	PCC Sidewalk	\$ 12.00	\$ 112,200.00
2	EA	Curb Ramp	\$ 1,500.00	\$ 3,000.00
6	EA	Pedestrian countdown signals	\$ 800.00	\$ 4,800.00
6	EA	Audio ped signals	\$ 500.00	\$ 3,000.00
1	LS	Traffic Signal Modification	\$ 50,000.00	\$ 50,000.00
1	LS	RXR Ped Gates	\$ 200,000.00	\$ 200,000.00
REMOVALS				
555	LF	Striping Removal	\$ 6.00	\$ 3,330.00
9350	SF	AC Pavement Removal	\$ 5.00	\$ 46,750.00
		SUBTOTAL		\$ 490,110.00
		Contingency	20%	\$ 98,022.00
		Total PE	20%	\$ 98,022.00
		Construction Engineering	20%	\$ 98,022.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 784,176.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	VERMONT / ATHENS STATION
Location: #7	120TH ST and VERMONT AVE
Prepared by: RS	Approved by:
Date:	11/7/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
700	LF	Roadway Striping	\$ 8.00	\$ 5,600.00
2555	SF	Aggregate Base	\$ 10.00	\$ 25,550.00
320	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 7,040.00
2555	SF	PCC Sidewalk	\$ 12.00	\$ 30,660.00
4	EA	Curb Ramp	\$ 1,500.00	\$ 6,000.00
10	EA	Pedestrian countdown signals	\$ 800.00	\$ 8,000.00
10	EA	Audio ped signals	\$ 500.00	\$ 5,000.00
1	EA	Traffic Signal Modification	\$ 20,000.00	\$ 20,000.00
REMOVALS				
700	LF	Striping Removal	\$ 6.00	\$ 4,200.00
2555	SF	AC Pavement Removal	\$ 5.00	\$ 12,775.00
		SUBTOTAL		\$ 124,825.00
		Contingency	20%	\$ 24,965.00
		Total PE	20%	\$ 24,965.00
		Construction Engineering	20%	\$ 24,965.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 199,720.00

Appendix C

Hawthorne Green Line Station



Bikeways and Linear Concepts

104TH STREET	
FROM:	Buford Ave.
TO:	Prairie Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking • Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add bike route with sharrows and wayfinding signs

LENNOX BOULEVARD	
FROM:	Buford Ave.
TO:	Inglewood Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes, center turn lane, and on-street parking • 46' wide • Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Option 1: Remove center turn lane and add 6' bike lanes • Option 2: Add bike route with sharrows and wayfinding signs
FROM:	Inglewood Ave.
TO:	Burin Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking • 46' wide • Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' bike lanes
FROM:	Burin Ave.
TO:	Prairie Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes with on-street parking • 56' wide • 24-hour traffic volume east of Freeman Ave. in February 2012: 7,832 • Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Road diet to 2 lanes, center-turn lane, and on-street parking • Add 6' bike lanes

111TH STREET	
FROM:	Buford Ave.
TO:	Prairie Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking • Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add bike route with sharrows and wayfinding signs

INTERSTATE 105 RIGHT-OF-WAY (CALTRANS)	
FROM:	Lennox Middle School
TO:	Freeman Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • Vacant right-of-way along north side of I-105 	<ul style="list-style-type: none"> • Add bicycle path along Caltrans right-of-way from Lennox Middle School (near I-405), south to north side of I-105, east to Hawthorne/Lennox Station, and terminating at Freeman Ave. • Coordinate with Caltrans and City of Hawthorne

BUFORD AVENUE	
FROM:	104th St.
TO:	111th St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking • Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add bike route with sharrows and wayfinding signs

INGLEWOOD AVENUE	
FROM:	Century Blvd.
TO:	Imperial Hwy.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes, center turn lane, and on-street parking • Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add bike route with Type B sharrows and wayfinding signs

HAWTHORNE BOULEVARD BICYCLE IMPROVEMENTS	
FROM:	104th St.
TO:	Lennox Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 6 lanes, median, and on-street parking • 45' wide on either side of the median • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lanes
FROM:	Lennox Blvd.
TO:	Hawthorne City Limit
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 6 lanes, median, and on-street parking • 48' wide on either side of the median • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Widen east sidewalk by 5,' reducing Hawthorne Blvd. east-curb-to-median width to 43' • Add 6' colored bike lane with 2' buffer in southbound direction • Add 6' colored bike lane in northbound direction

HAWTHORNE BOULEVARD PEDESTRIAN IMPROVEMENTS	
FROM:	Lennox Blvd.
TO:	111th St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • Narrow sidewalk on east side of Hawthorne Blvd. near school and in commercial district 	<ul style="list-style-type: none"> • Widen east sidewalk by 5,' creating a furniture zone • Add street trees and relocate utility poles within furniture zone

FREEMAN AVENUE	
FROM:	104th St.
TO:	111th St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking • Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add bike route with sharrows and wayfinding signs

Bike Parking

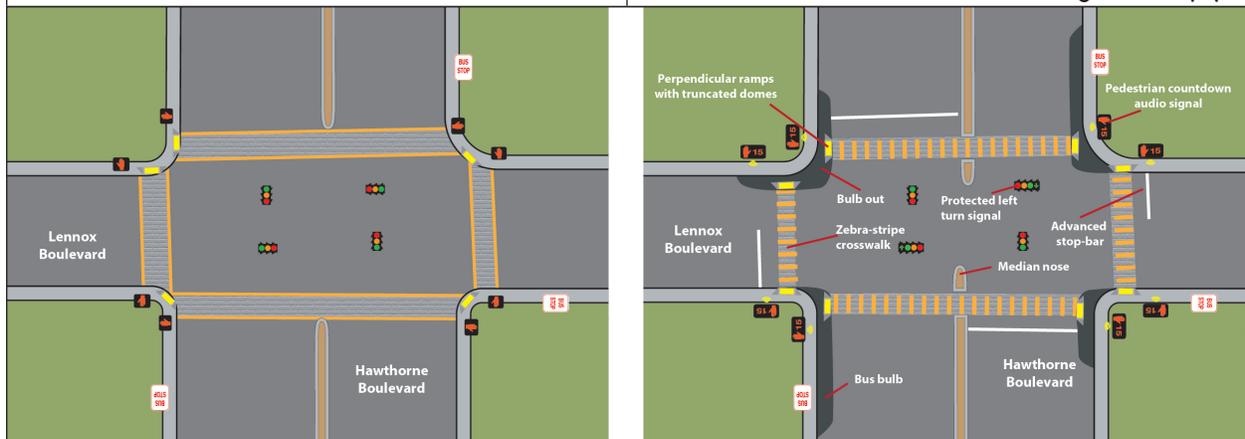
Currently, there are bike parking racks at the station, but no lockers. We recommend adding bicycle parking to the station following the Guidelines for Bicycle Parking. The bus pull-outs in front of the station should be removed and replaced with widened sidewalks. These sidewalk additions will create space for bicycle parking and improve the waiting area and access for passengers.

Intersection Improvements

1) 104TH STREET AND HAWTHORNE BOULEVARD	
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 104th St. has 2 lanes with on-street parking • Hawthorne Blvd. has 6 lanes, median, and on-street parking • Signalized intersection • Bus stops on Hawthorne Blvd. (northbound, far side; southbound, far side) • Existing truncated domes on south corners 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add pedestrian countdown signals to all crossings (8) • Add audio signals to all crossings (8) • Add advanced stop bars to all crossings (4) • Add bulb-outs on the northwest and southeast corners to cross Hawthorne Blvd. (2) • Add bus bulbs on the northeast and southwest corners to cross Hawthorne Blvd. (2) • Reduce curb returns on all crossings of 104th St. (4) • Truncate medians and add median nose on Hawthorne Blvd. to create refuge area (2)

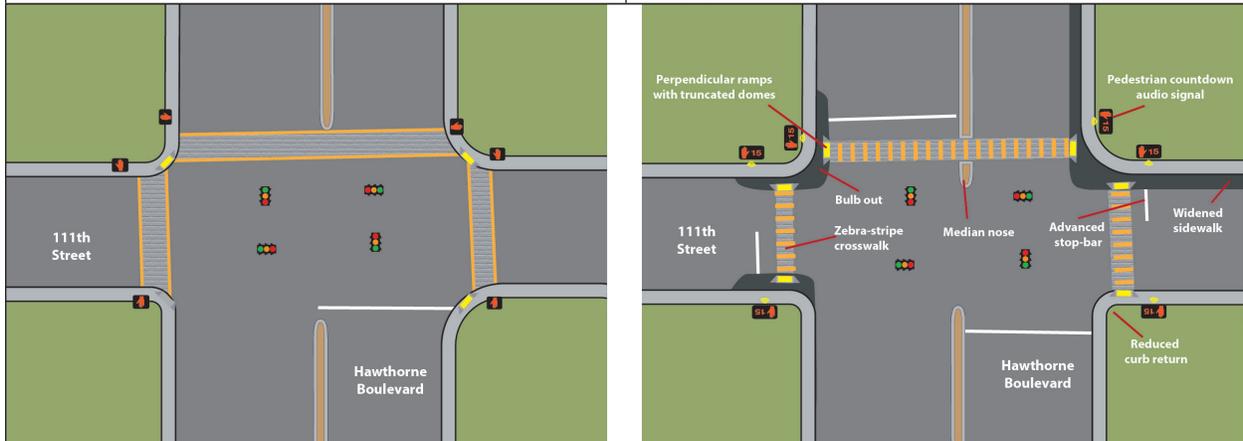
2) LENNOX BOULEVARD AND HAWTHORNE BOULEVARD

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Lennox Blvd. has 2 lanes with on-street parking on the west leg and 4 lanes with on-street parking on the east leg • Hawthorne Blvd. has 6 lanes, median, and on-street parking • Signalized intersection with permissive left turns from Lennox Blvd. • Bus stops on Lennox Blvd. (eastbound, far side) and on Hawthorne Blvd. (northbound, far side; southbound, far side) • Yellow lateral line crosswalks with textured brick appearance across all crossings, truncated domes on all corners, and directional curb ramps on northwest corner 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add pedestrian countdown signals to all crossings (8) • Add audio signals to all crossings (8) • Add advanced stop bars to all crossings (4) • Add protected left turns from Lennox Blvd. • Add leading pedestrian interval for all crossings • Add bulb-outs on the northwest corner to cross Lennox Blvd. and on the northwest and southeast corners to cross Hawthorne Blvd. (3) • Add bus bulbs on the northeast and southwest corners to cross Hawthorne Blvd. (2) • Reduce curb returns on northeast, southeast, and southwest crossings of Lennox Blvd. (3) • Truncate medians and add median nose on Hawthorne Blvd. to create refuge area (2)



3) 111TH STREET AND HAWTHORNE BOULEVARD

EXISTING	PROPOSED
<ul style="list-style-type: none"> • 111th St. has 2 lanes with on-street parking • Hawthorne Blvd. has 6 lanes, median, and on-street parking • Signalized intersection • Pedestrian crossing of the south leg prohibited • Yellow lateral line crosswalks with textured brick appearance across all crossings and truncated domes on all corners except southwest 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all permitted crossings (3) • Add pedestrian countdown signals to all permitted crossings (6) • Add audio signals to all permitted crossings (6) • Add advanced stop bars to all permitted crossings (3) • Add bulb-outs on the northwest and southwest corners to cross 111th St. and on the northwest corner to cross Hawthorne Blvd. (5) • Replace westbound right-turn lane on 111th St. with widened sidewalk and widen sidewalk on east side of Hawthorne Blvd. north of 111th St. • Reduce curb return on southeast corner (1) • Truncate median and add median nose on Hawthorne Blvd. at north leg of intersection (1)



4) INTERSTATE 105 WESTBOUND OFF-RAMP AND HAWTHORNE BOULEVARD: HAWTHORNE/LENNOX STATION

EXISTING	PROPOSED
<ul style="list-style-type: none"> • I-105 ramps have 3 lanes • Hawthorne Blvd. has 6 lanes with a median • Signalized T-intersection • All crossings across Hawthorne Blvd. prohibited • Bus stops on Hawthorne Blvd. (northbound and southbound, midblock south of intersection at Hawthorne/Lennox Station) 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalk to east leg (1) • Add pedestrian countdown signals to east leg (2) • Add audio signals to east leg (2) • Add advanced stop bar to east leg (1) • Reduce curb return on northeast and southeast corners (2) • Remove bus pull-outs at Hawthorne/Lennox Station and replace with widened sidewalk • Add bike parking to widened sidewalk



Los Angeles County Transit Oriented Districts Access Study

This summary page provides definitions for some of the more commonly used abbreviations in these cost estimates. It also includes some notes on the variances for contingencies for each improvement.

Abbreviation/Term Used	Definition/Explanation
AC	Asphalt Concrete
CMB	Center Median Barrier
EA	Each (cost per item)
LF	Linear Foot
LS	Lump Sum (amount per improvement)
MI	Mile
PCC	Portland Cement Concrete
PE	Preliminary Engineering
SF	Square Feet
Contingency	The amount added to a cost estimate that covers unexpected expenses. This estimate typically stands at 20%, but the contingency tends to increase when the recommended improvements are not standard. Because these improvements tend to be more complex, the cost estimates build in an extra contingency to cover unforeseen expenses.

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:

HAWTHORNE-LENNOX STATION

By: RS

Approved by:

Date:

11/16/2012

		Location	Cost
Bikeways and Linear Concepts			
	1	104TH ST from Buford Ave to Prairie Ave	\$ 48,000.00
	2	LENNOX BLVD from Buford Ave to Inglewood Ave (Option 2 = \$12,000)	\$ 32,640.00
	3	LENNOX BLVD from Inglewood Ave to Burin Ave	\$ 32,000.00
	4	LENNOX BLVD from Burin Ave to Prairie Ave	\$ 200,000.00
	5	111TH ST from Buford Ave to Prairie Ave	\$ 24,000.00
	6	I-105 R/W FROM Lennox middle School to Freeman Ave	\$ 3,144,960.00
	7	BUFORD AVE from 104th St to 111th St	\$ 48,000.00
	8	INGLEWOOD AVE from Century Blvd to Imperial Hwy	\$ 40,000.00
	9	HAWTHORNE BLVD from 104th St to Lennox Blvd	\$ 210,744.00
	10	HAWTHORNE BLVD from Lennox Blvd to City Limit	\$ 301,328.00
	11	FREEMAN AVE from 104th St to 111th St	\$ 20,000.00
Intersection Improvements			
	1	104TH ST and HAWTHORNE BLVD	\$ 273,939.00
	2	LENNOX BLVD and HAWTHORNE BLVD	\$ 217,504.00
	3	111TH ST and HAWTHORNE BLVD	\$ 203,881.00
	4	I-105 WB OFF RAMP and HAWTHORNE BLVD	\$ 160,224.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$ 4,957,220.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: HAWTHORNE/LENOX STATION
Location: #1 104TH ST from Buford Ave to Prairie Ave
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1.2	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 30,000.00
REMOVALS				
		SUBTOTAL		\$ 30,000.00
		Contingency	20%	\$ 6,000.00
		Total PE	20%	\$ 6,000.00
		Construction Engineering	20%	\$ 6,000.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	48,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: HAWTHORNE/LENOX STATION
Location: #2 LENNOX BLVD from Buford Ave to Inglewood Ave (Option 1)
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.3	Mi	Class II Bike Lane (Striping and Signs)	\$ 40,000.00	\$ 12,000.00
REMOVALS				
1400	LF	Striping Removal	\$ 6.00	\$ 8,400.00
		SUBTOTAL		\$ 20,400.00
		Contingency	20%	\$ 4,080.00
		Total PE	20%	\$ 4,080.00
		Construction Engineering	20%	\$ 4,080.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 32,640.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: HAWTHORNE/LENNOX STATION
Location: #2 LENNOX BLVD from Buford Ave to Inglewood Ave (Option 2)
By: RS Stantec
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.3	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 7,500.00
REMOVALS				
		SUBTOTAL		\$ 7,500.00
		Contingency	20%	\$ 1,500.00
		Total PE	20%	\$ 1,500.00
		Construction Engineering	20%	\$ 1,500.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	12,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: HAWTHORNE/LENOX STATION
Location: #3 LENOX BLVD from Inglewood Ave to Burin Ave
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.5	Mi	Class II Bike Lane (Striping and Signs)	\$ 40,000.00	\$ 20,000.00
REMOVALS				
		SUBTOTAL		\$ 20,000.00
		Contingency	20%	\$ 4,000.00
		Total PE	20%	\$ 4,000.00
		Construction Engineering	20%	\$ 4,000.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	32,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: HAWTHORNE/LENOX STATION
Location: #4 LENNOX BLVD from Burin Ave to Prairie Ave
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.6	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 99,000.00
1	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
6000	LF	Striping Removal	\$ 1.00	\$ 6,000.00
		SUBTOTAL		\$ 125,000.00
		Contingency	20%	\$ 25,000.00
		Total PE	20%	\$ 25,000.00
		Construction Engineering	20%	\$ 25,000.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	200,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: HAWTHORNE/LENOX STATION
Location: #5 111TH ST from Buford Ave to Prairie Ave
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.6	Mi	Class III - Bike Route (Signing and Sharrows)	\$ 25,000.00	\$ 15,000.00
REMOVALS				
		SUBTOTAL		\$ 15,000.00
		Contingency	20%	\$ 3,000.00
		Total PE	20%	\$ 3,000.00
		Construction Engineering	20%	\$ 3,000.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	24,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: HAWTHORNE/LENOX STATION
Location: #6 I-105 R/W from Lennox Middle School to Freeman Ave
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
6300	LF	Roadway Striping	\$ 8.00	\$ 50,400.00
84000	SF	AC Pavement	\$ 15.00	\$ 1,260,000.00
REMOVALS				
		SUBTOTAL		\$ 1,310,400.00
		Contingency	100%	\$ 1,310,400.00
		Total PE	20%	\$ 262,080.00
		Construction Engineering	20%	\$ 262,080.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 3,144,960.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: HAWTHORNE/LENOX STATION
Location: #7 BUFORD AVENUE from 104th St to 111th St
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1.2	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 30,000.00
REMOVALS				
		SUBTOTAL		\$ 30,000.00
		Contingency	20%	\$ 6,000.00
		Total PE	20%	\$ 6,000.00
		Construction Engineering	20%	\$ 6,000.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	48,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: HAWTHORNE/LENNOX STATION
Location: #8 INGLEWOOD AVENUE from Century Blvd St to Imperial Hwy
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 25,000.00
REMOVALS				
		SUBTOTAL		\$ 25,000.00
		Contingency	20%	\$ 5,000.00
		Total PE	20%	\$ 5,000.00
		Construction Engineering	20%	\$ 5,000.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	40,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: HAWTHORNE/LENOX STATION
Location: #9 HAWTHORNE BLVD from 104th St to Lennox Blvd
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
21120	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 31,680.00
1	LS	Roadway Striping	\$ 35.00	\$ 35.00
1	LS	Traffic Signal Modification	\$ 100,000.00	\$ 100,000.00
REMOVALS				
1	LS	Striping removal	\$ 15,000.00	\$ 15,000.00
		SUBTOTAL		\$ 131,715.00
		Contingency	20%	\$ 26,343.00
		Total PE	20%	\$ 26,343.00
		Construction Engineering	20%	\$ 26,343.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 210,744.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: HAWTHORNE/LENNOX STATION
Location: #10 HAWTHORNE BLVD from Lennox Blvd to City Limit
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.25	Mi	Class II Bike Lane (Striping and Signs)	\$ 40,000.00	\$ 10,000.00
0.25	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 41,250.00
21920	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 32,880.00
600	LF	PCC 6" Curb over CMB	\$ 22.00	\$ 13,200.00
3000	SF	PCC Sidewalk	\$ 12.00	\$ 36,000.00
2	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 40,000.00
REMOVALS				
3000	SF	Curb removal	\$ 5.00	\$ 15,000.00
		SUBTOTAL		\$ 188,330.00
		Contingency	20%	\$ 37,666.00
		Total PE	20%	\$ 37,666.00
		Construction Engineering	20%	\$ 37,666.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 301,328.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: HAWTHORNE/LENOX STATION
Location: #11 FREEMAN AVE from 104th St to 111th St
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.5	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 12,500.00
REMOVALS				
	LF	Striping Removal	\$ 6.00	\$ -
	CY	AC Pavement Removal	\$ 104.00	\$ -
		SUBTOTAL		\$ 12,500.00
		Contingency	20%	\$ 2,500.00
		Total PE	20%	\$ 2,500.00
		Construction Engineering	20%	\$ 2,500.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	20,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	HAWTHORNE-LENNOX STATION
Location: #1	104TH ST AND HAWTHORNE BLVD
By: RS	Approved by:
Date:	11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1400	LF	Roadway Striping	\$ 8.00	\$ 11,200.00
546	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 12,012.00
3100	SF	PCC Sidewalk	\$ 12.00	\$ 37,200.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification (Loop Restoration, etc.)	\$ 80,000.00	\$ 80,000.00
REMOVALS				
1400	LF	Striping Removal	\$ 6.00	\$ 8,400.00
		SUBTOTAL		\$ 171,212.00
		Contingency	20%	\$ 34,242.40
		Total PE	20%	\$ 34,242.40
		Construction Engineering	20%	\$ 34,242.40
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 273,939.20

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: HAWTHORNE-LENNOX STATION
Location: #2 LENNOX BLVD AND HAWTHORNE BLVD
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
500	LF	Roadway Striping	\$ 8.00	\$ 4,000.00
602	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 13,244.00
3608	SF	PCC Sidewalk	\$ 12.00	\$ 43,296.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification (Loop Restoration, etc.)	\$ 50,000.00	\$ 50,000.00
REMOVALS				
500	LF	Striping Removal	\$ 6.00	\$ 3,000.00
		SUBTOTAL		\$ 135,940.00
		Contingency	20%	\$ 27,188.00
		Total PE	20%	\$ 27,188.00
		Construction Engineering	20%	\$ 27,188.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 217,504.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	HAWTHORNE-LENNOX STATION
Location: #3	111TH ST AND HAWTHORNE BLVD
By: RS	Approved by:
Date:	11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
300	LF	Roadway Striping	\$ 8.00	\$ 2,400.00
833	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 18,326.00
5700	SF	PCC Sidewalk	\$ 12.00	\$ 68,400.00
5	EA	Curb Ramp	\$ 1,500.00	\$ 7,500.00
6	EA	Pedestrian countdown signals	\$ 800.00	\$ 4,800.00
6	EA	Audio ped signals	\$ 500.00	\$ 3,000.00
1	LS	Traffic Signal Modification (Loop Restoration, etc.)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
500	LF	Striping Removal	\$ 6.00	\$ 3,000.00
	CY	AC Pavement Removal	\$ 104.00	\$ -
		SUBTOTAL		\$ 127,426.00
		Contingency	20%	\$ 25,485.20
		Total PE	20%	\$ 25,485.20
		Construction Engineering	20%	\$ 25,485.20
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 203,881.60

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: HAWTHORNE-LENNOX STATION
Location: #4 I-105 WB OFF RAMP AND HAWTHORNE BLVD
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
300	LF	Roadway Striping	\$ 8.00	\$ 2,400.00
380	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 8,360.00
5415	SF	PCC Sidewalk	\$ 12.00	\$ 64,980.00
2	EA	Pedestrian countdown signals	\$ 800.00	\$ 1,600.00
2	EA	Audio ped signals	\$ 500.00	\$ 1,000.00
1	LS	Traffic Signal Modification (Loop Restoration, etc.)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
300	LF	Striping Removal	\$ 6.00	\$ 1,800.00
		SUBTOTAL		\$ 100,140.00
		Contingency	20%	\$ 20,028.00
		Total PE	20%	\$ 20,028.00
		Construction Engineering	20%	\$ 20,028.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 160,224.00

Appendix D

Imperial-Wilmington Rosa Parks Station



Bikeways and Linear Concepts

STATION ACCESS ROAD	
FROM:	Imperial Hwy.
TO:	Blue Line platform
EXISTING	PROPOSED
<ul style="list-style-type: none"> • Signs direct motorists to the right and buses to the left from access road • Platform is on the left of the access road 	<ul style="list-style-type: none"> • Add signage and sharrows directing bicyclists to the platform

NORTH / SOUTH SIDEWALK, WEST SIDE OF STATION	
FROM:	Imperial Hwy.
TO:	South Station boundary
EXISTING	PROPOSED
<ul style="list-style-type: none"> • Sidewalk under I-105 adjacent to concrete structures 	<ul style="list-style-type: none"> • Widen sidewalk, add lighting and trash cans

120TH STREET / 119TH STREET	
FROM:	West boundary of County unincorporated area
TO:	Success Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes with on-street parking • 55' wide 	<ul style="list-style-type: none"> • Road diet to 2 lanes, 9' center turn lane, and on-street parking • Add 6' bike lanes
FROM:	Success Ave.
TO:	Wilmington Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes with on-street parking • 64' wide • 24-hour traffic volume west of Wilmington Ave. in February 2012: 11,000 	<ul style="list-style-type: none"> • Road diet to 2 lanes, center turn lane, and on-street parking • Add 6' bike lanes with 2' buffer
FROM:	Wilmington Ave.
TO:	Willowbrook Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 119th St. has two lanes, center turn lane, and on-street parking • 54' wide 	<ul style="list-style-type: none"> • Remove center turn lane and add wide buffered bike lanes
FROM:	Willowbrook Ave.
TO:	Mona Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 119th St. has two lanes and on-street parking • 41' wide • 24-hour traffic volume west of Mona Blvd. in August 2011: 3,600 	<ul style="list-style-type: none"> • Add bike route with sharrows and wayfinding signs

124TH STREET	
FROM:	Slater Ave.
TO:	Alameda St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> 2 lanes with on-street parking 	<ul style="list-style-type: none"> Add bike route with sharrows and wayfinding signs

EL SEGUNDO BOULEVARD	
FROM:	Wilmington Ave.
TO:	Willowbrook Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> 4 lanes, median / center turn lane, and on-street parking 33' on either side of the median Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> Add 6' colored bike lanes
FROM:	Willowbrook Ave.
TO:	Alameda St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> 4 lanes, center turn lane, and on-street parking 84' wide Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> Add 6' colored bike lanes with 2' buffer

COMPTON CREEK	
FROM:	Imperial Hwy.
TO:	Southern county boundary just north of El Segundo Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> Existing alignment on east bank is wide enough to accommodate a bike path Grade-separated crossings at 120th St., 118th St., I-105, and Imperial Hwy. 	<ul style="list-style-type: none"> Add bicycle path on the east bank Add crossing treatment at El Segundo Blvd. Will require coordination with City of Compton and County Flood Control District

SUCCESS AVENUE / SLATER AVENUE	
FROM:	Imperial Hwy.
TO:	Southern county boundary just north of El Segundo Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking • Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add sharrows and wayfinding signs

COMPTON AVENUE	
FROM:	Imperial Hwy.
TO:	Southern county boundary just north of El Segundo Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes with on-street parking • 60-64' wide • 24-hour traffic volume south of Imperial Hwy. in December 2006: 10,200 	<ul style="list-style-type: none"> • Road diet to 2 lanes, center turn lane, and on-street parking • Add wide buffered bike lanes

WILMINGTON AVENUE	
FROM:	Imperial Hwy.
TO:	119th St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 5-6 lanes, center turn lane, and turn lanes for freeway access in both directions • 24-hour traffic volume south of Imperial Hwy. in January 2007: 30,300 	<ul style="list-style-type: none"> • Remove 3rd northbound lane between 120th St. and the I-105 ramps that are on the west side of the street • Remove one southbound right turn lane at I-105 E on-ramp • Add bike lanes • Add conflict treatment to clarify the right-of-way for northbound through cyclists at I-105 • Add bicycle access with contraflow lane on internal exit road at south end of station • Add wayfinding signage to station
FROM:	119th St.
TO:	El Segundo Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes, median / center turn lane, and on-street parking • 79' wide, or 33' on each side of the median • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lanes • Add buffers where median is narrow or there is no median

SOUTH WILLOWBROOK AVENUE	
FROM:	South Station boundary
TO:	119th St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • One-way southbound, 2 lanes • Proposed bike path in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add bike lanes • Northbound bike lane is a contraflow lane • Option: cycle tracks on the west side of the street • Add advanced yield markings and bicycle crossing immediately south of bus bay • Truncate island that demarcates bus bay and direct northbound bicyclists to the west of this island • Add sidewalk on the west side
FROM:	119th St.
TO:	Oris St. (south county boundary)
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes and on-street parking • Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add bike route with sharrows and wayfinding signs

WILLOWBROOK AVENUE	
FROM:	South Station boundary
TO:	119th St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking on the east side only • Sidewalk with parkway on the east side only 	<ul style="list-style-type: none"> • Widen sidewalk 6' on east side • Sidewalk widening on the east side will be more costly than adding sidewalk to the west side, but produces a wider sidewalk and connects to existing sidewalk at the station

MONA BOULEVARD	
FROM:	Imperial Hwy.
TO:	120th St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes and center turn lane • 64' wide • No traffic volume data available 	<ul style="list-style-type: none"> • Road diet to 2 lanes, center turn lane, and on-street parking • Add wide buffered bike lanes
FROM:	120th St.
TO:	124th St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes and on-street parking • 68' wide • No traffic volume data available 	<ul style="list-style-type: none"> • Road diet to 2 lanes, center turn lane, and on-street parking • Add wide buffered bike lanes
FROM:	124th St.
TO:	El Segundo Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes and on-street parking 	<ul style="list-style-type: none"> • Add bike route with sharrows and wayfinding signs

Bike Parking

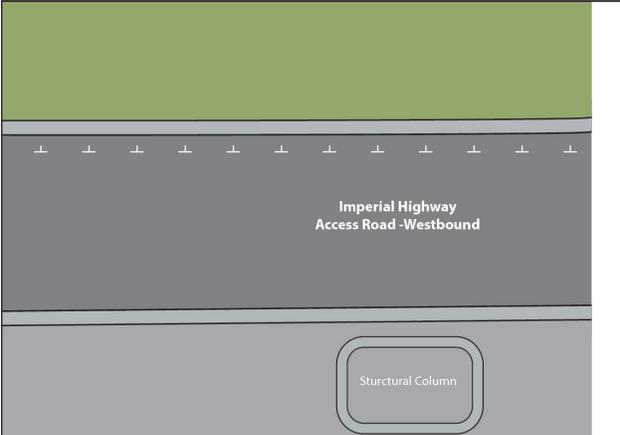
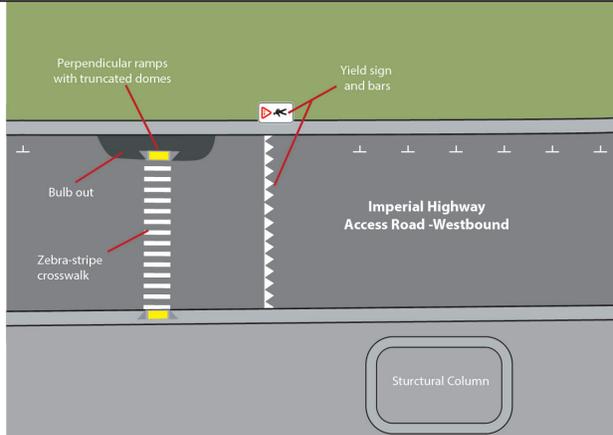
Currently, there are bike parking racks and lockers at the station. We observed high utilization of the existing racks located near the platform and across from the area where police cars park. A second set of racks located further from the platform, near the elevators, was completely empty. We recommend adding bicycle racks and lockers to the station following the Guidelines for Bicycle Parking. Additionally, bicycle runnels are especially important at this station because of the high volume of transfers taking place.

Intersection Improvements

1) IMPERIAL HIGHWAY EASTBOUND ACCESS ROAD AND WILMINGTON AVENUE	
EXISTING	PROPOSED
<ul style="list-style-type: none"> Imperial Hwy. access road is one-way eastbound, with a through lane, a left-turn lane, a right turn lane, and a wide median between these eastbound lanes and another westbound access road Wilmington Ave. has 4 lanes, center turn lane, and on-street parking north of Imperial Hwy. Signalized intersection with protected left-turns from Wilmington Ave. No pedestrian crossing of Wilmington Ave. from north side of the access road — this is functionally the middle of an intersection Existing perpendicular ramps on the southwest and southeast corners 	<ul style="list-style-type: none"> Add zebra-stripe crosswalks to all crossings (3) Add pedestrian countdown signals to all crossings (6) Add audio signals to all crossings (6) Add passive pedestrian detection to all crossings (6) Add advanced stop bars to all approaches (2) Add bulb-outs on all corners to cross Imperial Hwy. access road Because access road is one-way, bulb-outs on the north side can be large Coordinate with City of Los Angeles



2) IMPERIAL HIGHWAY WESTBOUND ACCESS ROAD, MIDBLOCK

EXISTING	PROPOSED
<ul style="list-style-type: none"> Imperial Hwy. access road is one-way westbound with on-street parking on the north side Pedestrians accessing the station from points northeast must come this way 	<ul style="list-style-type: none"> Add zebra-stripe crosswalk west of concrete column that elevates Imperial Hwy., so that motorists' sightlines on crossing pedestrians are clear Add advanced yield markings (1) Add advanced yield sign (1) Add pedestrian crossing sign (1) Add advance pedestrian warning sign (1) Add bulb-out on the north side of the access road (1) Add curb ramp to median (1) Remove no crossing sign located south of median Will require coordination with City of Los Angeles
 <p>Imperial Highway Access Road -Westbound</p> <p>Structural Column</p>	 <p>Perpendicular ramps with truncated domes</p> <p>Yield sign and bars</p> <p>Bulb out</p> <p>Zebra-stripe crosswalk</p> <p>Imperial Highway Access Road -Westbound</p> <p>Structural Column</p>

3) PRIVATE ACCESS ROAD AND SOUTH SIDE OF STATION

EXISTING	PROPOSED
<ul style="list-style-type: none"> Private property with access road and stores directly abuts south side of station Existing access gate between station and shopping center is locked 	<ul style="list-style-type: none"> Open access gate Add zebra-stripe crosswalk to cross internal station exit road on south side of station and to connect to the shopping center (1) Add stop sign (1) Add advanced stop bar (1)
<p>The diagram shows a grey road labeled 'Station Exit Road' with a left-pointing arrow. Below it is a green oval representing a building. A 'Private Access Road' runs horizontally, separated from the station exit road by a chain-link fence and a closed gate. A 'STOP' sign is located on the left side of the Private Access Road. The area below the road is brown, representing buildings.</p>	<p>The diagram shows the same layout as the existing conditions but with several changes. The gate is now open. A 'Zebra-stripe crosswalk' is added, crossing the Station Exit Road and connecting to the Private Access Road. An 'Advanced stop-bar' is added to the Station Exit Road. A 'STOP' sign is added to the Station Exit Road. The 'Private Access Road' still has its 'STOP' sign. The area below the road is brown, representing buildings.</p>

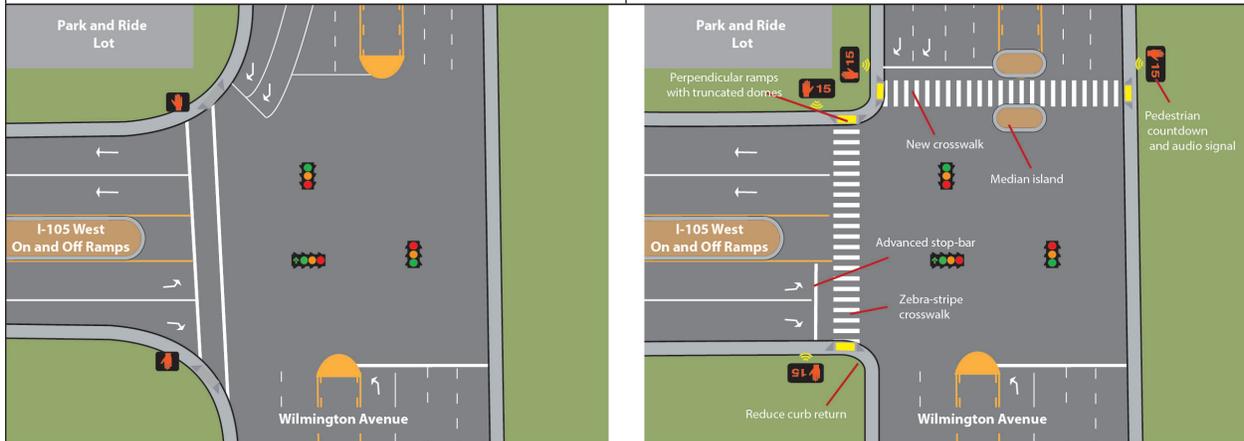
4) PRIVATE ACCESS ROAD, STATION EXIT ROAD, AND WILMINGTON AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> Private access road has 2 lanes Wilmington Ave. has 5-6 lanes Stop-controlled T-intersection for private access road/station exit road 	<ul style="list-style-type: none"> Add zebra-stripe crosswalk to cross private access road and station exit road (2) Conduct warrant study and add stop sign to station exit road (1) Add advanced stop bar to station exit road (1)



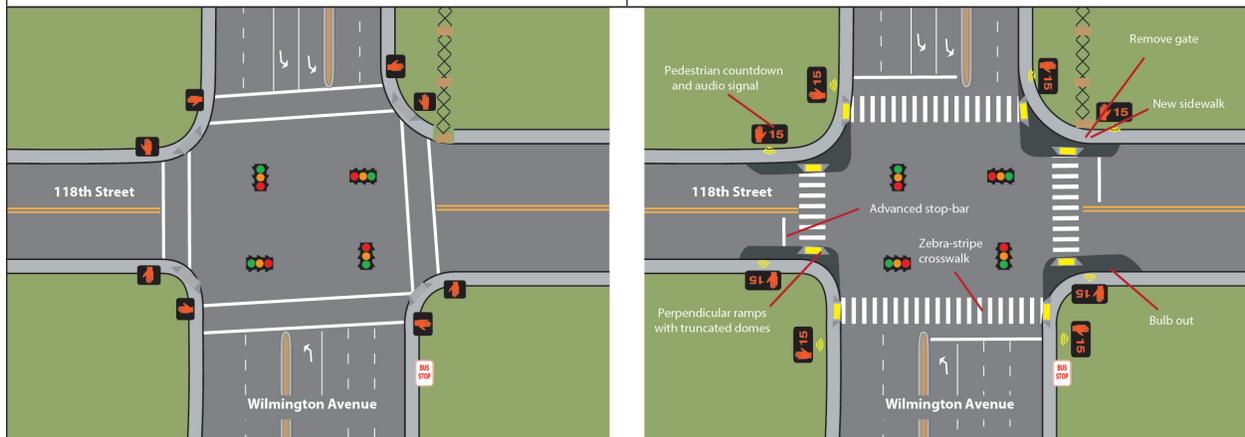
5) I-105 WEST ON- AND OFF-RAMPS AND WILMINGTON AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> I-105 west on-ramp has 2 lanes, and I-105 off-ramp has one right turn lane and one left-turn lane Wilmington Ave. has 4-5 lanes, 2 southbound right turn lanes, center turn lane, and median Signalized T-intersection with protected left turns northbound from Wilmington Pedestrian crossing of north and south legs prohibited Park and ride lot for station patrons on northwest corner 	<ul style="list-style-type: none"> Open pedestrian crossing of north leg (1) Add zebra-stripe crosswalks to all crossings (2) Add pedestrian countdown signals to all crossings (4) Add audio signals to all crossings (4) Add advanced stop bars to all crossings (2) Add crossing islands to the north leg (1) Reduce curb return and make intersection geometry more square on northeast and southeast corners (2) With addition of north leg crosswalk, create protected left-turn phase for left turns from I-105, so that these left turns do not conflict with the walk phase for crossing pedestrians



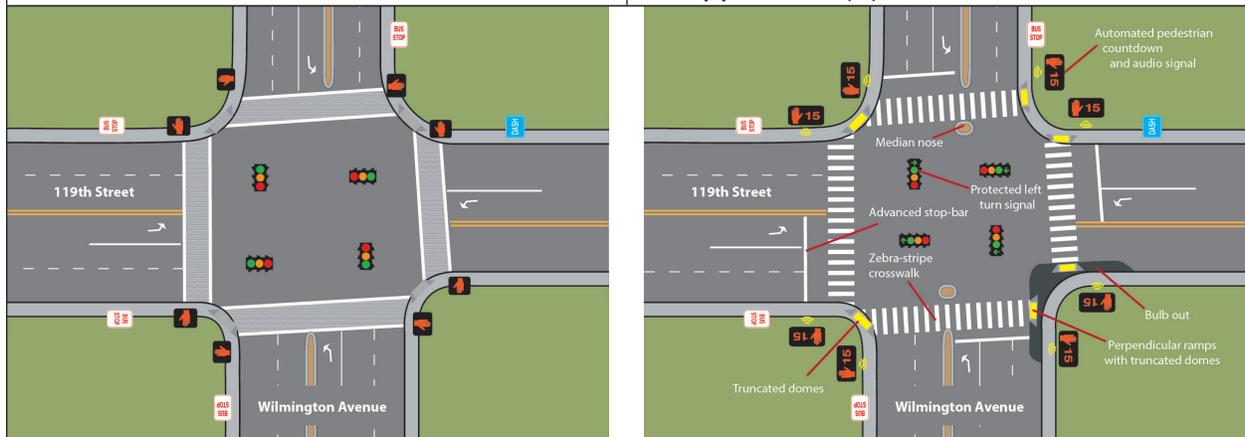
6) 118TH STREET AND WILMINGTON AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • 118th St. has 2 lanes, and is private access road east of Wilmington Ave. • Wilmington Ave. has 5 lanes and center turn lane • Signalized intersection • Bus stop on Wilmington Ave. (northbound, near side) 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add pedestrian countdown signals to all crossings (8) • Add audio signals to all crossings (8) • Add advanced stop bars to all crossings (4) • Add bulb-outs on all corners to cross 118th St. (4) • Create sidewalk connection from northeast corner to existing sidewalk on private development by paving new sidewalk and removing gate • Bulb-outs on the east leg and sidewalk connection will require coordination with landowner



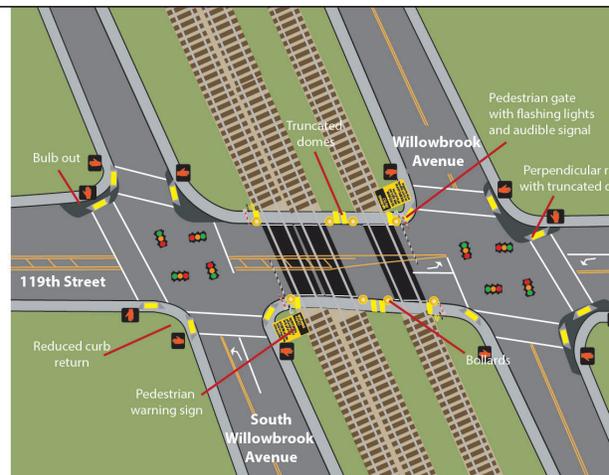
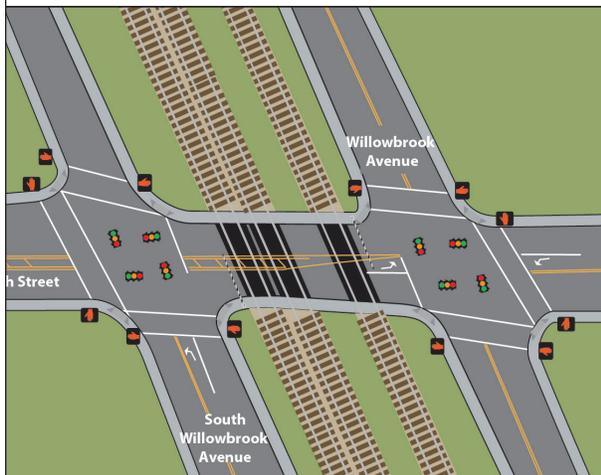
7) 119TH STREET AND WILMINGTON AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • 119th St. has 2 lanes, center turn lane, and on-street parking • Wilmington Ave. has 4 lanes, center turn lane, and on-street parking • Signalized intersection • Four lateral line crosswalks with brick texture • Bus stops on 119th St. (eastbound, near side; westbound, far side) and Wilmington Ave. (northbound and southbound, far sides) • DASH stop on 119th St. (westbound, near side) 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add pedestrian countdown signals to all crossings (8) • Add audio signals to all crossings (8) • Add advanced stop bars to all crossings (4) • Add passive pedestrian detection to all crossings (8) • Add bulb-outs on both faces of the southeast corner (2) • Reduce curb return on the northeast corner (1) • Add median noses on Wilmington Ave. (2) • Add protected left-turns from all approaches (4)



8) 119TH STREET AND WILLOWBROOK AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • 119th St. has 2 lanes, painted median / center turn lane, and on-street parking • Willowbrook Ave. W. is one-way southbound north of 119th St., and has 2 lanes and on-street parking south of 119th St. • Three railroad tracks run between Willowbrook Ave. W. and Willowbrook Ave. E. • Willowbrook Ave. E has 2 lanes and on-street parking 	<ul style="list-style-type: none"> • Add protected left turn phase to Willowbrook Ave. • Add edge lines across tracks on both sidewalks (2) • Add pedestrian gate arms to all approaches (4) • Add bollards or curbs to segregate vehicle traffic from sidewalk on both sides • Add truncated domes on all approaches to all tracks • Add bulb-outs to cross 119th St. on the northwest corner with South Willowbrook Ave. and on the northeast and southeast corners with Willowbrook Ave. (3) • Add bulb-out on the northeast corner to cross South Willowbrook Ave. (1) • Add bulb-outs on the northeast and southeast corners to cross Willowbrook Ave. (2) • Reduce curb return on the southwest corner of South Willowbrook Ave. and 119th St. (1) • Add warning signs or poles to alert pedestrians to the paths of the vehicular gate arms (2)



9) 120TH STREET AND WILMINGTON AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • 120th St. has 2 lanes, median / center turn lane west of Wilmington Ave., and on-street parking east of Wilmington Ave. • Wilmington Ave. has 4 lanes, center turn lane, and on-street parking • Signalized intersection • Bus stops on Wilmington Ave. (northbound, far side; southbound, far side in a bus bay) • Pedestrian crossing prohibited on south leg • Three lateral line crosswalks with textured brick appearance 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (3) • Add pedestrian countdown signals to all crossings (6) • Add audio signals to all crossings (6) • Add passive pedestrian detection to all crossings (8) • Add advanced stop bars to all crossings (3) • Add bulb-outs on the northeast, southeast, and northwest corners to cross 120th St. (3) • Add median islands on the west leg (1) • Add median nose to the north leg (1) • Note: bus bulb on the northeast corner to cross Wilmington Ave. not proposed to preserve space for proposed bike lane



Los Angeles County Transit Oriented Districts Access Study

This summary page provides definitions for some of the more commonly used abbreviations in these cost estimates. It also includes some notes on the variances for contingencies for each improvement.

Abbreviation/Term Used	Definition/Explanation
AC	Asphalt Concrete
CMB	Center Median Barrier
EA	Each (cost per item)
LF	Linear Foot
LS	Lump Sum (amount per improvement)
MI	Mile
PCC	Portland Cement Concrete
PE	Preliminary Engineering
SF	Square Feet
Contingency	The amount added to a cost estimate that covers unexpected expenses. This estimate typically stands at 20%, but the contingency tends to increase when the recommended improvements are not standard. Because these improvements tend to be more complex, the cost estimates build in an extra contingency to cover unforeseen expenses.

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:

IMPERIAL-WILLOWBROOK ROSA PARKS STATION

By: RS

Approved by:

Date:

11/16/2012

		Location	Cost
Bikeways and Linear Concepts			
	1	STATION ACCESS RD from Imperial Hwy to Blue Line Platform	\$ 19,200.00
	2	NORTH/SOUTH SIDEWALK, west side of Station	\$ 147,200.00
	3	120TH/119TH ST from County boundary to Success Ave	\$ 93,792.00
	4	120TH/119TH ST from Success Ave to Wilmington Ave	\$ 243,280.00
	5	120TH/119TH ST from Wilmington Ave to Willowbrook Ave	\$ 37,440.00
	6	120TH/119TH ST from Willowbrook Ave to Mona Blvd	\$ 14,400.00
	7	124TH ST from Slater Ave to Alameda St	\$ 60,000.00
	8	EL SEGUNDO BLVD from Wilmington Ave to Willowbrook Ave	\$ 208,000.00
	9	EL SEGUNDO BLVD from Willowbrook Ave to Alameda St	\$ 264,000.00
	10	COMPTON CREEK from Imperial Hwy to El Segundo Blvd	\$ 2,419,200.00
	11	SUCCESS AVE/SLATER AVE from Imperial Hwy to El Segundo Blvd	\$ 37,600.00
	12	COMPTON AVE from Imperial Hwy to El Segundo Blvd	\$ 301,680.00
	13	WILMINGTON AVE from Imperial Hwy to 119th St	\$ 63,680.00
	14	WILMINGTON AVE from 119th St to El Segundo Blvd	\$ 83,200.00
	15	S WILLOWBROOK AVE from Station south boundary to 119th St (Option 2 = \$273,856)	\$ 223,040.00
	16	S WILLOWBROOK AVE from 119th St to Oris St	\$ 50,000.00
	17	WILLOWBROOK AVE from Station south boundary to 119th St	\$ 144,000.00
	18	MONA BLVD from Imperial Hwy to 120th St	\$ 135,376.00
	19	MONA BLVD from 120th St to 124th St	\$ 82,640.00
	20	MONA BLVD from 124th St to El Segundo Blvd	\$ 10,000.00
Intersection Improvements			
	1	IMPERIAL HWY EB ACCESS RD and WILMINGTON AVE	\$ 174,940.00
	2	IMPERIAL HWY WB ACCESS RD, Midblock	\$ 41,600.00
	3	PRIVATE ACCESS RD and SOUTH SIDE OF STATION	\$ 20,800.00
	4	STATION EXIT RD and WILMINGTON AVE	\$ 16,800.00
	5	I-105 WB RAMPS and WILMINGTON AVE	\$ 159,725.00
	6	118TH ST and WILMINGTON AVE	\$ 186,560.00
	7	119TH ST and WILMINGTON AVE	\$ 194,752.00
	8	119TH ST and WILLOWBROOK AVE	\$ 579,968.00
	9	120TH ST and WILMINGTON AVE	\$ 148,992.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$ 4,891,868.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #1 STATION ACCESS RD from Imperial Hwy to Blue Line Platform
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	LS	Class III - Bike Routes (Signing and Sharrows)	\$ 12,000.00	\$ 12,000.00
REMOVALS				
		SUBTOTAL		\$ 12,000.00
		Contingency	20%	\$ 2,400.00
		Total PE	20%	\$ 2,400.00
		Construction Engineering	20%	\$ 2,400.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	19,200.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: **IMPERIAL-WILLOWBROOK ROSA PARKS STATION**
 Location: #2 **NORTH/SOUTH SIDEWALK, west side of Station**
 By: RS **Approved by:**
 Date: **11/14/2012**

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	LS	Lighting and Trash Cans	\$ 20,000.00	\$ 20,000.00
6000	SF	PCC Sidewalk	\$ 12.00	\$ 72,000.00
REMOVALS				
		SUBTOTAL		\$ 92,000.00
		Contingency	20%	\$ 18,400.00
		Total PE	20%	\$ 18,400.00
		Construction Engineering	20%	\$ 18,400.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 147,200.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #3 120TH ST/119TH ST from County boundary to Success Ave
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.3	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 49,500.00
REMOVALS				
1520	LF	Striping Removal	\$ 6.00	\$ 9,120.00
		SUBTOTAL		\$ 58,620.00
		Contingency	20%	\$ 11,724.00
		Total PE	20%	\$ 11,724.00
		Construction Engineering	20%	\$ 11,724.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 93,792.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #4 120TH ST/119TH ST from Success Ave to Wilmington Ave
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.65	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 107,250.00
3200	LF	Roadway Striping	\$ 8.00	\$ 25,600.00
REMOVALS				
3200	LF	Striping Removal	\$ 6.00	\$ 19,200.00
		SUBTOTAL		\$ 152,050.00
		Contingency	20%	\$ 30,410.00
		Total PE	20%	\$ 30,410.00
		Construction Engineering	20%	\$ 30,410.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 243,280.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #5 120TH ST/119TH ST from Wilmington Ave to Willowbrook Ave
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.2	Mi	Class II Bike Lane (Striping and Signs)	\$ 40,000.00	\$ 8,000.00
1100	LF	Roadway Striping	\$ 8.00	\$ 8,800.00
REMOVALS				
1100	LF	Striping Removal	\$ 6.00	\$ 6,600.00
		SUBTOTAL		\$ 23,400.00
		Contingency	20%	\$ 4,680.00
		Total PE	20%	\$ 4,680.00
		Construction Engineering	20%	\$ 4,680.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 37,440.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #6 120TH ST/119TH ST from Willowbrook Ave to Mona Blvd
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.36	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 9,000.00
REMOVALS				
		SUBTOTAL		\$ 9,000.00
		Contingency	20%	\$ 1,800.00
		Total PE	20%	\$ 1,800.00
		Construction Engineering	20%	\$ 1,800.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	14,400.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: **IMPERIAL-WILLOWBROOK ROSA PARKS STATION**
 Location: #7 **124TH ST from Slater Ave to Alameda St**
 By: RS **Approved by:**
 Date: **11/14/2012**

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1.5	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 37,500.00
REMOVALS				
		SUBTOTAL		\$ 37,500.00
		Contingency	20%	\$ 7,500.00
		Total PE	20%	\$ 7,500.00
		Construction Engineering	20%	\$ 7,500.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 60,000.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #8 EL SEGUNDO BLVD from Wilmington Ave to Willowbrook Ave
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.44	Mi	Roadway Striping	\$ 170,000.00	\$ 74,800.00
36800	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 55,200.00
REMOVALS				
		SUBTOTAL		\$ 130,000.00
		Contingency	20%	\$ 26,000.00
		Total PE	20%	\$ 26,000.00
		Construction Engineering	20%	\$ 26,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 208,000.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: **IMPERIAL-WILLOWBROOK ROSA PARKS STATION**
 Location: #9 **EL SEGUNDO BLVD from Willowbrook Ave to Alameda St**
 By: RS **Approved by:**
 Date: **11/14/2012**

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.5	Mi	Roadway Striping	\$ 170,000.00	\$ 85,000.00
0.5	Mi	Class II Bike Lane (Striping and Signs)	\$ 40,000.00	\$ 20,000.00
40000	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 60,000.00
REMOVALS				
		SUBTOTAL		\$ 165,000.00
		Contingency	20%	\$ 33,000.00
		Total PE	20%	\$ 33,000.00
		Construction Engineering	20%	\$ 33,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 264,000.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #10 COMPTON CREEK from Imperial Hwy to El Segundo Blvd
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	LS	Crossing treatment at El Segundo Blvd	\$ 12,000.00	\$ 12,000.00
100000	SF	AC Pavement/Base	\$ 15.00	\$ 1,500,000.00
REMOVALS				
		SUBTOTAL		\$ 1,512,000.00
		Contingency	20%	\$ 302,400.00
		Total PE	20%	\$ 302,400.00
		Construction Engineering	20%	\$ 302,400.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 2,419,200.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #11 SUCCESS AVE/SLATER AVE from Imperial Hwy to El Segundo Blvd
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.94	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 23,500.00
REMOVALS				
		SUBTOTAL		\$ 23,500.00
		Contingency	20%	\$ 4,700.00
		Total PE	20%	\$ 4,700.00
		Construction Engineering	20%	\$ 4,700.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	37,600.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #12 COMPTON AVE from Imperial Hwy to El Segundo Blvd
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.91	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 150,150.00
4800	LF	Roadway Striping	\$ 8.00	\$ 38,400.00
REMOVALS				
		SUBTOTAL		\$ 188,550.00
		Contingency	20%	\$ 37,710.00
		Total PE	20%	\$ 37,710.00
		Construction Engineering	20%	\$ 37,710.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 301,680.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
 Location: #13 WILMINGTON AVE from Imperial Hwy to 119th St
 By: RS Approved by:
 Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.35	Mi	Class II Bike Lane (Striping and Signs)	\$ 40,000.00	\$ 14,000.00
1	LS	Wayfinding signage	\$ 3,000.00	\$ 3,000.00
1	LS	Crossing treatment and contraflow bike lane	\$ 12,000.00	\$ 12,000.00
REMOVALS				
1800	LF	Striping Removal	\$ 6.00	\$ 10,800.00
		SUBTOTAL		\$ 39,800.00
		Contingency	20%	\$ 7,960.00
		Total PE	20%	\$ 7,960.00
		Construction Engineering	20%	\$ 7,960.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 63,680.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
 Location: #14 WILMINGTON AVE from 119th St to El Segundo Blvd
 By: RS Approved by:
 Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
2000	LF	Roadway Striping	\$ 8.00	\$ 16,000.00
24000	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 36,000.00
REMOVALS				
		SUBTOTAL		\$ 52,000.00
		Contingency	20%	\$ 10,400.00
		Total PE	20%	\$ 10,400.00
		Construction Engineering	20%	\$ 10,400.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 83,200.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #15 S WILLOWBROOK AVE from S Station boundary to 119th St (Option 1)
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.25	Mi	Class II Bike Lane (Striping and Signs)	\$ 40,000.00	\$ 10,000.00
1	LS	Bus bay island modification	\$ 7,000.00	\$ 7,000.00
300	LF	Roadway Striping	\$ 8.00	\$ 2,400.00
10000	SF	PCC Sidewalk	\$ 12.00	\$ 120,000.00
REMOVALS				
		SUBTOTAL		\$ 139,400.00
		Contingency	20%	\$ 27,880.00
		Total PE	20%	\$ 27,880.00
		Construction Engineering	20%	\$ 27,880.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 223,040.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #15 S WILLOWBROOK AVE from S Station boundary to 119th St (Option 2)
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.25	Mi	Class II Bike Lane (Striping and Signs)	\$ 40,000.00	\$ 10,000.00
1340	LF	Cycle track	\$ 4.00	\$ 5,360.00
1	LS	Bus bay island modification	\$ 7,000.00	\$ 7,000.00
300	LF	Roadway Striping	\$ 8.00	\$ 2,400.00
10000	SF	PCC Sidewalk	\$ 12.00	\$ 120,000.00
REMOVALS				
5280	SF	AC Pavement	\$ 5.00	\$ 26,400.00
		SUBTOTAL		\$ 171,160.00
		Contingency	20%	\$ 34,232.00
		Total PE	20%	\$ 34,232.00
		Construction Engineering	20%	\$ 34,232.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	273,856.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #16 S WILLOWBROOK AVE from 119th St to Oris St
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1.25	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 31,250.00
REMOVALS				
		SUBTOTAL		\$ 31,250.00
		Contingency	20%	\$ 6,250.00
		Total PE	20%	\$ 6,250.00
		Construction Engineering	20%	\$ 6,250.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	50,000.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #17 WILLOWBROOK AVE from S Station boundary to 119th St
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
7500	SF	PCC Sidewalk	\$ 12.00	\$ 90,000.00
REMOVALS				
7500	SF	AC Pavement	\$ 5.00	\$ 37,500.00
		SUBTOTAL		\$ 90,000.00
		Contingency	20%	\$ 18,000.00
		Total PE	20%	\$ 18,000.00
		Construction Engineering	20%	\$ 18,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 144,000.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #18 MONA BLVD from Imperial Hwy to 120th St
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.41	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 67,650.00
2120	LF	Roadway Striping	\$ 8.00	\$ 16,960.00
REMOVALS				
		SUBTOTAL		\$ 84,610.00
		Contingency	20%	\$ 16,922.00
		Total PE	20%	\$ 16,922.00
		Construction Engineering	20%	\$ 16,922.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 135,376.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #19 MONA BLVD from 120th St to 124th St
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.25	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 41,250.00
1300	LF	Roadway Striping	\$ 8.00	\$ 10,400.00
REMOVALS				
		SUBTOTAL		\$ 51,650.00
		Contingency	20%	\$ 10,330.00
		Total PE	20%	\$ 10,330.00
		Construction Engineering	20%	\$ 10,330.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 82,640.00

LATOD STATION AREA IMPROVEMENTS

ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #20 MONA BLVD from 124th St to El Segundo Blvd
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.25	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 6,250.00
REMOVALS				
		SUBTOTAL		\$ 6,250.00
		Contingency	20%	\$ 1,250.00
		Total PE	20%	\$ 1,250.00
		Construction Engineering	20%	\$ 1,250.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	10,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #1 IMPERIAL HWY EB ACCESS RD and WILMINGTON AVE
Prepared by: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
200	LF	Roadway Striping	\$ 8.00	\$ 1,600.00
350	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 7,700.00
2767	SF	PCC Sidewalk	\$ 12.00	\$ 33,204.00
6	EA	Curb Ramp	\$ 1,500.00	\$ 9,000.00
1	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
1	LS	Striping Removal	\$ 5,000.00	\$ 5,000.00
3114	SF	AC Pavement Removal	\$ 5.00	\$ 15,570.00
		SUBTOTAL		\$ 92,074.00
		Contingency (Caltrans & LA)	50%	\$ 46,037.00
		Total PE	20%	\$ 18,414.80
		Construction Engineering	20%	\$ 18,414.80
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 174,940.60

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #2 IMPERIAL HWY WB ACCESS RD, MIDBLOCK
Prepared by: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	LS	Roadway Striping	\$ 6,000.00	\$ 6,000.00
100	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 2,200.00
400	SF	PCC Sidewalk	\$ 12.00	\$ 4,800.00
4	EA	Sign Installation and Removal	\$ 1,500.00	\$ 6,000.00
2	EA	Curb Ramp	\$ 1,500.00	\$ 3,000.00
REMOVALS				
1	LS	Striping Removal	\$ 2,000.00	\$ 2,000.00
400	SF	AC Pavement Removal	\$ 5.00	\$ 2,000.00
		SUBTOTAL		\$ 26,000.00
		Contingency	20%	\$ 5,200.00
		Total PE	20%	\$ 5,200.00
		Construction Engineering	20%	\$ 5,200.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 41,600.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #3 PRIVATE ACCESS RD and SOUTH SIDE OF STATION
Prepared by: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	LS	Roadway Striping	\$ 3,500.00	\$ 3,500.00
1	EA	Sign Installation	\$ 1,500.00	\$ 1,500.00
1	LS	Gate Modification	\$ 8,000.00	\$ 8,000.00
REMOVALS				
		SUBTOTAL		\$ 13,000.00
		Contingency	20%	\$ 2,600.00
		Total PE	20%	\$ 2,600.00
		Construction Engineering	20%	\$ 2,600.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 20,800.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #4 STATION EXIT RD and WILMINGTON AVE
Prepared by: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	LS	Roadway Striping	\$ 3,500.00	\$ 3,500.00
1	EA	Sign Installation and Removal	\$ 1,500.00	\$ 1,500.00
2	EA	Curb Ramp	\$ 1,500.00	\$ 3,000.00
REMOVALS				
1	LS	Striping Removal	\$ 2,500.00	\$ 2,500.00
		SUBTOTAL		\$ 10,500.00
		Contingency	20%	\$ 2,100.00
		Total PE	20%	\$ 2,100.00
		Construction Engineering	20%	\$ 2,100.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 16,800.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #5 I-105 WB RAMPS and WILMINGTON AVE
Prepared by: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1000	LF	Roadway Striping	\$ 8.00	\$ 8,000.00
3224	SF	PCC Sidewalk	\$ 12.00	\$ 38,688.00
310	LF	PCC 6" Curb over CMB	\$ 22.00	\$ 6,820.00
4	EA	Pedestrian countdown signals	\$ 800.00	\$ 3,200.00
4	EA	Audio ped signals	\$ 500.00	\$ 2,000.00
1	LS	Traffic Signal Modification	\$ 20,000.00	\$ 20,000.00
REMOVALS				
1	LS	Striping Removal	\$ 5,000.00	\$ 5,000.00
3224	SF	AC Pavement	\$ 5.00	\$ 16,120.00
		SUBTOTAL		\$ 99,828.00
		Contingency	20%	\$ 19,965.60
		Total PE	20%	\$ 19,965.60
		Construction Engineering	20%	\$ 19,965.60
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 159,724.80

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #6	118TH ST and WILMINGTON AVE
Prepared by: RS	Approved by:
Date:	11/16/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
550	LF	Roadway Striping	\$ 8.00	\$ 4,400.00
3000	SF	PCC Sidewalk	\$ 12.00	\$ 36,000.00
400	LF	PCC 6" Curb over CMB	\$ 22.00	\$ 8,800.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
1	LS	Traffic Signal Modification	\$ 30,000.00	\$ 30,000.00
REMOVALS				
1	LS	Striping Removal	\$ 5,000.00	\$ 5,000.00
2000	SF	AC Pavement	\$ 5.00	\$ 10,000.00
		SUBTOTAL		\$ 116,600.00
		Contingency	20%	\$ 23,320.00
		Total PE	20%	\$ 23,320.00
		Construction Engineering	20%	\$ 23,320.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 186,560.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #7	119TH ST and WILMINGTON AVE
Prepared by: RS	Approved by:
Date:	11/16/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
600	LF	Roadway Striping	\$ 8.00	\$ 4,800.00
1000	SF	PCC Sidewalk	\$ 12.00	\$ 12,000.00
160	LF	PCC 6" Curb over CMB	\$ 22.00	\$ 3,520.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
4	EA	Curb Ramp	\$ 1,500.00	\$ 6,000.00
1	LS	Traffic Signal Modification	\$ 75,000.00	\$ 75,000.00
REMOVALS				
1	LS	Striping Removal	\$ 5,000.00	\$ 5,000.00
1000	SF	AC Pavement	\$ 5.00	\$ 5,000.00
		SUBTOTAL		\$ 121,720.00
		Contingency	20%	\$ 24,344.00
		Total PE	20%	\$ 24,344.00
		Construction Engineering	20%	\$ 24,344.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 194,752.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #8 119TH ST and WILLOWBROOK AVE
Prepared by: RS **Approved by:**
Date: 11/16/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	LS	Roadway Striping and Signing	\$ 8,000.00	\$ 8,000.00
3400	SF	PCC Sidewalk	\$ 12.00	\$ 40,800.00
440	LF	PCC 6" Curb over CMB	\$ 22.00	\$ 9,680.00
1	LS	Pedestrian RXR gate arms	\$ 250,000.00	\$ 250,000.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
1	LS	Traffic Signal Modification	\$ 20,000.00	\$ 20,000.00
REMOVALS				
1	LS	Striping Removal	\$ 5,000.00	\$ 5,000.00
3400	SF	AC Pavement	\$ 5.00	\$ 17,000.00
		SUBTOTAL		\$ 362,480.00
		Contingency	20%	\$ 72,496.00
		Total PE	20%	\$ 72,496.00
		Construction Engineering	20%	\$ 72,496.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 579,968.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: IMPERIAL-WILLOWBROOK ROSA PARKS STATION
Location: #9 120TH ST and WILMINGTON AVE
Prepared by: RS **Approved by:**
Date: 11/16/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
800	LF	Roadway Striping and Signing	\$ 8.00	\$ 6,400.00
1800	SF	PCC Sidewalk	\$ 12.00	\$ 21,600.00
250	LF	PCC 6" Curb over CMB	\$ 22.00	\$ 5,500.00
6	EA	Pedestrian countdown signals	\$ 800.00	\$ 4,800.00
6	EA	Audio ped signals	\$ 500.00	\$ 3,000.00
5	EA	Curb Ramp	\$ 1,500.00	\$ 7,500.00
1	LS	Traffic Signal Modification	\$ 30,000.00	\$ 30,000.00
REMOVALS				
1	LS	Striping Removal	\$ 5,000.00	\$ 5,000.00
1864	SF	AC Pavement	\$ 5.00	\$ 9,320.00
		SUBTOTAL		\$ 93,120.00
		Contingency	20%	\$ 18,624.00
		Total PE	20%	\$ 18,624.00
		Construction Engineering	20%	\$ 18,624.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 148,992.00

Appendix E

Florence Blue Line Station



Bikeways and Linear Concepts

68TH STREET	
FROM:	Central Ave.
TO:	Miramonte Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking • Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add bike route with sharrows and wayfinding signs

FLORENCE AVE.	
FROM:	Central Ave.
TO:	Miramonte Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes, center turn lane, and on-street parking • 70' wide • 24-hour traffic volume west of Compton Ave. in March 2012: 27,187 • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Option 1: Add Type B sharrows • Option 2: Road diet to 2 lanes, center-turn lane, and on-street parking; add 6' colored bike lanes with 2' buffer on each side
FROM:	Miramonte Ave.
TO:	Converse Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes, center turn lane, and on-street parking on the north side only • 70' wide • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lanes in the eastbound direction only

FLORENCE AVENUE, CONT.	
FROM:	Converse Ave.
TO:	Metro Blue Line tracks
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes, median / center turn lane, and on-street parking on the north side only • 30' wide on either side of the median • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lanes
FROM:	Metro Blue Line tracks
TO:	Alameda St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes, center turn lane, and on-street parking • 70' wide • 24-hour traffic volume west of Alameda St. in January 2007: 28,569 • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Option 1: Add Type B sharrows • Option 2: Road diet to 2 lanes, center-turn lane, and on-street parking; add 6' colored bike lanes with 2' buffer on each side

76TH PLACE	
FROM:	Whitsett Ave.
TO:	Crockett Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking 	<ul style="list-style-type: none"> • Add bike route with sharrows and wayfinding signs

NADEAU STREET	
FROM:	Central Ave.
TO:	Compton Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes with on-street parking • 59' wide • 24-hour traffic volume west of Compton Ave. in March 2012: 15,400 • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Road diet to 2 lanes, center turn lane, and on-street parking • Add 6' bike lanes
FROM:	Compton Ave.
TO:	Santa Fe Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes with on-street parking • 50' wide • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add Type B sharrows

HOOPER AVENUE	
FROM:	Gage Ave.
TO:	Florence Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes and on-street parking • 44' wide • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 5' bike lanes
FROM:	Florence Ave.
TO:	76th St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes, on-street parking, and center turn lane with interspersed median islands • 89' wide • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add wide buffered bike lanes • May need to reconstruct medians

HOOPER AVENUE, CONT.	
FROM:	76th St.
TO:	Firestone Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes with on-street parking • 58'-61' wide • 24-hour traffic volume south of 82nd St. in May 2012: 1,122 • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Road diet to 2 lanes, center turn lane, and on-street parking • Add 6' bike lanes

COMPTON AVENUE	
FROM:	Slauson Ave.
TO:	Firestone Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes with on-street parking • 56' wide • 24-hour traffic volume south of Nadeau St. in May 2012: 16,000 • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Road diet to 2 lanes, center turn lane, and on-street parking • Add 6' bike lanes

MIRAMONTE BOULEVARD / MAIE AVENUE	
FROM:	Slauson Ave.
TO:	92nd St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • Miramonte Blvd. has 2 lanes, center turn lane, and on-street parking • Maie Ave. has 2 lanes and on-street parking • Existing signal at Miramonte Blvd. • Proposed bicycle boulevard in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add bicycle boulevard • Add bike signal at Maie Ave.

HOLMES AVENUE	
FROM:	Gage Ave.
TO:	Florence Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes, center turn lane, buffered bike lanes and on-street parking • 80' wide 	<ul style="list-style-type: none"> • Restripe buffered bike lane where striping is faded

WHITSETT AVENUE	
FROM:	Florence Ave.
TO:	76th Pl.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking 	<ul style="list-style-type: none"> • Add bike route with sharrows and wayfinding signs

CROCKETT BOULEVARD	
FROM:	Florence Ave.
TO:	Nadeau St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking 	<ul style="list-style-type: none"> • Add bike route with sharrows and wayfinding signs

Bike Parking

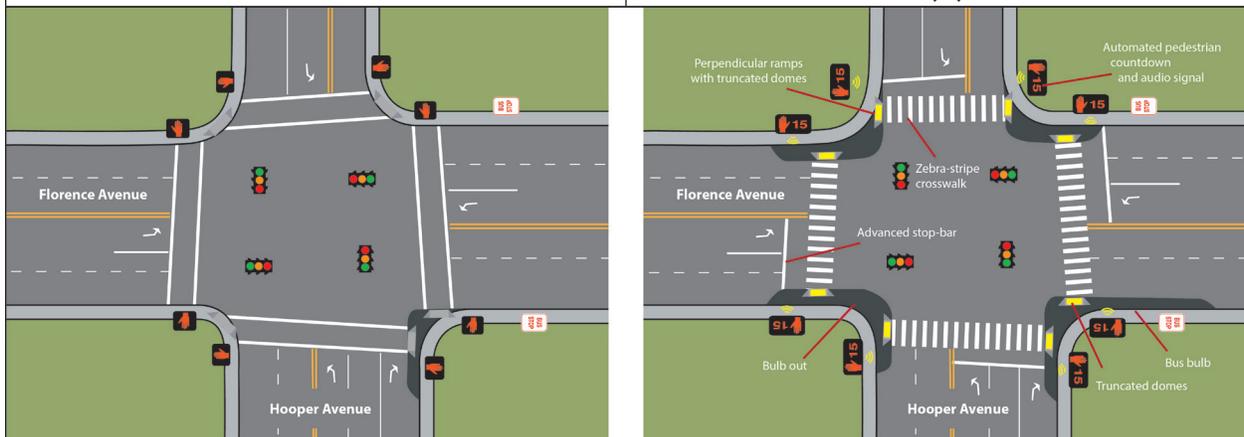
Currently, there are bike parking racks at the station, but no lockers. We did not observe high utilization of the existing racks during our field visit.

Intersection Improvements

1) 68TH STREET AND HOLMES AVENUE	
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 68th St. has 2 lanes and on-street parking • Holmes Ave. has 2 lanes, center turn lane, bike lanes, and on-street parking • Stop-controlled intersection for 68th St. • Bus stops on Holmes Ave. (northbound, near side; southbound, near side) 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add advanced stop bars to all crossings (4) • Add bulb-outs on the northwest, northeast, southeast, and southwest corners to cross 68th St., and on the southeast and southwest corners to cross Holmes Ave. (6) • Add crossing islands to the south leg to cross Holmes Ave. (1)

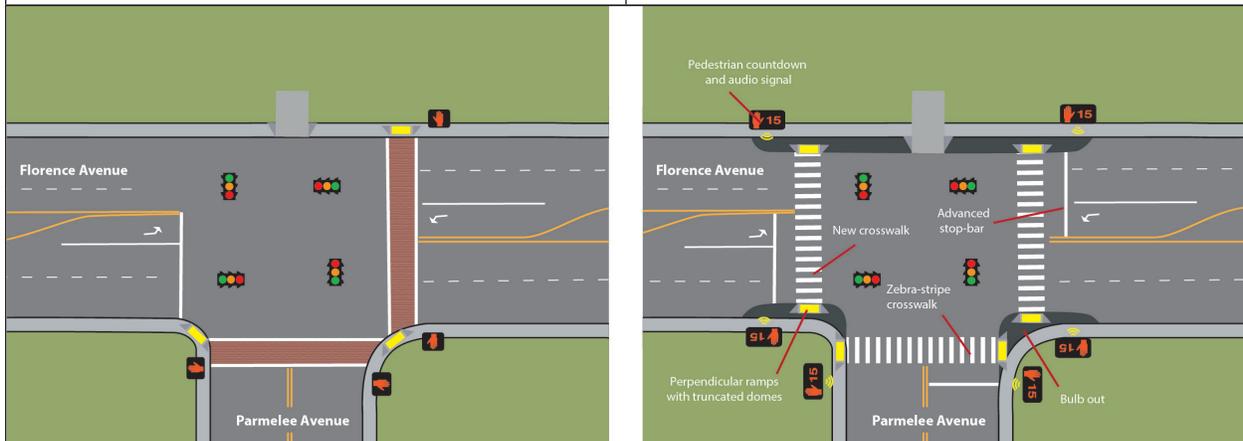
2) FLORENCE AVENUE AND HOOPER AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Florence Ave. has 4 lanes, center turn lane, and on-street parking • Hooper Ave. has 2-4 lanes, center turn lane, and on-street parking • Signalized intersection • Bus stops on Florence Ave. (eastbound, far side; westbound, near side) • Existing bulb-out on southeast corner to cross Hooper Ave. 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add pedestrian countdown signals to all crossings (8) • Add audio signals to all crossings (8) • Add passive pedestrian detection to all crossings (8) • Add advanced stop bars to all crossings (4) • Add bulb-outs on the northeast, northwest, and southwest corners to cross Florence Ave. and on the southwest corner to cross Hooper Ave. (4) • Add bus bulb on the southeast corner to cross Florence Ave. (1)



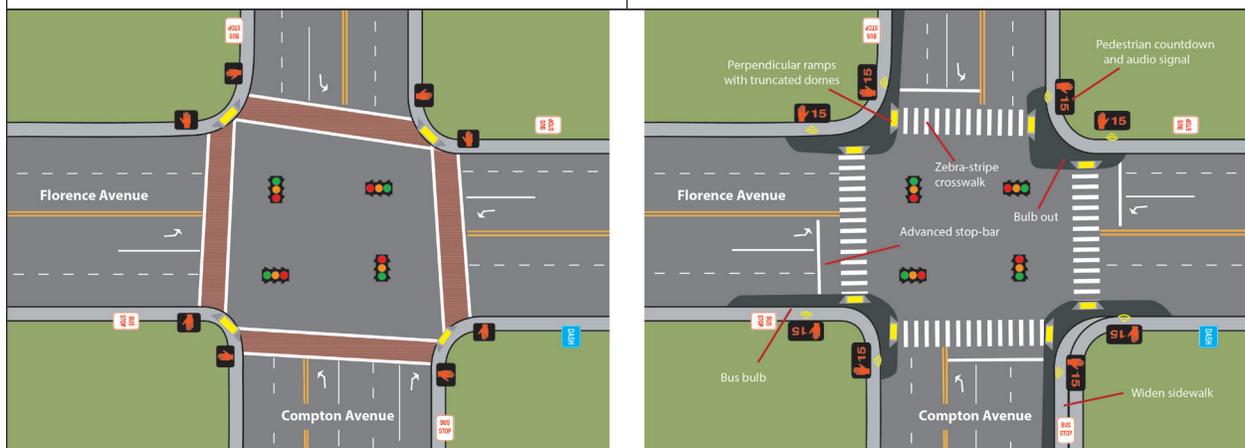
3) FLORENCE AVENUE AND PARMELEE AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Florence Ave. has 4 lanes, center turn lane, and on-street parking • Parmelee Ave. has 2 lanes and on-street parking • Signalized T-intersection • Pedestrian crossing of west leg prohibited • Two lateral line crosswalks with textured brick appearance • Three diagonal ramps with truncated domes 	<ul style="list-style-type: none"> • Open pedestrian crossing of west leg • Add zebra-stripe crosswalks to all crossings (4) • Add pedestrian countdown signals to all crossings (6) • Add audio signals to all crossings (6) • Add advanced stop bars to all crossings (4) • Add bulb-outs to all corners to cross Florence Ave. (4) • Add curb extension connecting bulb-outs on the north side of Florence Ave.



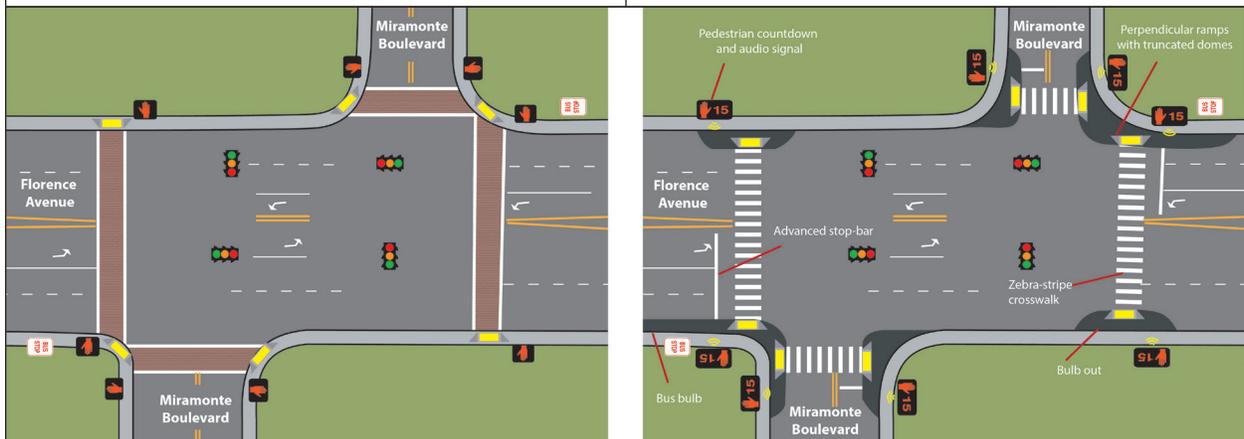
4) FLORENCE AVENUE AND COMPTON AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> Florence Ave. has 4 lanes, center turn lane, and on-street parking Compton Ave. has 4 lanes, center turn lane, northbound right turn lane, and on-street parking Signalized intersection Bus stops on Florence Ave. (eastbound, near side; westbound, near side, offset from intersection) and Compton Ave. (southbound, near side; northbound, near side) DASH stop on Florence Ave. (eastbound, far side) Bus stop on Compton Ave. on southwest corner does not have ADA compliant landing area Four lateral line crosswalks with textured brick appearance Four diagonal ramps with truncated domes 	<ul style="list-style-type: none"> Add zebra-stripe crosswalks to all crossings (4) Add pedestrian countdown signals to all crossings (8) Add audio signals to all crossings (8) Add advanced stop bars to all crossings (4) Add bulb-outs to the southeast, northeast, and northwest corners to cross Florence Ave., and to the southwest and northeast corners to cross Compton Ave. (5) Add bus bulbs to the southwest corner to cross Florence Ave., and to the southeast and northwest corners to cross Compton Ave. (3) Remove either northbound center turn lane or northbound right turn lane on Compton Ave. to make room for bus bulb, widened sidewalk, and ADA compliant landing area on the southeast corner Option: consolidate westbound bus stops with DASH stop on Florence Ave., and add bus bulb on the northwest corner to cross Florence Ave.



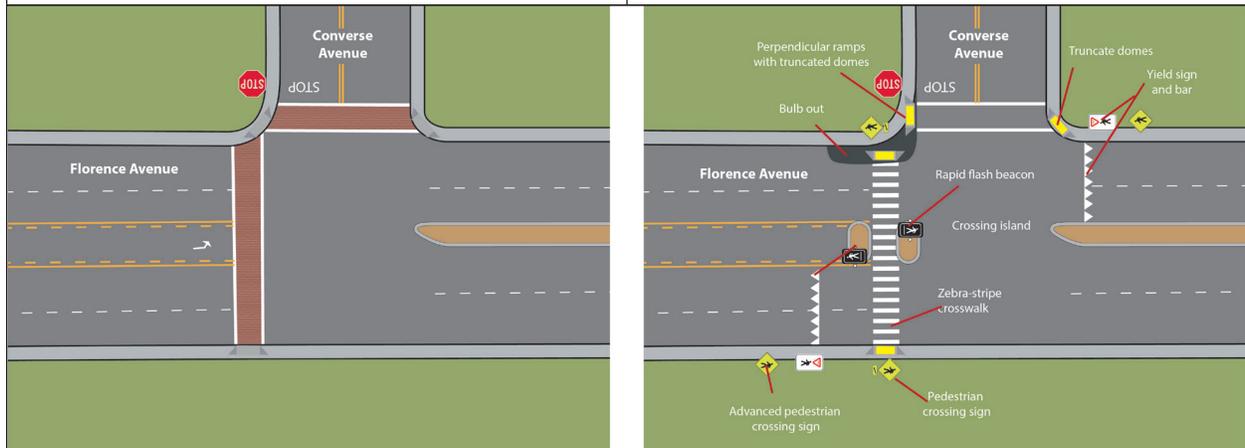
5) FLORENCE AVENUE AND MIRAMONTE BOULEVARD

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Florence Ave. has 4 lanes, center turn lane, and on-street parking • Miramonte Blvd. has 2 lanes and on-street parking • Miramonte Blvd. alignment is offset at intersection • Signalized intersection • Bus stops on Florence Ave. (eastbound, near side; westbound, near side) • Four lateral line crosswalks with brick texture • Four diagonal ramps with truncated domes 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add pedestrian countdown signals to all crossings (8) • Add audio signals to all crossings (8) • Add advanced stop bars to all crossings (4) • Add bulb-out on the northwest corner to cross Florence Ave. (aligned with the west leg of the intersection), on the southeast corner to cross Florence Ave., and on all faces to cross Miramonte Blvd. (4) • Add bus bulbs on the southwest and northeast corners to cross Florence Ave. (2)



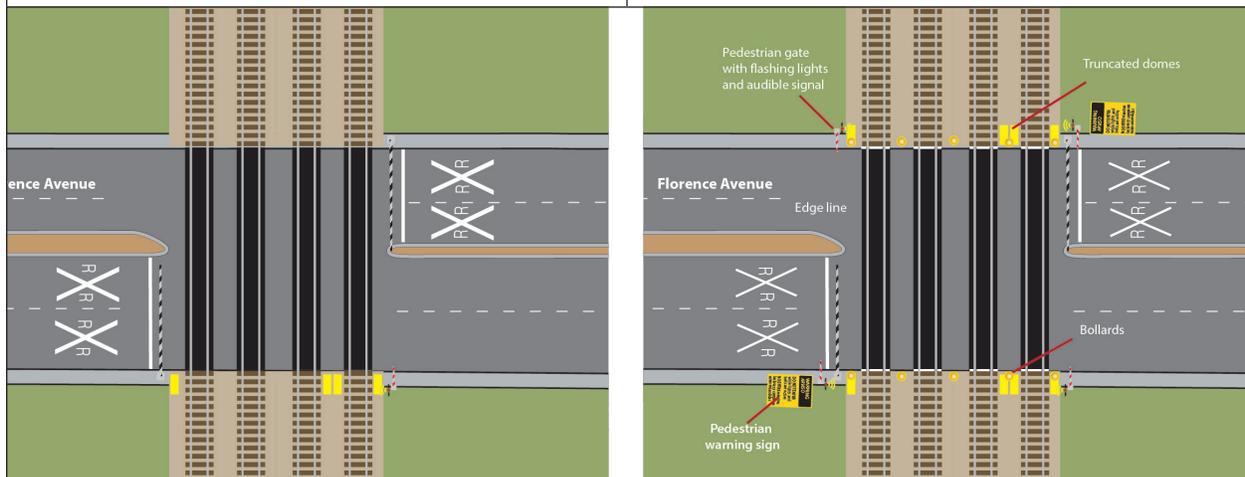
6) FLORENCE AVENUE AND CONVERSE AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Florence Ave. has 4 lanes, center turn lane, and on-street parking • Converse Ave. has 2 lanes and on-street parking • Stop-controlled T-intersection for Converse Ave. • Lateral line crosswalk with brick texture to cross Florence Ave. from west side of Converse Ave. 	<ul style="list-style-type: none"> • Add zebra-stripe to crosswalk (1) • Add advanced yield markings to both approaches of crosswalk (2) • Add advanced pedestrian warning signs to both approaches (2) • Add pedestrian crossing signs (2) • Add bulb-out to cross Florence Ave. on the north end of the crosswalk (1) • Add median islands (1) • Add rectangular rapid flash beacon (1)



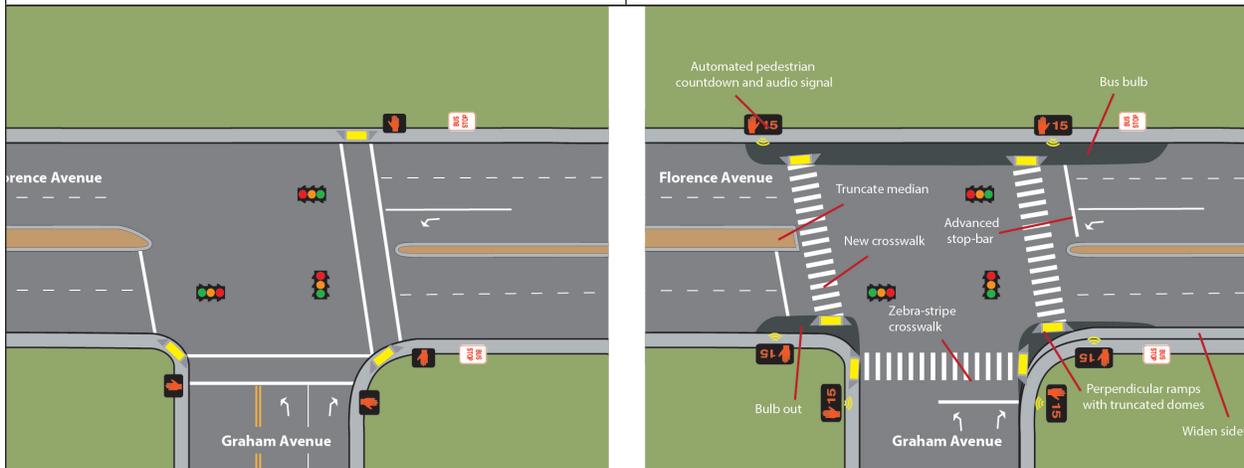
7) FLORENCE AVENUE AND METRO BLUE LINE TRACKS

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Florence Ave. has 4 lanes, center median, and on-street parking • Railroad right-of-way has 4 tracks, 2 of which are highly active Metro Blue Line tracks • Pedestrian gate arm with audible warning device on the southeast corner • Base of vehicular gate arm swings into sidewalk on southwest and northeast corners • Three sets of truncated domes on south sidewalk: one west of all tracks, one between the two sets of Blue Line tracks, and one east of all tracks • Existing advisory signage warning pedestrians not to enter when the gates are down 	<ul style="list-style-type: none"> • Add edge lines across tracks on both sidewalks (2) • Add pedestrian gate arms to the northeast, northwest, and southwest corners (3) • Add bollards or curbs to segregate vehicle traffic from sidewalk on both sides • Add truncated domes to the north side in the same locations as they are found on the south side • Add warning signs or poles to alert pedestrians to the path of the vehicular gate arm



8) FLORENCE AVENUE AND GRAHAM AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Florence Ave. has 4 lanes, center turn lane / median, and on-street parking • Graham Ave. has one lane southbound, a northbound left-turn lane, and a northbound right turn lane • Signalized T-intersection • Bus stops on Florence Ave. (eastbound, far side, westbound, near side) • Pedestrian crossing prohibited on west leg • Advanced stop bar on east leg • Diagonal ramps with truncated domes on the southwest, southeast, and northeast corners • Pushbuttons to cross Florence Ave. 	<ul style="list-style-type: none"> • Open pedestrian crossing on west leg • Add zebra-stripe crosswalks to all crossings (4) • Add pedestrian countdown signals to all crossings (6) • Add audio signals to all crossings (6) • Add passive pedestrian detection to all crossings (6) • Add advanced stop bars to all remaining crossings (3) • Add bulb-outs on the northwest and southwest corners to cross Florence Ave. • Add bus bulbs on the northeast and southeast corners to cross Florence Ave. • Truncate median on west leg to keep crosswalk alignment clear • Widen sidewalk on south side of Florence between Graham Ave. and station entrance

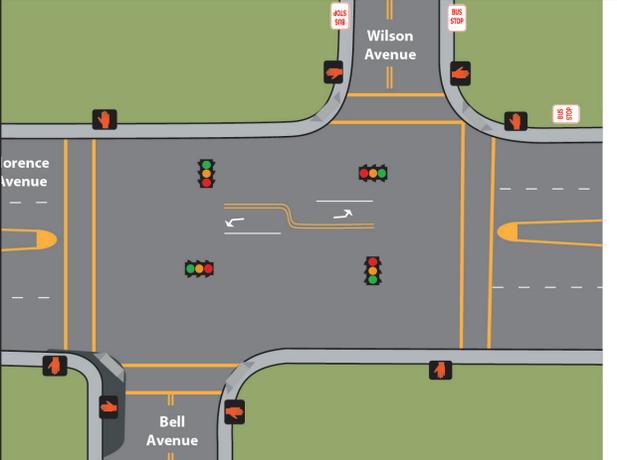
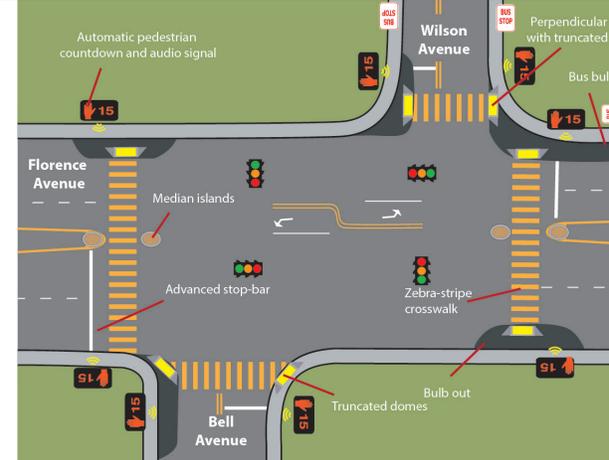


9) FLORENCE AVENUE AND HOLMES AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Florence Ave. has 4 lanes, center turn lane / median, and on-street parking • Holmes Ave. has 2 lanes, and north of Florence Ave. has on-street parking and bike lanes • Alignment of Holmes Ave. is offset at intersection • Signalized intersection • Bus stops on Florence Ave. (westbound, near side) and Holmes Ave. (northbound, far side; southbound, near side) • Four lateral line crosswalks with textured brick appearance • Four diagonal ramps with truncated domes 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add pedestrian countdown signals to all crossings (8) • Add audio signals to all crossings (8) • Add passive pedestrian detection to all crossings (8) • Add advanced stop bars to all crossings (4) • Add bulb outs on the northwest, northeast, southwest, and southeast corners to cross Florence Ave., and on the northwest corner to cross Holmes Ave. (5) • Add bus bulb on the northeast corner to cross Florence Ave. (1) • Restripe southbound travel lanes to add bulb out on the northwest corner to cross Holmes Ave.

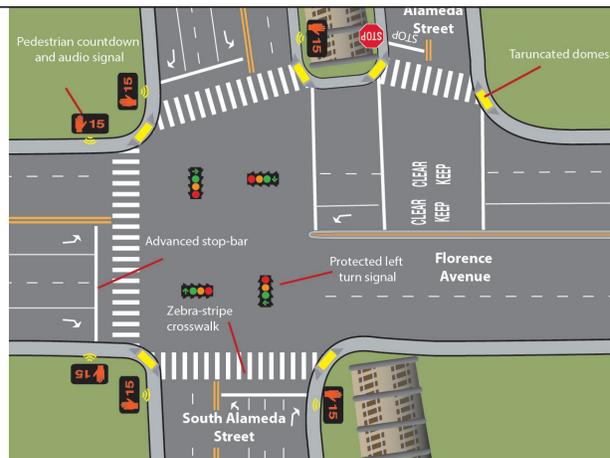


10) FLORENCE AVENUE, BELL AVENUE, AND WILSON AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Florence Ave. has 4 lanes, center turn lane, and on-street parking • Bell Ave. has 2 lanes and on-street parking • Wilson Ave. has 2 lanes and on-street parking • Signalized intersection • Four lateral line crosswalks with textured brick appearance • Pedestrian crossing of Florence Ave. prohibited on the west side of Wilson Ave. and the east side of Bell Ave. • Bulb-out to cross Bell Ave. on southwest corner 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to existing crossings (4) • Add pedestrian countdown signals to existing crossings (8) • Add audio signals to existing crossings (8) • Add passive pedestrian detection to all crossings (8) • Add advanced stop bars to existing crossings (4) • Add bulb-outs to cross Florence Ave. on the northwest corner (aligned with west side of Bell Ave.), and southeast corner (aligned with east side of Wilson Ave.) • Add bulb-out on the west side of Wilson Ave. to cross Wilson Ave. • Add bus bulb to cross Florence Ave. on the northeast corner • Realign east leg crossing of Florence Ave. at Wilson Ave. to make it perpendicular • Add median islands with refuge area on the west crossing and east crossing of Florence Ave.
 <p>This diagram illustrates the current state of the intersection. Florence Avenue runs horizontally across the top, with a center turn lane and four travel lanes. Bell Avenue runs vertically along the bottom, and Wilson Avenue runs vertically along the right side. Traffic signals are shown at all four corners. Crosswalks are marked with textured brick patterns. A bus stop is located on the east side of Wilson Avenue.</p>	 <p>This diagram shows the proposed improvements to the intersection. Key features include: <ul style="list-style-type: none"> Zebra-stripe crosswalks: Added to all four crossings. Median islands with refuge areas: Added at the west and east crossings of Florence Avenue. Advanced stop bars: Added to the crossings of Florence Avenue at Wilson Avenue and Bell Avenue. Bulb-outs: Added at the northwest and southeast corners of the intersection. Perpendicular crossing: The east leg crossing of Florence Avenue at Wilson Avenue is realigned to be perpendicular. Bus bulb: Added to the northeast corner crossing of Florence Avenue. Signals: Pedestrian countdown and audio signals are added to all crossings. Truncated domes: Added at the corners of the crossings. </p>

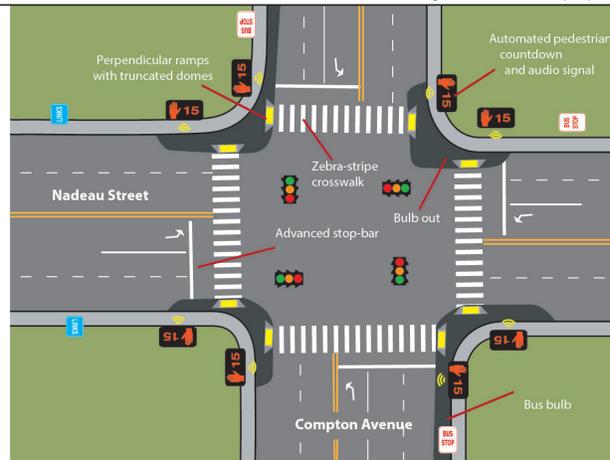
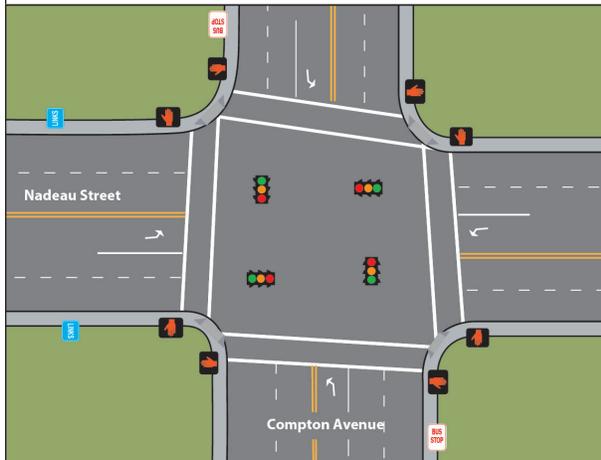
11) FLORENCE AVENUE, SOUTH ALAMEDA STREET, AND ALAMEDA STREET

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Florence Ave. has 4 lanes, center turn lane, and eastbound right turn lane • S. Alameda St. has 4 lanes, center turn lane, and right turn lanes • Alameda St. has two lanes and on-street parking • Alameda Corridor runs below-ground parallel to S. Alameda St. and interacts with pedestrian crossings • Signalized intersection with permissive left turns • Pedestrian crossing of Florence Ave. on east leg prohibited from Alameda St. • Lateral line crosswalk on south leg has textured brick appearance 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add pedestrian countdown signals to all crossings (6) • Add audio signals to all crossings (6) • Add advanced stop bars to all crossings (4) • Add protected left turns from Florence Ave. and S. Alameda St. • Coordinate with City of Huntington Park



12) NADEAU STREET AND COMPTON AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> Nadeau St. has 4 lanes, center turn lane, and parking Compton Ave. has 4 lanes, center turn lane, and parking Signalized intersection Bus stops on Compton Ave. (southbound, near side; northbound, near side) Link stops on Nadeau St. (westbound, far side; eastbound, near side) 	<ul style="list-style-type: none"> Add zebra-stripe crosswalks to all crossings (4) Add pedestrian countdown signals to all crossings (8) Add audio signals to all crossings (8) Add advanced stop bars to all crossings (4) Add passive pedestrian detection to all crossings (8) Add bulb-outs on the northwest corner to cross Nadeau St., on the southeast corner to cross Nadeau St., and on both faces of the southwest corner (6) Add bus bulbs on the northwest and southeast corners to cross Compton Ave. (2)



Los Angeles County Transit Oriented Districts Access Study

This summary page provides definitions for some of the more commonly used abbreviations in these cost estimates. It also includes some notes on the variances for contingencies for each improvement.

Abbreviation/Term Used	Definition/Explanation
AC	Asphalt Concrete
CMB	Center Median Barrier
EA	Each (cost per item)
LF	Linear Foot
LS	Lump Sum (amount per improvement)
MI	Mile
PCC	Portland Cement Concrete
PE	Preliminary Engineering
SF	Square Feet
Contingency	The amount added to a cost estimate that covers unexpected expenses. This estimate typically stands at 20%, but the contingency tends to increase when the recommended improvements are not standard. Because these improvements tend to be more complex, the cost estimates build in an extra contingency to cover unforeseen expenses.

LADOT STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: **FLORENCE STATION**

By: **Stantec**

Date: **11/19/2012**

		Location	Cost
Bikeways and Linear Concepts			
	1	68TH St from Central Ave to Miramonte Ave	\$ 26,000.00
	2	FLORENCE AVE from Miramonte Ave to Converse Ave	\$ 115,200.00
	3	FLORENCE AVE from Converse Ave to west of Metro Blue line tracks	\$ 121,600.00
	4	76TH PL from Whitsett Ave to Crockett Blvd	\$ 10,925.00
	5	NADEAU ST from Central Ave to Compton Ave	\$ 228,000.00
	6	NADEAU ST from Compton Ave to Santa Fe Ave	\$ 176,000.00
	7	HOOPER AVE from Gage Ave to Florence Ave	\$ 32,000.00
	8	HOOPER AVE from Florence Ave to 76th St	\$ 160,000.00
	9	HOOPER AVE from 76th St to Firestone Blvd	\$ 211,200.00
	10	COMPTON AVE from Slauson Ave to Firestone Blvd	\$ 624,000.00
	11	MIRAMONTE BLVD / MAIE AVE from Slauson Ave to 92nd St	\$ 768,000.00
	12	HOLMES AVE from Gage Ave to Florence Ave	\$ 33,280.00
	13	WHITSETT AVE from Florence Ave to 76th Pl	\$ 15,000.00
	14	CROCKETT BLVD from Florence Ave to Nadeau St	\$ 23,750.00
Intersection Improvements			
	1	68TH ST AND HOLMES AVE	\$ 95,718.40
	2	FLORENCE AVE AND HOOPER AVE	\$ 163,795.20
	3	FLORENCE AVE AND PARMALEE AVE	\$ 120,518.40
	4	FLORENCE AVE AND COMPTON AVE	\$ 221,964.80
	5	FLORENCE AVE AND MIRAMONTE AVE	\$ 205,651.20
	6	FLORENCE AVE AND CONVERSE AVE	\$ 55,884.80
	7	FLORENCE AVE AND METRO BLUE LINE TRACKS	\$ 488,160.00
	8	FLORENCE AVE AND GRAHAM AVE	\$ 167,107.20
	9	FLORENCE AVE AND HOLMES AVE	\$ 124,502.40
	10	FLORENCE AVE AND BELL AVE / WILSON AVE	\$ 173,417.60
	11	FLORENCE AVE AND SOUTH ALAMEDA ST / ALAMEDA ST	\$ 50,150.40
	12	NADEAU ST AND COMPTON AVE	\$ 182,419.20
ENGINEER'S ESTIMATE GRAND TOTAL			\$ 4,554,232.60

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
 Location: #1 68TH ST from Central Ave to Miramonte Ave
 By: RS Approved by:
 Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.65	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 16,250.00
REMOVALS				
		SUBTOTAL		\$ 16,250.00
		Contingency	20%	\$ 3,250.00
		Total PE	20%	\$ 3,250.00
		Construction Engineering	20%	\$ 3,250.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	26,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #2 FLORENCE AVE from Miramonte Ave to Converse Ave
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
3600	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 72,000
REMOVALS				
		SUBTOTAL		\$ 72,000.00
		Contingency	20%	\$ 14,400.00
		Total PE	20%	\$ 14,000.00
		Construction Engineering	20%	\$ 14,000.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	115,200.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #3 FLORENCE AVE from Converse Ave to west of of Metro Blue Line tracks
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
3200	LF	Green Bike Lane Striping (Paint)	\$ 20.00	\$ 64,000.00
REMOVALS				
		SUBTOTAL		\$ 64,000.00
		Contingency	50%	\$ 32,000.00
		Total PE	20%	\$ 12,800.00
		Construction Engineering	20%	\$ 12,800.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	121,600.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #4 76TH PL from Whitsett Ave to Crockett Blvd
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.23	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 5,750.00
REMOVALS				
		SUBTOTAL		\$ 5,750.00
		Contingency	50%	\$ 2,875.00
		Total PE	20%	\$ 1,150.00
		Construction Engineering	20%	\$ 1,150.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	10,925.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #5 NADEAU ST from Central Ave to Compton Ave
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.5	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 82,500.00
3	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 60,000.00
REMOVALS				
		SUBTOTAL		\$ 142,500.00
		Contingency	20%	\$ 28,500.00
		Total PE	20%	\$ 28,500.00
		Construction Engineering	20%	\$ 28,500.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 228,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #6 NADEAU ST from Compton Ave to Santa Fe Ave
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	LS	Road Diet, 4 to 3 lanes	\$ 100,000.00	\$ 100,000.00
1	Mi	Class III - Bike Routes (Sharrows Only)	\$ 10,000.00	\$ 10,000.00
REMOVALS				
		SUBTOTAL		\$ 110,000.00
		Contingency	20%	\$ 22,000.00
		Total PE	20%	\$ 22,000.00
		Construction Engineering	20%	\$ 22,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 176,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #7 HOOPER AVE from Gage Ave to Florence Ave
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.5	Mi	Class II Bike Lane (Striping and Signs)	\$ 40,000.00	\$ 20,000.00
REMOVALS				
		SUBTOTAL		\$ 20,000.00
		Contingency	20%	\$ 4,000.00
		Total PE	20%	\$ 4,000.00
		Construction Engineering	20%	\$ 4,000.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	32,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #8 HOOPER AVE from Florence Ave to 76th St
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	LS	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 100,000.00	\$ 100,000.00
REMOVALS				
		SUBTOTAL		\$ 100,000.00
		Contingency	20%	\$ 20,000.00
		Total PE	20%	\$ 20,000.00
		Construction Engineering	20%	\$ 20,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 160,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #9 HOOPER AVE from 76th St to Firestone Blvd
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.8	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 132,000.00
REMOVALS				
		SUBTOTAL		\$ 132,000.00
		Contingency	20%	\$ 26,400.00
		Total PE	20%	\$ 26,400.00
		Construction Engineering	20%	\$ 26,400.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 211,200.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #10 COMPTON AVE from Slauson Ave to Firestone Blvd
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
2	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 330,000.00
3	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 60,000.00
REMOVALS				
		SUBTOTAL		\$ 390,000.00
		Contingency	20%	\$ 78,000.00
		Total PE	20%	\$ 78,000.00
		Construction Engineering	20%	\$ 78,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 624,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #11 MIRAMONTE AVE/MAIE AVE from Slauson Ave to 92nd St
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
2.5	Mi	Bicycle Boulevard	\$ 100,000.00	\$ 250,000.00
1	LS	Install Bike Signal	\$ 150,000.00	\$ 150,000.00
4	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 80,000.00
REMOVALS				
		SUBTOTAL		\$ 480,000.00
		Contingency	20%	\$ 96,000.00
		Total PE	20%	\$ 96,000.00
		Construction Engineering	20%	\$ 96,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 768,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #12 HOLMES AVE from Gage Ave to Florence Blvd
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
2600	LF	Roadway Striping	\$ 8.00	\$ 20,800.00
REMOVALS				
		SUBTOTAL		\$ 20,800.00
		Contingency	20%	\$ 4,160.00
		Total PE	20%	\$ 4,160.00
		Construction Engineering	20%	\$ 4,160.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	33,280.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #13 WHITSETT AVE from Florence Ave to 76th PI
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.25	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 6,250.00
REMOVALS				
		SUBTOTAL		\$ 6,250.00
		Contingency	100%	\$ 6,250.00
		Total PE	20%	\$ 1,250.00
		Construction Engineering	20%	\$ 1,250.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	15,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #14 CROCKETT BLVD from Florence Ave to Nadeau St
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.5	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 12,500.00
REMOVALS				
		SUBTOTAL		\$ 12,500.00
		Contingency	50%	\$ 6,250.00
		Total PE	20%	\$ 2,500.00
		Construction Engineering	20%	\$ 2,500.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	23,750.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #1 68TH ST AND HOLMES AVE
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
270	LF	Roadway Striping	\$ 8.00	\$ 2,160.00
714	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 15,708.00
2288	SF	PCC Sidewalk	\$ 12.00	\$ 27,456.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
REMOVALS				
500	SF	AC Pavement Removal	\$ 5.00	\$ 2,500.00
		SUBTOTAL		\$ 59,824.00
		Contingency	20%	\$ 11,964.80
		Total PE	20%	\$ 11,964.80
		Construction Engineering	20%	\$ 11,964.80
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 95,718.40

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	FLORENCE STATION
Location: #2	FLORENCE AVE AND HOOPER AVE
By: RS	Approved by:
Date:	11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
323	LF	Roadway Striping	\$ 8.00	\$ 2,584.00
568	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 12,496.00
3741	SF	PCC Sidewalk	\$ 12.00	\$ 44,892.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification	\$ 20,000.00	\$ 20,000.00
REMOVALS				
		SUBTOTAL		\$ 102,372.00
		Contingency	20%	\$ 20,474.40
		Total PE	20%	\$ 20,474.40
		Construction Engineering	20%	\$ 20,474.40
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 163,795.20

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	FLORENCE STATION
Location: #3	FLORENCE AVE AND PARMELEE AVE
By: RS	Approved by:
Date:	11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
217	LF	Roadway Striping	\$ 8.00	\$ 1,736.00
298	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 6,556.00
1686	SF	PCC Sidewalk	\$ 12.00	\$ 20,232.00
6	EA	Curb Ramp	\$ 1,500.00	\$ 9,000.00
6	EA	Pedestrian countdown signals	\$ 800.00	\$ 4,800.00
6	EA	Audio ped signals	\$ 500.00	\$ 3,000.00
1	LS	Traffic Signal Modification (Loops, etc.)	\$ 30,000.00	\$ 30,000.00
REMOVALS				
		SUBTOTAL		\$ 75,324.00
		Contingency	20%	\$ 15,064.80
		Total PE	20%	\$ 15,064.80
		Construction Engineering	20%	\$ 15,064.80
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 120,518.40

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	FLORENCE STATION
Location: #4	FLORENCE AVE AND COMPTON AVE
By: RS	Approved by:
Date:	11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
316	LF	Roadway Striping	\$ 8.00	\$ 2,528.00
818	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 17,996.00
5817	SF	PCC Sidewalk	\$ 12.00	\$ 69,804.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification (Loops, etc.)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
1000	LF	Striping Removal	\$ 6.00	\$ 6,000.00
		SUBTOTAL		\$ 138,728.00
		Contingency	20%	\$ 27,745.60
		Total PE	20%	\$ 27,745.60
		Construction Engineering	20%	\$ 27,745.60
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 221,964.80

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #5 FLORENCE AVE AND MIRAMONTE AVE
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
256	LF	Roadway Striping	\$ 8.00	\$ 2,048.00
680	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 14,960.00
4677	SF	PCC Sidewalk	\$ 12.00	\$ 56,124.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification (Loops, etc.)	\$ 30,000.00	\$ 30,000.00
REMOVALS				
500	LF	Striping Removal	\$ 6.00	\$ 3,000.00
		SUBTOTAL		\$ 128,532.00
		Contingency	20%	\$ 25,706.40
		Total PE	20%	\$ 25,706.40
		Construction Engineering	20%	\$ 25,706.40
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 205,651.20

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #6 FLORENCE AVE AND CONVERSE AVE
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
4	EA	Roadway Signing	\$ 300.00	\$ 1,200.00
125	LF	Roadway Striping	\$ 8.00	\$ 1,000.00
188	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 4,136.00
566	SF	PCC Sidewalk	\$ 12.00	\$ 6,792.00
2	EA	Rapid Flash Beacon	\$ 10,000.00	\$ 20,000.00
REMOVALS				
300	LF	Striping Removal	\$ 6.00	\$ 1,800.00
		SUBTOTAL		\$ 34,928.00
		Contingency	20%	\$ 6,985.60
		Total PE	20%	\$ 6,985.60
		Construction Engineering	20%	\$ 6,985.60
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 55,884.80

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #7 FLORENCE AVE AND METRO BLUE LINE TRACKS
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
2	EA	Roadway Signing	\$ 300.00	\$ 600.00
3	EA	Pedestrian Gate Arms	\$ 100,000.00	\$ 300,000.00
1	LS	Sidewalk treatment(Bollards and Truncated Domes)	\$ 4,500.00	\$ 4,500.00
REMOVALS				
		SUBTOTAL		\$ 305,100.00
		Contingency	20%	\$ 61,020.00
		Total PE	20%	\$ 61,020.00
		Construction Engineering	20%	\$ 61,020.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 488,160.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	FLORENCE STATION
Location: #8	FLORENCE AVE AND GRAHAM AVE
By: RS	Approved by:
Date:	11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
231	LF	Roadway Striping	\$ 8.00	\$ 1,848.00
505	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 11,110.00
4332	SF	PCC Sidewalk	\$ 12.00	\$ 51,984.00
6	EA	Curb Ramp	\$ 1,500.00	\$ 9,000.00
6	EA	Pedestrian countdown signals	\$ 800.00	\$ 4,800.00
6	EA	Audio ped signals	\$ 500.00	\$ 3,000.00
1	LS	Traffic Signal Modification (Loops, etc.)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
300	LF	Striping Removal	\$ 6.00	\$ 1,800.00
180	SF	AC Pavement Removal	\$ 5.00	\$ 900.00
		SUBTOTAL		\$ 104,442.00
		Contingency	20%	\$ 20,888.40
		Total PE	20%	\$ 20,888.40
		Construction Engineering	20%	\$ 20,888.40
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 167,107.20

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	FLORENCE STATION
Location: #9	FLORENCE AVE AND HOLMES AVE
By: RS	Approved by:
Date:	11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
440	LF	Roadway Striping	\$ 8.00	\$ 3,520.00
477	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 10,494.00
3280	SF	PCC Sidewalk	\$ 12.00	\$ 39,360.00
7	EA	Curb Ramp	\$ 1,500.00	\$ 10,500.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
REMOVALS				
590	LF	Striping Removal	\$ 6.00	\$ 3,540.00
		SUBTOTAL		\$ 77,814.00
		Contingency	20%	\$ 15,562.80
		Total PE	20%	\$ 15,562.80
		Construction Engineering	20%	\$ 15,562.80
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 124,502.40

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #10 FLORENCE AVE AND BELL AVE / WILSON AVE
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
242	LF	Roadway Striping	\$ 8.00	\$ 1,936.00
826	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 18,172.00
3594	SF	PCC Sidewalk	\$ 12.00	\$ 43,128.00
7	EA	Curb Ramp	\$ 1,500.00	\$ 10,500.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification (Loops, etc.)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
500	LF	Striping Removal	\$ 6.00	\$ 3,000.00
250	SF	AC Pavement Removal	\$ 5.00	\$ 1,250.00
		SUBTOTAL		\$ 108,386.00
		Contingency	20%	\$ 21,677.20
		Total PE	20%	\$ 21,677.20
		Construction Engineering	20%	\$ 21,677.20
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 173,417.60

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #11 FLORENCE AVE AND S ALAMEDA ST, ALAMEDA ST
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
443	LF	Roadway Striping	\$ 8.00	\$ 3,544.00
6	EA	Pedestrian countdown signals	\$ 800.00	\$ 4,800.00
6	EA	Audio ped signals	\$ 500.00	\$ 3,000.00
1	LS	Traffic Signal Modification (Protected Left, Loops, etc.)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
		SUBTOTAL		\$ 31,344.00
		Contingency	20%	\$ 6,268.80
		Total PE	20%	\$ 6,268.80
		Construction Engineering	20%	\$ 6,268.80
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 50,150.40

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FLORENCE STATION
Location: #12 NADEAU ST AND COMPTON AVE
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
290	LF	Roadway Striping	\$ 8.00	\$ 2,320.00
628	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 13,816.00
4623	SF	PCC Sidewalk	\$ 12.00	\$ 55,476.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification (Loops, etc.)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
		SUBTOTAL		\$ 114,012.00
		Contingency	20%	\$ 22,802.40
		Total PE	20%	\$ 22,802.40
		Construction Engineering	20%	\$ 22,802.40
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 182,419.20

Appendix F

Firestone Blue Line Station



Bikeways and Linear Concepts

83RD STREET	
FROM:	Graham Ave.
TO:	Crockett Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> 2 lanes with on-street parking 	<ul style="list-style-type: none"> Add bike route with sharrows and wayfinding signs

FIRESTONE BOULEVARD	
FROM:	Central Ave.
TO:	Ivy St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> 4 lanes, center turn lane, and peak hour lanes in which on-street parking is allowed during the off-peak hours 80' wide 24-hour traffic volume west of Compton Ave. in January 2012: 31,474 Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> Remove peak-hour lanes and make on-street parking permanent Narrow travel lanes to 10' and add 6' colored bike lanes with 2' buffers Add interspersed median islands
FROM:	Ivy St.
TO:	Alameda St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> 4 lanes, center turn lane, and peak hour lanes in which on-street parking is allowed during the off-peak hours 84' wide 24-hour traffic volume west of Compton Ave. in January 2012: 31,474 Existing signal at Alameda St. 	<ul style="list-style-type: none"> Remove peak-hour lanes and make on-street parking permanent Narrow travel lanes to 10' and 11' and add 6' colored bike lanes with 2' buffers

87TH PLACE PEDESTRIAN IMPROVEMENTS	
FROM:	Hooper Ave.
TO:	Maie Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking • 36' wide • 5' sidewalks on both sides • Sidewalk on south side is obstructed by above-ground utility poles • ADA non-compliance for ramp landing areas, driveway cross-slopes, and minimum passable sidewalk widths 	<ul style="list-style-type: none"> • Underground utilities • Widen sidewalks on both sides • Good candidate for a green street with water infiltrating landscaping

87TH STREET	
FROM:	Graham Ave.
TO:	Firestone Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking 	<ul style="list-style-type: none"> • Add bike route with sharrows and wayfinding signs

92ND STREET	
FROM:	Western County unincorporated boundary just east of Central Ave.
TO:	Success Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking • Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add bike route with sharrows and wayfinding signs
FROM:	Success Ave.
TO:	Compton Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking • 64' wide • Existing bike lane in the City of Los Angeles east of Compton Ave. 	<ul style="list-style-type: none"> • Add bike lanes • May require coordination with the City of Los Angeles

HOOPER AVENUE

FROM: 76th St.

TO: Firestone Blvd.

EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes with on-street parking • 58'-64' wide • 24-hour traffic volume south of 82nd St. in May 2012: 1,122 • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Road diet to 2 lanes, center turn lane, and on-street parking • Add 6' bike lanes with buffers where feasible

FROM: Firestone Blvd.

TO: South County unincorporated boundary at 94th St.

EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes, center turn lane and on-street parking • 50' wide • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Remove center turn lane and add 6' bike lanes

COMPTON AVENUE

FROM: Nadeau St.

TO: 92nd St.

EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes with on-street parking • 64' wide • 24-hour traffic volume south of Firestone Blvd. in February 2012: 12,000 • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Road diet to 2 lanes, center turn lane, and on-street parking • Add wide buffered bike lanes • In the long term, widen the sidewalk on both sides

MAIE AVENUE	
FROM:	Florence Ave.
TO:	92nd St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking • Proposed bicycle boulevard in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add bicycle boulevard

CROCKETT BOULEVARD	
FROM:	Florence Ave.
TO:	Nadeau St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking • Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add bike route with sharrows and wayfinding signs
FROM:	Nadeau St.
TO:	83rd St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking • 76' wide • Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' bike lanes • 30' of median right-of-way can be used for a linear park, jogging path, community garden, or other community space

ALAMEDA CORRIDOR	
FROM:	Northern County unincorporated boundary at Florence Ave.
TO:	Southern County unincorporated boundary at 103rd St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • Cross beams above rail line appear strong enough to support a bike path 	<ul style="list-style-type: none"> • Investigate engineering and operational feasibility of adding a bike path on top of the cross beams • If feasible, add bike path with separate phase at traffic signals • Coordinate with Alameda Corridor Transportation Authority and other jurisdictions along the corridor to create a continuous north-south regional bikeway

Bike Parking

Currently, there are bike parking racks at the station, but no lockers. We did not observe high utilization of the existing racks during our field visit. This station needs a secure bike parking option, such as lockers or a bike room.

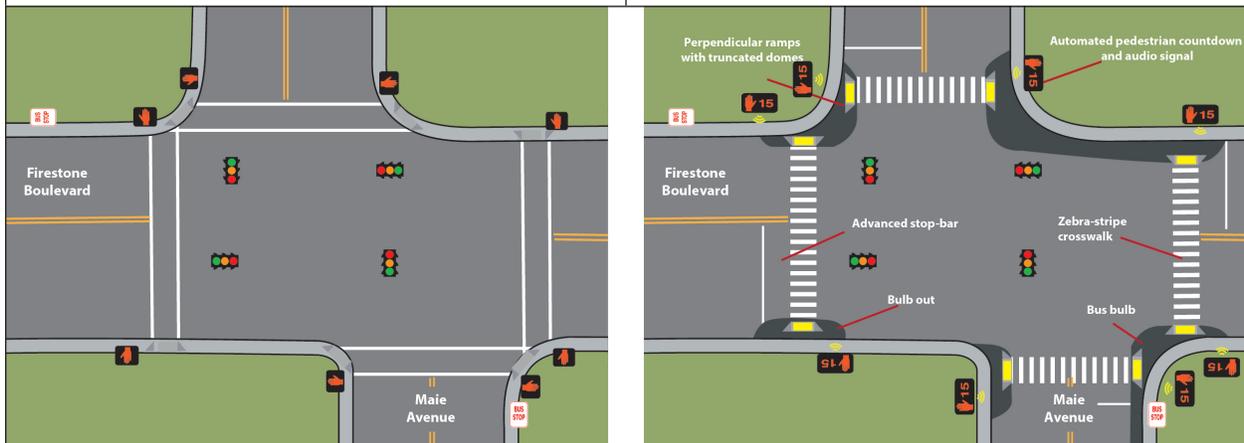
Intersection Improvements

Note: All of the bulb-outs to cross Firestone Blvd. are predicated on the implementation of permanent on-street parking, which is part of the linear concept for Firestone Blvd. presented above.

1) FIRESTONE BOULEVARD AND COMPTON AVENUE	
EXISTING	PROPOSED
<ul style="list-style-type: none"> • Firestone Blvd. has 4 lanes, center turn lane, and peak hour lanes in which on-street parking is allowed during the off-peak hours • Compton Ave. has 4 lanes with on-street parking, and right turn lanes at the intersection • Signalized intersection • Bus stops on Firestone Blvd. (eastbound, far side; westbound, far side), and Compton Ave. (northbound, far side) • Compton Avenue alignment is offset at intersection 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add advanced stop bars to all crossings (4) • Add pedestrian countdown signals to all crossings (8) • Add audio signals to all crossings (8) • Reduce curb return on all corners • Remove pushbuttons and set walk phase to automatic • Add leading pedestrian interval for all crossings

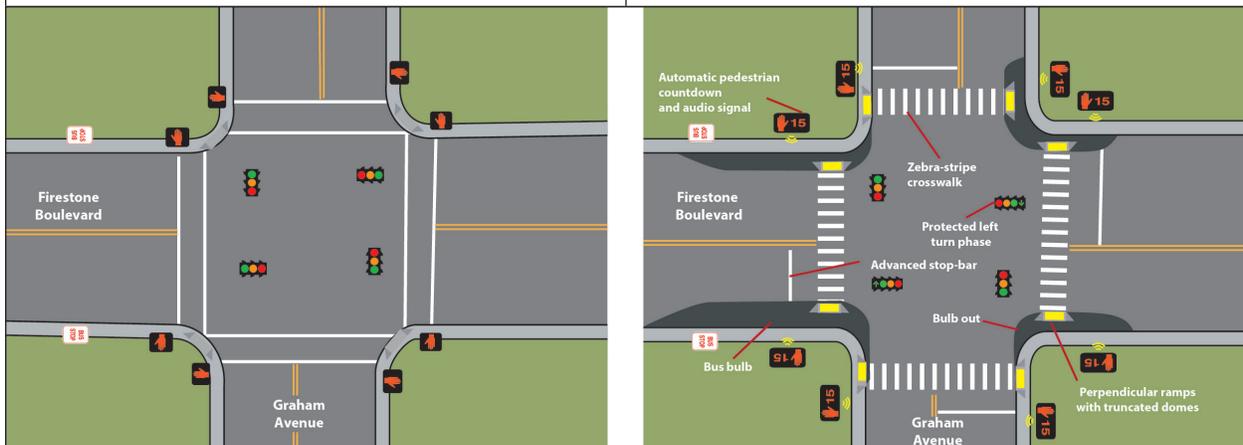
2) FIRESTONE BOULEVARD AND MAIE AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Firestone Blvd. has 4 lanes, center turn lane, and peak hour lanes in which on-street parking is allowed during the off-peak hours • Maie Ave. has 2 lanes with on-street parking • Signalized intersection with protected left turns from Maie Ave. • Bus stops on Firestone Blvd. (westbound, far side) and Maie Ave. (northbound, near side) • Maie Ave. alignment is offset at intersection 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add advanced stop bars to all crossings (4) • Add pedestrian countdown signals to all crossings (8) • Add audio signals to all crossings (8) • Add bus bulb on southeast corner to cross Maie Ave. (1) • Add bulb-outs to all faces of all remaining crossings (7) • Bulb-out on north side of Firestone Blvd. on the east leg of the intersection will continue to the corner at Maie Ave. • Remove pushbuttons and set walk phase to automatic • Add leading pedestrian interval for all crossings



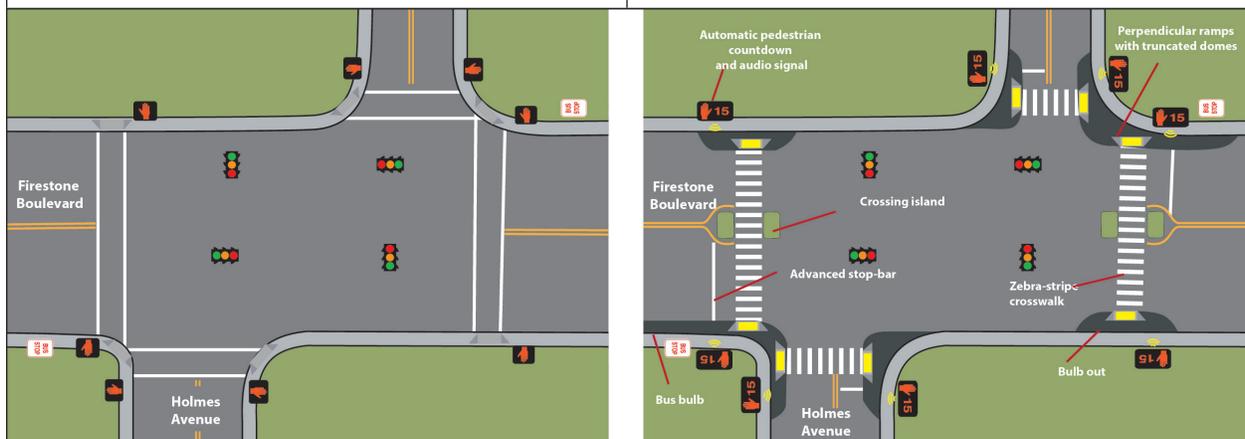
3) FIRESTONE BOULEVARD AND GRAHAM AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Firestone Blvd. has 4 lanes, center turn lane, and peak hour lanes in which on-street parking is allowed during the off-peak hours • Graham Ave. has 2 lanes with on-street parking • Signalized intersection • Bus stops on Firestone Blvd. (eastbound, near side; westbound, far side) • Pedestrian pushbuttons to cross Firestone Blvd. 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add advanced stop bars to all crossings (4) • Add pedestrian countdown signals to all crossings (8) • Add audio signals to all crossings (8) • Add bulb-outs to the northeast and southeast corners to cross Firestone Blvd., and to the northeast corner to cross Graham Ave. • Add bus bulbs on the northwest and southwest corners to cross Firestone Blvd. (2) • Remove pushbuttons and set walk phase to automatic • Add leading pedestrian interval for all crossings • Time pedestrian walk phase to cross Firestone Blvd. with bus arrivals



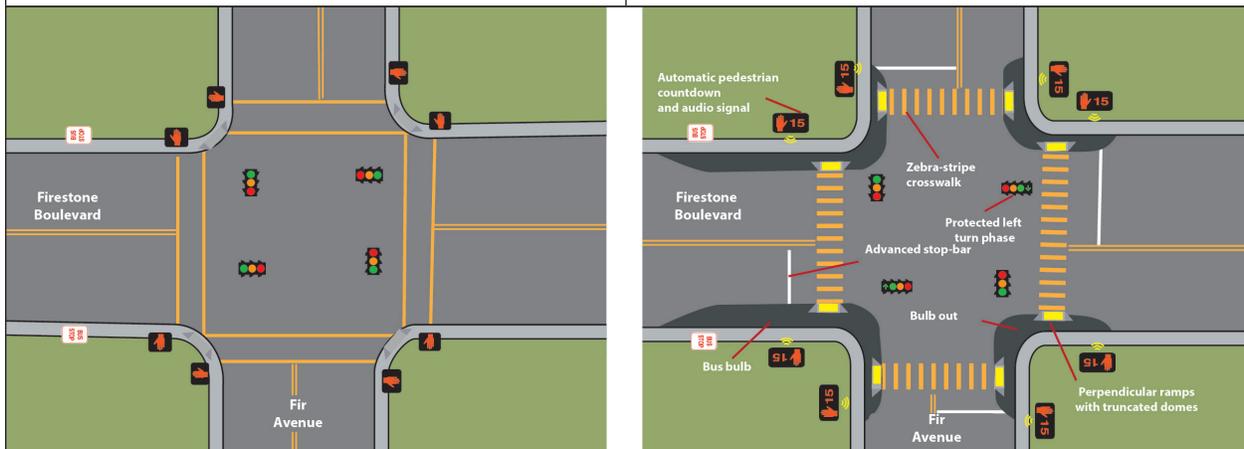
4) FIRESTONE BOULEVARD AND HOLMES AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Firestone Blvd. has 4 lanes, center turn lane, and peak hour lanes in which on-street parking is allowed during the off-peak hours • Holmes Ave. has 2 lanes with on-street parking • Signalized intersection • Bus stops on Firestone Blvd. (eastbound, near side; westbound, near side) • Alignment of Holmes Ave. is offset at intersection 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add pedestrian countdown signals to all crossings (8) • Add audio signals to all crossings (8) • Add advanced stop bars to all crossings (4) • Add bulb-out on the northwest corner to cross Firestone Blvd. (aligned with the west leg of the intersection), on the southeast corner to cross Firestone Blvd., and on all faces to cross Holmes Ave. (6) • Add bus bulbs on the southwest and northeast corners to cross Firestone Blvd. (2) • Add crossing islands to both crossings of Firestone Blvd. (2) • Remove pushbuttons and set walk phase to automatic • Add leading pedestrian interval for all crossings



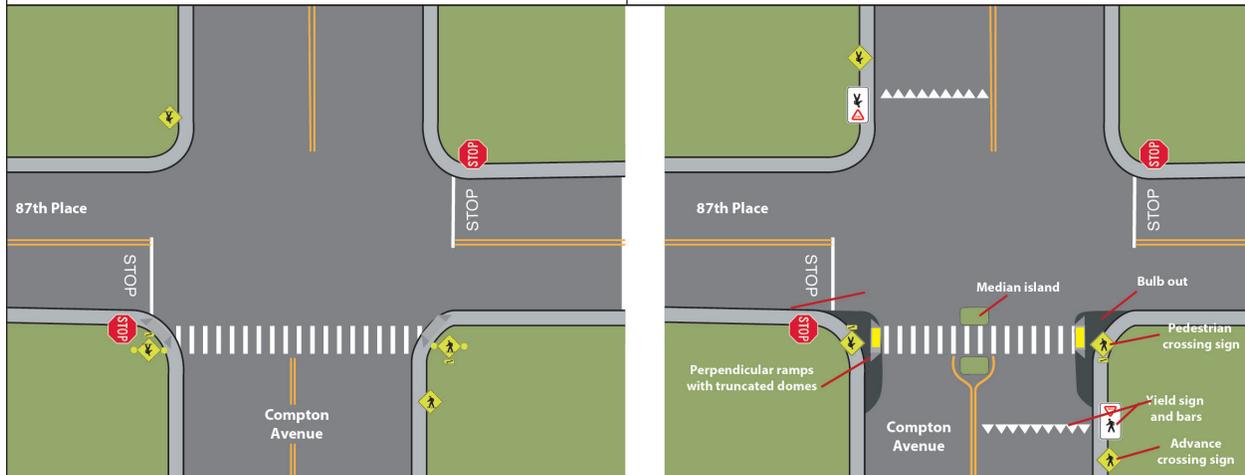
5) FIRESTONE BOULEVARD AND FIR AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Firestone Blvd. has 4 lanes, center turn lane, and peak hour lanes in which on-street parking is allowed during the off-peak hours • Fir Ave. has 2 lanes with on-street parking • Signalized intersection with permissive left turns • Bus stops on Firestone Blvd. (eastbound, near side; westbound, far side) • Yellow lateral-line crosswalks indicate this is a school route 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add pedestrian countdown signals to all crossings (8) • Add audio signals to all crossings (8) • Add advanced stop bars to all crossings (4) • Add bulb-outs on the northeast and southeast corners to cross Firestone Blvd., and on all faces to cross Fir Ave. (6) • Add bus bulbs on the northwest and southwest corners to cross Firestone Blvd. (2) • Remove pushbuttons and set walk phase to automatic • Add leading pedestrian interval for all crossings • Add protected left turn phases off Firestone Blvd.



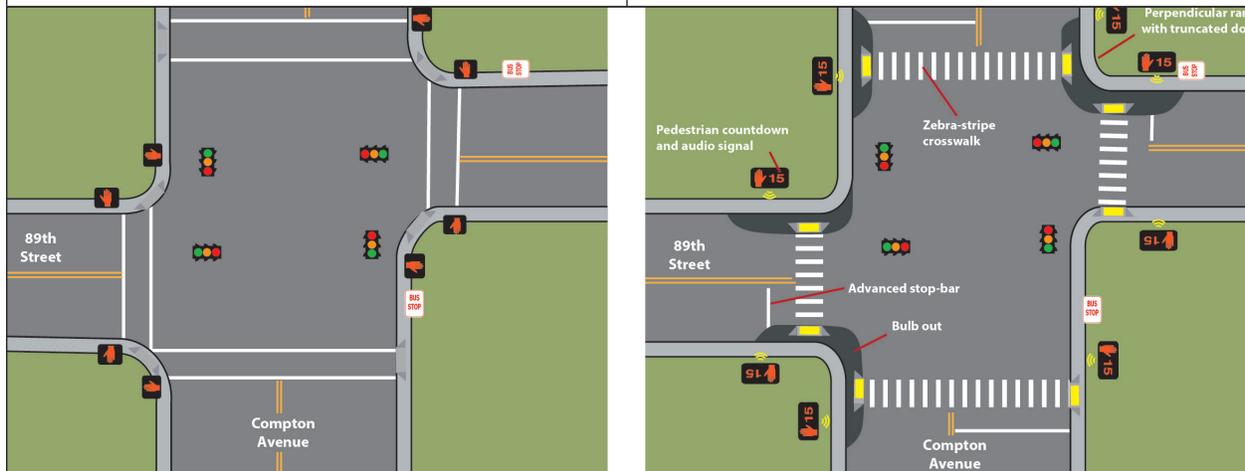
6) 87TH PLACE AND COMPTON AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • 87th Pl. has 2 lanes with on-street parking • Compton Ave. has 4 lanes with on-street parking • Stop-controlled intersection for 87th Pl. • Bilingual pedestrian-activated beacon to cross Compton Ave. on the south leg • Zebra-stripe crosswalk to cross Compton Ave. on the south leg • Set of old pedestrian crossing signs, one at the crossing and one advanced pedestrian crossing sign on the approach 	<ul style="list-style-type: none"> • Add yield markings to both approaches (2) • Remove outdated signs • Add advanced pedestrian signs (2) • Add pedestrian crossing signs (2) • Add advanced yield signs (2) • Add bulb-outs to the southeast and southwest corners to cross Compton Ave. (2) • Add median islands to the south leg to cross Compton Ave. in conjunction with proposed road diet on Compton Ave. (1)



7) 89TH STREET AND COMPTON AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> 89th St. has 2 lanes with on-street parking Compton Ave. has 4 lanes and on-street parking Signalized intersection with protected left turns from 89th St. Bus stops on Compton Ave. (northbound, near side and 89th St. (westbound, near side) Alignment of 89th St. is offset at intersection 	<ul style="list-style-type: none"> Add zebra-stripe crosswalks to all crossings (4) Add pedestrian countdown signals to all crossings (8) Add audio signals to all crossings (8) Add advanced stop bars to all crossings (4) Add bulb-outs on the northwest, northeast, and southwest corners to cross Compton Ave., and on both faces of the west leg to cross 89th St., and on the northeast corner to cross 89th St. Option: Replace signal with roundabout in conjunction with road diet on Compton Ave.



Los Angeles County Transit Oriented Districts Access Study

This summary page provides definitions for some of the more commonly used abbreviations in these cost estimates. It also includes some notes on the variances for contingencies for each improvement.

Abbreviation/Term Used	Definition/Explanation
AC	Asphalt Concrete
CMB	Center Median Barrier
EA	Each (cost per item)
LF	Linear Foot
LS	Lump Sum (amount per improvement)
MI	Mile
PCC	Portland Cement Concrete
PE	Preliminary Engineering
SF	Square Feet
Contingency	The amount added to a cost estimate that covers unexpected expenses. This estimate typically stands at 20%, but the contingency tends to increase when the recommended improvements are not standard. Because these improvements tend to be more complex, the cost estimates build in an extra contingency to cover unforeseen expenses.

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: **FIRESTONE STATION**

By: **RS**

Approved by:

Date:

11/19/2012

		Location	Cost
Bikeways and Linear Concepts			
	1	83RD ST from Graham Ave to Crockett Blvd	\$ 16,000.00
	2	FIRESTONE BLVD from Central Ave to Ivy St	\$ 574,560.00
	3	FIRESTONE BLVD from Ivy St to Alameda St	\$ 240,000.00
	4	87TH PL from Hooper Ave to Maie Ave	\$ 1,606,400.00
	5	87TH ST from Graham Ave to Firestone Blvd	\$ 25,600.00
	6	92ND ST from western County Limit e/o Central Ave to Success Ave	\$ 18,000.00
	7	92ND ST from Success Ave to Compton Ave	\$ 22,800.00
	8	HOOPER AVE from 76th St to Firestone Blvd	\$ 373,824.00
	9	HOOPER AVE from Firestone Blvd to southern County Limit at 94th St	\$ 147,360.00
	10	COMPTON AVE from Nadeau St to 92nd St	\$ 1,077,568.00
	11	MAIE AVE from Florence Ave to 92nd St	\$ 136,000.00
	12	CROCKETT BLVD from Florence Ave to Nadeau St	\$ 40,000.00
	13	CROCKETT BLVD from Nadeau St to 83rd St	\$ 39,040.00
	14	ALAMEDA CORRIDOR from Florence Ave to 103rd St	\$ 3,288,000.00
Intersection Improvements			
	1	FIRESTONE BLVD AND COMPTON AVE	\$ 71,612.80
	2	FIRESTONE BLVD AND MAIE AVE	\$ 171,158.40
	3	FIRESTONE BLVD AND GRAHAM AVE	\$ 149,001.60
	4	FIRESTONE BLVD AND HOLMES AVE	\$ 185,257.60
	5	FIRESTONE BLVD AND FIR AVE	\$ 173,248.00
	6	87TH PL AND COMPTON AVE	\$ 64,438.40
	7	89TH ST AND COMPTON AVE	\$ 132,153.60
ENGINEER'S ESTIMATE GRAND TOTAL			\$ 8,552,022.40

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FIRESTONE STATION
Location: #1 83RD ST from Graham Ave to Crockett Blvd
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.4	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 10,000.00
REMOVALS				
		SUBTOTAL		\$ 10,000.00
		Contingency	20%	\$ 2,000.00
		Total PE	20%	\$ 2,000.00
		Construction Engineering	20%	\$ 2,000.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	16,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FIRESTONE STATION
Location: #2 FIRESTONE BLVD from Central to Ivy St
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
6800	LF	Roadway Striping	\$ 8.00	\$ 54,400.00
81600	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 122,400.00
6	EA	Median Islands	\$ 20,000.00	\$ 120,000.00
REMOVALS				
6800	LF	Striping Removal	\$ 6.00	\$ 40,800.00
4300	SF	AC Pavement Removal	\$ 5.00	\$ 21,500.00
		SUBTOTAL		\$ 359,100.00
		Contingency	20%	\$ 71,820.00
		Total PE	20%	\$ 71,820.00
		Construction Engineering	20%	\$ 71,820.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 574,560.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FIRESTONE STATION
Location: #3 FIRESTONE BLVD from Ivy St to Alameda St
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	LS	Roadway Striping Modifications	\$ 150,000.00	\$ 150,000.00
REMOVALS				
		SUBTOTAL		\$ 150,000.00
		Contingency	20%	\$ 30,000.00
		Total PE	20%	\$ 30,000.00
		Construction Engineering	20%	\$ 30,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 240,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	FIRESTONE STATION
Location: #4	87TH PL from Hooper Ave to Maie Ave
By: RS	Approved by:
Date:	11/19/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
42000	SF	PCC Sidewalk	\$ 12.00	\$ 504,000.00
1	LS	Utility relocation	\$ 500,000.00	\$ 500,000.00
REMOVALS				
		SUBTOTAL		\$ 1,004,000.00
		Contingency	20%	\$ 200,800.00
		Total PE	20%	\$ 200,800.00
		Construction Engineering	20%	\$ 200,800.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 1,606,400.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FIRESTONE STATION
Location: #5 87TH ST from Graham Ave to Firestone Blvd
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.64	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 16,000.00
REMOVALS				
		SUBTOTAL		\$ 16,000.00
		Contingency	20%	\$ 3,200.00
		Total PE	20%	\$ 3,200.00
		Construction Engineering	20%	\$ 3,200.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	25,600.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	FIRESTONE STATION
Location: #6	92ND ST from western county limit e/o Central Ave to Success Ave
By: RS	Approved by:
Date:	11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.45	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 11,250.00
REMOVALS				
		SUBTOTAL		\$ 11,250.00
		Contingency	20%	\$ 2,250.00
		Total PE	20%	\$ 2,250.00
		Construction Engineering	20%	\$ 2,250.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	18,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FIRESTONE STATION
Location: #7 92ND ST from Success Ave to Compton Ave
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.3	Mi	Class II Bike Lane (Striping and Signs)	\$ 40,000.00	\$ 12,000.00
REMOVALS				
		SUBTOTAL		\$ 12,000.00
		Contingency	50%	\$ 6,000.00
		Total PE	20%	\$ 2,400.00
		Construction Engineering	20%	\$ 2,400.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	22,800.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FIRESTONE STATION
Location: #8 HOOPER AVE from 76th St to Firestone Blvd
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.84	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 138,600.00
63360	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 95,040.00
REMOVALS				
		SUBTOTAL		\$ 233,640.00
		Contingency	20%	\$ 46,728.00
		Total PE	20%	\$ 46,728.00
		Construction Engineering	20%	\$ 46,728.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 373,824.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FIRESTONE STATION
Location: #9 HOOPER AVE from Firestone Blvd to 94th St
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1.38	Mi	Class II Bike Lane (Striping and Signs)	\$ 40,000.00	\$ 55,200.00
3600	LF	Roadway Striping	\$ 8.00	\$ 28,800.00
REMOVALS				
10800	LF	Striping Removal	\$ 0.75	\$ 8,100.00
		SUBTOTAL		\$ 92,100.00
		Contingency	20%	\$ 18,420.00
		Total PE	20%	\$ 18,420.00
		Construction Engineering	20%	\$ 18,420.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 147,360.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FIRESTONE STATION
Location: #10 COMPTON AVE from Nadeau St to 92nd St
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	Mi	Class II Bike Lane (Striping and Signs)	\$ 40,000.00	\$ 40,000.00
1	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 165,000.00
39040	SF	PCC Sidewalk	\$ 12.00	\$ 468,480.00
REMOVALS				
		SUBTOTAL		\$ 673,480.00
		Contingency	20%	\$ 134,696.00
		Total PE	20%	\$ 134,696.00
		Construction Engineering	20%	\$ 134,696.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 1,077,568.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	FIRESTONE STATION
Location: #11	MAIE AVE from Florence Ave to 92nd St
By: RS	Approved by:
Date:	11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1.5	Mi	Bicycle Boulevard	\$ 30,000.00	\$ 45,000.00
2	LS	Traffic Signal Modification	\$ 20,000.00	\$ 40,000.00
REMOVALS				
		SUBTOTAL		\$ 85,000.00
		Contingency	20%	\$ 17,000.00
		Total PE	20%	\$ 17,000.00
		Construction Engineering	20%	\$ 17,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 136,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FIRESTONE STATION
Location: #12 CROCKETT AVE from Florence Ave to Nadeau St
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 25,000.00
REMOVALS				
		SUBTOTAL		\$ 25,000.00
		Contingency	20%	\$ 5,000.00
		Total PE	20%	\$ 5,000.00
		Construction Engineering	20%	\$ 5,000.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	40,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FIRESTONE STATION
Location: #13 CROCKETT AVE from Nadeau St to 83rd St
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.61	Mi	Class II Bike Lane (Striping and Signs)	\$ 40,000.00	\$ 24,400.00
REMOVALS				
		SUBTOTAL		\$ 24,400.00
		Contingency	20%	\$ 4,880.00
		Total PE	20%	\$ 4,880.00
		Construction Engineering	20%	\$ 4,880.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	39,040.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: FIRESTONE STATION
Location: #14 ALAMEDA CORRIDOR from Florence Ave to 103rd St
By: RS Approved by:
Date: 11/19/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
11700	LF	Class I Bike Trail over tracks	\$ 150.00	\$ 1,755,000.00
5	EA	Traffic signal Modifications	\$ 60,000.00	\$ 300,000.00
REMOVALS				
		SUBTOTAL		\$ 2,055,000.00
		Contingency	20%	\$ 411,000.00
		Total PE	20%	\$ 411,000.00
		Construction Engineering	20%	\$ 411,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 3,288,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	FIRESTONE STATION
Location: #1	FIRESTONE BLVD AND COMPTON AVE
By: RS	Approved by:
Date:	11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
720	LF	Roadway Striping	\$ 8.00	\$ 5,760.00
177	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 3,894.00
392	SF	PCC Sidewalk	\$ 12.00	\$ 4,704.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification (Loop Restoration, etc.)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
		SUBTOTAL		\$ 44,758.00
		Contingency	20%	\$ 8,951.60
		Total PE	20%	\$ 8,951.60
		Construction Engineering	20%	\$ 8,951.60
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 71,612.80

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	FIRESTONE STATION
Location: #2	FIRESTONE BLVD AND MAIE AVE
By: RS	Approved by:
Date:	11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
324	LF	Roadway Striping	\$ 8.00	\$ 2,592.00
617	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 13,574.00
4034	SF	PCC Sidewalk	\$ 12.00	\$ 48,408.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification (Loop Restoration, etc.)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
		SUBTOTAL		\$ 106,974.00
		Contingency	20%	\$ 21,394.80
		Total PE	20%	\$ 21,394.80
		Construction Engineering	20%	\$ 21,394.80
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 171,158.40

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	FIRESTONE STATION
Location: #3	FIRESTONE BLVD AND GRAHAM AVE
By: RS	Approved by:
Date:	11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
179	LF	Roadway Striping	\$ 8.00	\$ 1,432.00
517	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 11,374.00
3160	SF	PCC Sidewalk	\$ 12.00	\$ 37,920.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification (Loop Restoration, etc.)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
		SUBTOTAL		\$ 93,126.00
		Contingency	20%	\$ 18,625.20
		Total PE	20%	\$ 18,625.20
		Construction Engineering	20%	\$ 18,625.20
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 149,001.60

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	FIRESTONE STATION
Location: #4	FIRESTONE BLVD AND HOLMES AVE
By: RS	Approved by:
Date:	11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
266	LF	Roadway Striping	\$ 8.00	\$ 2,128.00
911	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 20,042.00
4268	SF	PCC Sidewalk	\$ 12.00	\$ 51,216.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification (Loop Restoration, etc.)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
		SUBTOTAL		\$ 115,786.00
		Contingency	20%	\$ 23,157.20
		Total PE	20%	\$ 23,157.20
		Construction Engineering	20%	\$ 23,157.20
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 185,257.60

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	FIRESTONE STATION
Location: #5	FIRESTONE BLVD AND FIR AVE
By: RS	Approved by:
Date:	11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
280	LF	Roadway Striping	\$ 8.00	\$ 2,240.00
628	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 13,816.00
4152	SF	PCC Sidewalk	\$ 12.00	\$ 49,824.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification (Loop Restoration, etc.)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
		SUBTOTAL		\$ 108,280.00
		Contingency	20%	\$ 21,656.00
		Total PE	20%	\$ 21,656.00
		Construction Engineering	20%	\$ 21,656.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 173,248.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	FIRESTONE STATION
Location: #6	87TH PL AND COMPTON AVE
By: RS	Approved by:
Date:	11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	LS	Roadway Striping and Signs	\$ 5,300.00	\$ 5,300.00
217	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 4,774.00
1600	SF	PCC Sidewalk	\$ 12.00	\$ 19,200.00
2	EA	Curb Ramp	\$ 1,500.00	\$ 3,000.00
REMOVALS				
1600	SF	AC Pavement Removal	\$ 5.00	\$ 8,000.00
		SUBTOTAL		\$ 40,274.00
		Contingency	20%	\$ 8,054.80
		Total PE	20%	\$ 8,054.80
		Construction Engineering	20%	\$ 8,054.80
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 64,438.40

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	FIRESTONE STATION
Location: #7	89TH ST AND COMPTON AVE
By: RS	Approved by:
Date:	11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
250	LF	Roadway Striping and Signs	\$ 8.00	\$ 2,000.00
402	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 8,844.00
2446	SF	PCC Sidewalk	\$ 12.00	\$ 29,352.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification (Loop Restoration, etc.)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
		SUBTOTAL		\$ 82,596.00
		Contingency	20%	\$ 16,519.20
		Total PE	20%	\$ 16,519.20
		Construction Engineering	20%	\$ 16,519.20
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 132,153.60

Appendix G

Slauson Blue Line Station



Bikeways and Linear Concepts

SLAUSON AVENUE	
FROM:	Central Ave.
TO:	Metro Blue Line Right-of-Way
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes and center turn lane • 57' wide • Proposed bike lane in County Bicycle Master Plan • Railroad right-of-way on the north side parallel to Slauson Ave. is too narrow to accommodate an active rail line and a bicycle path • 24-hour traffic volume west of Compton Ave. in May 2012: 33,100 	<ul style="list-style-type: none"> • Add Type B sharrows • Option: explore obtaining the rail right-of-way in order to add a two-way bicycle path • Option: road diet to two lanes, center turn lane, and bike lanes with traffic impacts
FROM:	Metro Blue Line Right-of-Way
TO:	Wilmington Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes, center turn lane, and on-street parking on the south side only • 70' wide • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lanes
SLAUSON AVENUE PEDESTRIAN IMPROVEMENTS	
FROM:	Compton Ave.
TO:	Metro Blue Line Station
EXISTING	PROPOSED
<ul style="list-style-type: none"> • Bus stops with benches in the station area • High pedestrian activity 	<ul style="list-style-type: none"> • Add lighting and street trees to the sidewalk on the south side of Slauson Ave.

RANDOLPH STREET AND RAIL RIGHT-OF-WAY	
FROM:	Slauson Ave.
TO:	Wilmington Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> Approximately 90' railroad right-of-way in between one-way couplet street 	<ul style="list-style-type: none"> Add two-way bicycle path on north side of rail right-of-way

60TH STREET	
FROM:	Central Ave.
TO:	Wilmington Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> 2 lanes with on-street parking Existing signal at Compton Ave. and the northern alignment of 60th St. Proposed bike route west of Compton Ave. in County Bicycle Master Plan 	<ul style="list-style-type: none"> Add bike route with sharrows and wayfinding signs Add crossing islands, a crosswalk, and signs at the intersection of Compton Ave. and the southern alignment of 60th St. in conjunction with the road diet on Compton Ave.

HOOPER AVENUE	
FROM:	Slauson Ave.
TO:	Gage Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> 4 lanes with on-street parking 57'-58' wide 24-hour traffic volume south of Slauson Ave. in January 2012: 11,637 Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> Road diet to 2 lanes, center turn lane, and on-street parking Add 6' bike lanes

COMPTON AVENUE	
FROM:	Slauson Ave.
TO:	Firestone Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes with on-street parking • 56'-60' wide • 24-hour traffic volume south of Nadeau St. in March 2012: 16,000 • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Road diet to 2 lanes, center turn lane, and on-street parking • Add 6' bike lanes

METRO BLUE LINE RIGHT-OF-WAY	
FROM:	Slauson Ave.
TO:	60th St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • Continuous alignment for a path running west of the tracks 	<ul style="list-style-type: none"> • Add two-way bicycle path leading directly to the station

MIRAMONTE BOULEVARD / MAIE AVENUE	
FROM:	Slauson Ave.
TO:	92nd St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes, center turn lane, and on-street parking • Proposed bicycle boulevard in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add bicycle boulevard • Convert four-way stop at the intersection of Miramonte Blvd. and 60th St. to a roundabout

HOLMES AVE.	
FROM:	Slauson Ave.
TO:	Gage Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes, center turn lane, and on-street parking • 80' wide • Existing buffered bike lane south of Gage Ave. • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' bike lanes with 2' buffer

Bike Parking

Currently, there are 2 bike parking racks at the station, and no lockers. We did not observe high utilization of the existing racks during our field visit. Concern about theft may prevent bicyclists from using the racks. We recommend moving the fence just south of the existing racks to expand the area inside the fare gates, and moving the racks inside this area. We also recommend adding bicycle racks and lockers to the station following the Guidelines for Bicycle Parking.

Activating the Station Area

In order to increase pedestrian security and perceived safety, it is important to encourage positive activities in the station area. The site shown below provides an opportunity to permit “slim stores,” i.e. retail businesses with very small footprints, such as newsstands and vendors.

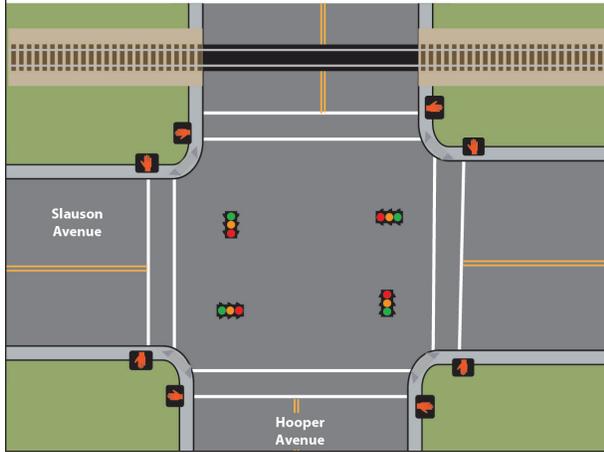


Intersection Improvements

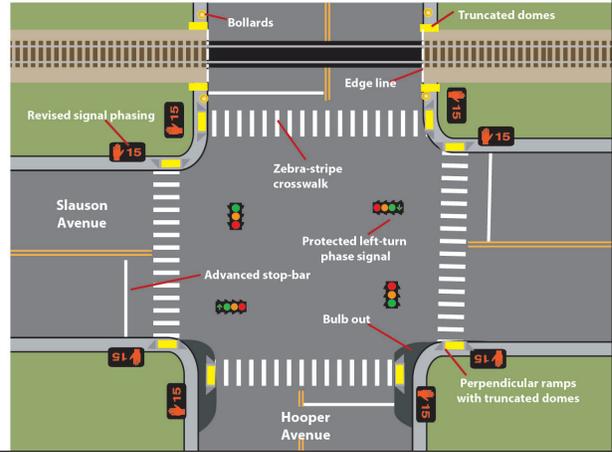
1) SLAUSON AVENUE AND HOOPER AVENUE	
EXISTING	PROPOSED
<ul style="list-style-type: none"> • Slauson Ave. has 4 lanes, center turn lane, and on-street parking • Hooper Ave. has 4 lanes with on-street parking south Slauson Ave. • Signalized intersection with permissive left turns • Railroad right-of-way runs parallel to Slauson Ave. just north of the intersection 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add pedestrian countdown signals to all crossings (8) • Add audio signals to all crossings (8) • Add advanced stop bars to all crossings (4) • Add bulb-outs on the southeast and southwest corners to cross Hooper Ave. (2) • Add protected left-turn phase for turns from Slauson Ave. • Revise signal phasing to maximize length of walk phase - end of walk phase should align with the end of the green phase, even when green phase is held for vehicle traffic • Add truncated domes to all approaches of tracks (4) • Add edge lines across tracks on both sidewalks (2) • Add bollards or curbs to segregate vehicle traffic from sidewalk on both sides • Optional treatments for pedestrian crossings of rail tracks, to apply depending on train volumes: <ul style="list-style-type: none"> - Add pedestrian gate arms to both approaches on both sidewalks (4) - Add warning signs or poles to alert pedestrians to the path of the vehicular gate arm • Coordinate with City of Los Angeles

SLAUSON AVENUE AND HOOPER AVENUE, CONT.

Existing



Proposed



2) SLAUSON AVENUE AND COMPTON AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Slauson Ave. has 4 lanes and center turn lane • Compton Ave. has 4 lanes, center turn lane at the intersection, and on-street parking • Signalized intersection • Railroad right-of-way runs parallel to Slauson Ave. just north of the intersection • Pedestrian crossing of the north leg prohibited • Bus stops on Compton Ave. (northbound, near side; southbound, near side) 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all permitted crossings (3) • Add pedestrian countdown signals to all permitted crossings (6) • Add audio signals to all permitted crossings (6) • Add advanced stop bars to all permitted crossings (3) • Remove pushbuttons and set walk phase to automatic • Add bulb-out on the southwest corner to cross Compton Ave. (1) • Add bus bulb on the southeast corner to cross Compton Ave. (1) • Add truncated domes to all approaches of tracks (4) • Add edge lines across tracks on both sidewalks (2) • Add bollards or curbs to segregate vehicle traffic from sidewalk on both sides • Optional treatments for pedestrian crossings of rail tracks, to apply depending on train volumes: <ul style="list-style-type: none"> - Add pedestrian gate arms to both approaches on both sidewalks (4) - Add warning signs or poles to alert pedestrians to the path of the vehicular gate arm • Coordinate with City of Los Angeles

SLAUSON AVENUE AND COMPTON AVENUE, CONT.

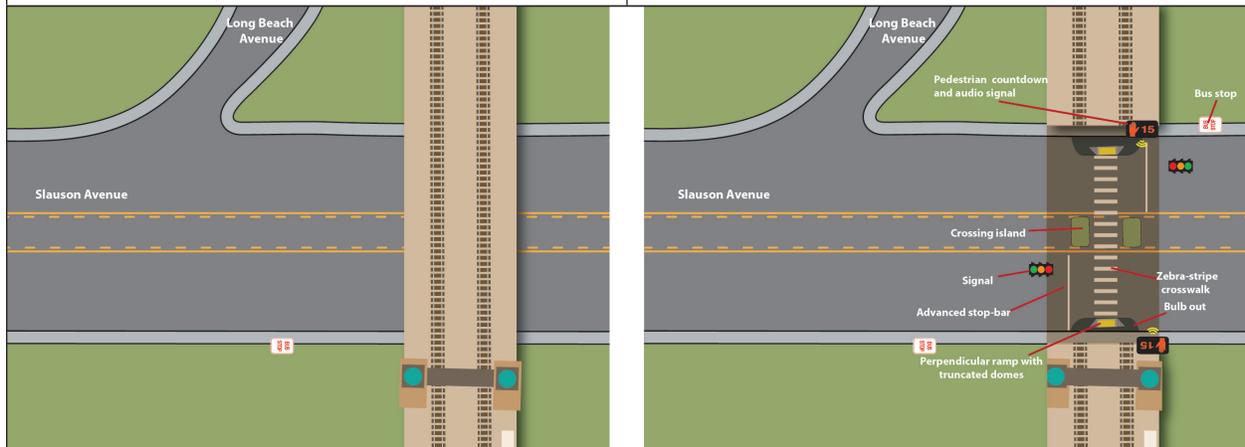


3) SLAUSON AVENUE AND MIRAMONTE BOULEVARD

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Slauson Ave. has 4 lanes and center turn lane • Miramonte Blvd. has 2 lanes and on-street parking • Stop-controlled T-intersection for Miramonte Blvd. 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalk to crossing of Miramonte Blvd. (1) • Add advanced stop bars to crossing of Miramonte Blvd. (1) • Add bulb-outs to cross Miramonte Blvd. (2)

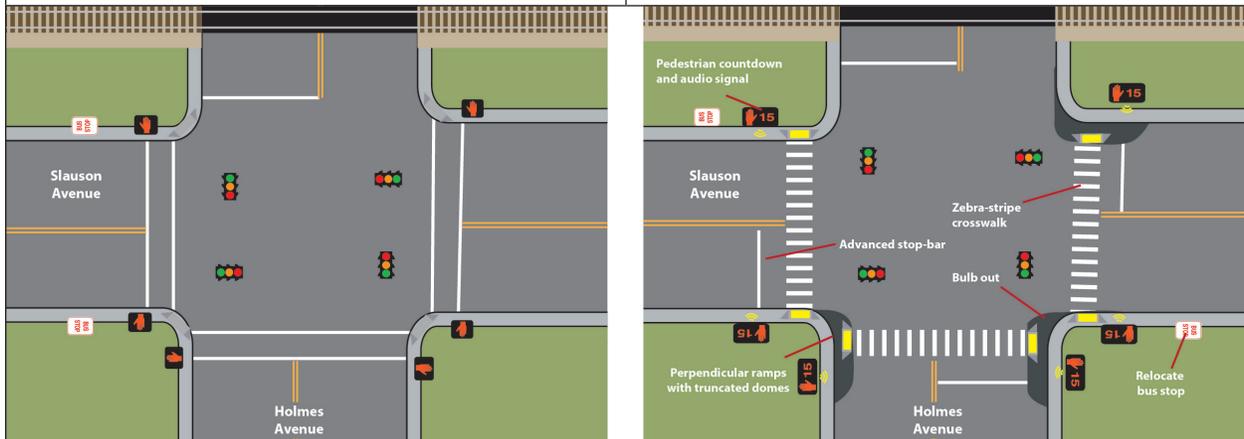
4) SLAUSON AVENUE AND METRO BLUE LINE STATION

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Slauson Ave. has four lanes and painted center median • No crosswalk or crossing treatments • Bus stop on the south side of the street • Many pedestrians observed crossing here • Metro Blue Line tracks above grade at station 	<ul style="list-style-type: none"> • Add half signal directly underneath Metro Blue Line tracks (1) • Add zebra-stripe crosswalk (1) • Add pedestrian countdown signals (2) • Add audio signals (2) • Add advanced stop bars (2) • Add crossing islands (1) • Add bus stop on the north side of the street for the Metro 108/358 Lines



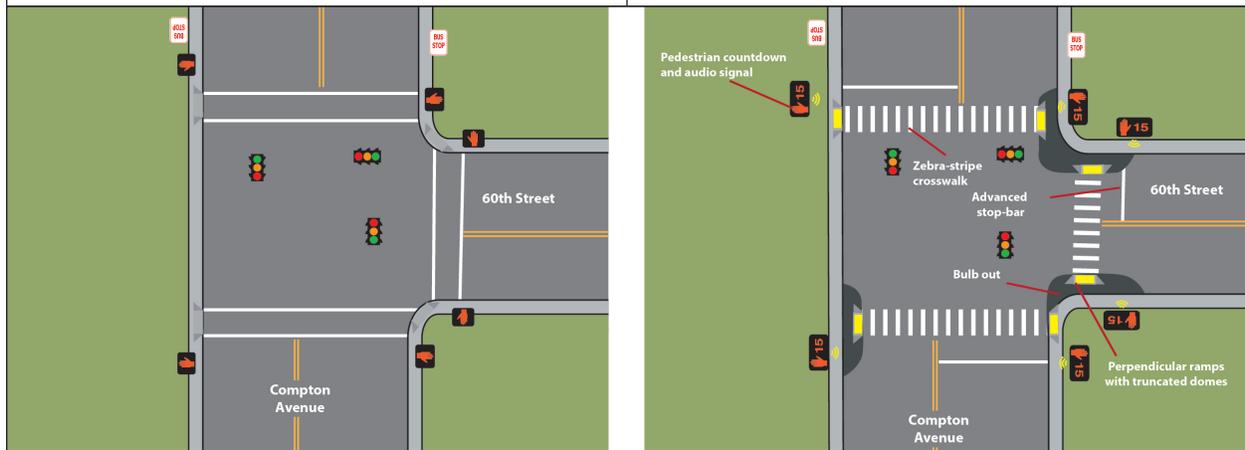
5) SLAUSON AVENUE AND HOLMES AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Slauson Ave. has 4 lanes, center turn lane, and on-street parking on the south side • Holmes Ave. has 4 lanes, center turn lane, and on-street parking • Signalized intersection • Pedestrian crossing of the north leg prohibited • Bus stops on Slauson Ave. (eastbound, far side; westbound, near side) • No landing area at westbound bus stop • Railroad right-of-way runs parallel to and north of Slauson Ave. 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (3) • Add pedestrian countdown signals to all crossings (6) • Add audio signals to all crossings (6) • Add advanced stop bars to all crossings (3) • Add bulb-outs on the southwest and southeast corners to cross Holmes Ave., and on the northeast corner to cross Slauson Ave. (3) • Relocate westbound bus stop to the far side of the intersection where there is room to create a compliant landing area • Option: Explore creating a pedestrian crossing of the north leg of this intersection and improving bus landing areas on the City of Los Angeles side of the street



6) 60TH STREET AND COMPTON AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> 60th St. has 2 lanes and on-street parking Compton Ave. has 4 lanes, center turn lane, and on-street parking Signalized T-intersection Bus stops on Compton Ave. (northbound, far side; southbound, near side) 	<ul style="list-style-type: none"> Add zebra-stripe crosswalks to all crossings (3) Add pedestrian countdown signals to all crossings (6) Add audio signals to all crossings (6) Add advanced stop bars to all crossings (3) Add bulb-outs on the northeast and southeast corners to cross 60th St., and on the northeast and southwest corners to cross Compton Ave. (4)



Los Angeles County Transit Oriented Districts Access Study

This summary page provides definitions for some of the more commonly used abbreviations in these cost estimates. It also includes some notes on the variances for contingencies for each improvement.

Abbreviation/Term Used	Definition/Explanation
AC	Asphalt Concrete
CMB	Center Median Barrier
EA	Each (cost per item)
LF	Linear Foot
LS	Lump Sum (amount per improvement)
MI	Mile
PCC	Portland Cement Concrete
PE	Preliminary Engineering
SF	Square Feet
Contingency	The amount added to a cost estimate that covers unexpected expenses. This estimate typically stands at 20%, but the contingency tends to increase when the recommended improvements are not standard. Because these improvements tend to be more complex, the cost estimates build in an extra contingency to cover unforeseen expenses.

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: **SLAUSON STATION**

By: RS

Approved by:

Date:

11/28/2012

		Location	Cost
Bikeways and Linear Concepts			
	1	SLAUSON AVE from Central Ave to Blue Line R/W (Opt. 2 = \$608,000) (Opt. 3 = \$249,600) (Opt. 4 = \$1,468,800)	\$ 12,800.00
	2	SLAUSON AVE from Blue Line R/W to Wilmington Ave	\$ 38,592.00
	3	SLAUSON AVE PED IMPROVEMENTS from Compton Ave to Blue Line R/W (Opt. 2 = \$1,868,800)	\$ 720,000.00
	4	RANDOLPH ST / RAIL R/W from Slauson Ave to Wilmington Ave	\$ 230,400.00
	5	68TH from Central Ave to Wilmington Ave	\$ 124,000.00
	6	HOOPER AVE from Slauson Ave to Gage Ave	\$ 404,000.00
	7	COMPTON AVE from Slauson Ave to Firestone Blvd	\$ 944,000.00
	8	BLUE LINE R/W from Slauson Ave to 60th St	\$ 200,640.00
	9	MIRAMONTE BLVD/MAIE AVE from Slauson Ave to 92nd St	\$ 568,000.00
	10	HOLMES AVE from Slauson Ave to Gage Ave	\$ 57,000.00
Intersection Improvements			
	1	SLAUSON AVE and HOOPER AVE (Option 2 = \$819,360)	\$ 176,160.00
	2	SLAUSON AVE and COMPTON AVE (Option 2 = \$827,744)	\$ 184,544.00
	3	SLAUSON AVE and MIRAMONTE AVE (Option 2 = \$149,340)	\$ 35,840.00
	4	SLAUSON AVE and BLUE LINE STATION	\$ 442,560.00
	5	SLAUSON AVE and HOLMES AVE (Option 2 = \$245,760)	\$ 165,760.00
	6	60TH ST and COMPTON AVE	\$ 118,880.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$ 4,423,176.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #1 SLAUSON AVE from Central Ave to Blue Line R/W (Option 1)
By: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.8	Mi	Class III Bike Route (Sharrows only)	\$ 10,000.00	\$ 8,000.00
REMOVALS				
		SUBTOTAL		\$ 8,000.00
		Contingency	20%	\$ 1,600.00
		Total PE	20%	\$ 1,600.00
		Construction Engineering	20%	\$ 1,600.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	12,800.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #1 SLAUSON AVE from Central Ave to Blue Line R/W (Option 2)
By: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
64000	SF	Class I Bike Path	\$ 5.00	\$ 320,000.00
REMOVALS				
		SUBTOTAL		\$ 320,000.00
		Contingency	50%	\$ 160,000.00
		Total PE	20%	\$ 64,000.00
		Construction Engineering	20%	\$ 64,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 608,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #1 SLAUSON AVE from Central Ave to Blue Line R/W (Option 3)
By: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.8	Mi	Class II Bike Lane with Road Diet (4 to 3 lanes)	\$ 165,000.00	\$ 132,000.00
REMOVALS				
4000	LF	Striping removal	\$ 6.00	\$ 24,000.00
		SUBTOTAL		\$ 156,000.00
		Contingency	20%	\$ 31,200.00
		Total PE	20%	\$ 31,200.00
		Construction Engineering	20%	\$ 31,200.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 249,600.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #1 SLAUSON AVE from Central Ave to Blue Line R/W (Option 4)
By: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
4000	LF	Roadway Striping	\$ 8.00	\$ 32,000.00
9000	LF	6" PCC Curb over CMB	\$ 22.00	\$ 198,000.00
32000	SF	PCC Sidewalk	\$ 12.00	\$ 384,000.00
40000	SF	Class I Bike Path	\$ 5.00	\$ 200,000.00
REMOVALS				
16000	SF	AC Pavement removal	\$ 5.00	\$ 80,000.00
4000	SF	Striping removal	\$ 6.00	\$ 24,000.00
		SUBTOTAL		\$ 918,000.00
		Contingency	20%	\$ 183,600.00
		Total PE	20%	\$ 183,600.00
		Construction Engineering	20%	\$ 183,600.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 1,468,800.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #2 SLAUSON AVE from Blue Line R/W to Wilmington Ave
By: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
16080	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 24,120.00
REMOVALS				
		SUBTOTAL		\$ 24,120.00
		Contingency	20%	\$ 4,824.00
		Total PE	20%	\$ 4,824.00
		Construction Engineering	20%	\$ 4,824.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 38,592.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #3 SLAUSON AVE PED IMPROVEMENTS from Compton Ave to Blue Line R/W (Option 1)
By: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	LS	Lighting and street trees	\$ 450,000.00	\$ 450,000.00
REMOVALS				
		SUBTOTAL		\$ 450,000.00
		Contingency	20%	\$ 90,000.00
		Total PE	20%	\$ 90,000.00
		Construction Engineering	20%	\$ 90,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 720,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #3 SLAUSON AVE PED IMPROVEMENTS from Compton Ave to Blue Line R/W (Option 2)
By: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
9000	LF	6" PCC Curb over CMB (median and bulbouts)	\$ 22.00	\$ 198,000.00
4000	LF	Roadway Striping	\$ 8.00	\$ 32,000.00
32000	SF	PCC Sidewalk	\$ 12.00	\$ 384,000.00
1	LS	Lighting and street trees	\$ 450,000.00	\$ 450,000.00
REMOVALS				
16000	SF	AC Pavement removal	\$ 5.00	\$ 80,000.00
4000	SF	Striping removal	\$ 6.00	\$ 24,000.00
		SUBTOTAL		\$ 1,168,000.00
		Contingency	20%	\$ 233,600.00
		Total PE	20%	\$ 233,600.00
		Construction Engineering	20%	\$ 233,600.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 1,868,800.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #4 RANDOLPH ST/RAIL R/W from Slauson Ave to Wilmington Ave
By: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
28800	SF	Class I Bike Path	\$ 5.00	\$ 144,000.00
REMOVALS				
		SUBTOTAL		\$ 144,000.00
		Contingency	20%	\$ 28,800.00
		Total PE	20%	\$ 28,800.00
		Construction Engineering	20%	\$ 28,800.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 230,400.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #5 68TH ST from Central Ave to Wilmington Ave
By: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1	Mi	Class III Bike Route (Signing and Sharrows)	\$ 25,000.00	\$ 25,000.00
1	LS	Roadway Striping and signage	\$ 7,500.00	\$ 7,500.00
2	EA	Ped crossing islands	\$ 20,000.00	\$ 40,000.00
REMOVALS				
1	LS	Striping removal	\$ 3,000.00	\$ 3,000.00
400	SF	AC Pavement removal	\$ 5.00	\$ 2,000.00
		SUBTOTAL		\$ 77,500.00
		Contingency	20%	\$ 15,500.00
		Total PE	20%	\$ 15,500.00
		Construction Engineering	20%	\$ 15,500.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 124,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #6 HOOPER AVE from Slauson Ave to Gage Ave
By: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.5	Mi	Class II Bike Lane with Road Diet (4 to 3 lanes)	\$ 165,000.00	\$ 82,500.00
2	EA	Roundabout	\$ 80,000.00	\$ 160,000.00
REMOVALS				
1	LS	Striping removal	\$ 10,000.00	\$ 10,000.00
		SUBTOTAL		\$ 252,500.00
		Contingency	20%	\$ 50,500.00
		Total PE	20%	\$ 50,500.00
		Construction Engineering	20%	\$ 50,500.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 404,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #7 COMPTON AVE from Slauson Ave to Firestone Blvd
By: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
2	Mi	Class II Bike Lane with Road Diet (4 to 3 lanes)	\$ 165,000.00	\$ 330,000.00
3	EA	Roundabout	\$ 80,000.00	\$ 240,000.00
REMOVALS				
1	LS	Striping removal	\$ 20,000.00	\$ 20,000.00
		SUBTOTAL		\$ 590,000.00
		Contingency	20%	\$ 118,000.00
		Total PE	20%	\$ 118,000.00
		Construction Engineering	20%	\$ 118,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 944,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #8 BLUE LINE R/W from Slauson Ave to 60th St
By: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
21120	SF	Class I Bike Path	\$ 5.00	\$ 105,600.00
REMOVALS				
		SUBTOTAL		\$ 105,600.00
		Contingency	50%	\$ 52,800.00
		Total PE	20%	\$ 21,120.00
		Construction Engineering	20%	\$ 21,120.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 200,640.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #9 MIRAMONTE BLVD/MAIE AVE from Slauson Ave to 92nd St
By: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
2.5	Mi	Bicycle Boulevard	\$ 40,000.00	\$ 100,000.00
1	EA	Roundabout	\$ 80,000.00	\$ 80,000.00
7	EA	Small Traffic Circle	\$ 25,000.00	\$ 175,000.00
REMOVALS				
		SUBTOTAL		\$ 355,000.00
		Contingency	20%	\$ 71,000.00
		Total PE	20%	\$ 71,000.00
		Construction Engineering	20%	\$ 71,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 568,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #10 HOLMES AVE from Slauson Ave to Gage Ave
By: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.75	Mi	Class Bike Lane (Striping and Signs)	\$ 40,000.00	\$ 30,000.00
REMOVALS				
		SUBTOTAL		\$ 30,000.00
		Contingency	50%	\$ 15,000.00
		Total PE	20%	\$ 6,000.00
		Construction Engineering	20%	\$ 6,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 57,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #1 SLAUSON AVE and HOOPER AVE (Option 1)
Prepared by: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
800	LF	Roadway Striping	\$ 8.00	\$ 6,400.00
150	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 3,300.00
1000	SF	PCC Sidewalk	\$ 12.00	\$ 12,000.00
2	EA	Curb Ramp	\$ 1,500.00	\$ 3,000.00
8	EA	Ped countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	RXR Ped Treatments (bollards/ truncated domes)	\$ 10,000.00	\$ 10,000.00
1	LS	Traffic Signal Modification	\$ 60,000.00	\$ 60,000.00
REMOVALS				
1	LS	Striping Removal	\$ 5,000.00	\$ 5,000.00
		SUBTOTAL		\$ 110,100.00
		Contingency	20%	\$ 22,020.00
		Total PE	20%	\$ 22,020.00
		Construction Engineering	20%	\$ 22,020.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 176,160.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #1 SLAUSON AVE and HOOPER AVE (Option 2)
Prepared by: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
800	LF	Roadway Striping	\$ 8.00	\$ 6,400.00
150	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 3,300.00
1000	SF	PCC Sidewalk	\$ 12.00	\$ 12,000.00
2	EA	Curb Ramp	\$ 1,500.00	\$ 3,000.00
8	EA	Ped countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
4	EA	Pedestrian RXR Gate Arms	\$ 100,000.00	\$ 400,000.00
1	LS	RXR Ped Treatments (bollards/ truncated domes, signs)	\$ 12,000.00	\$ 12,000.00
1	LS	Traffic Signal Modification	\$ 60,000.00	\$ 60,000.00
REMOVALS				
1	LS	Striping Removal	\$ 5,000.00	\$ 5,000.00
		SUBTOTAL		\$ 512,100.00
		Contingency	20%	\$ 102,420.00
		Total PE	20%	\$ 102,420.00
		Construction Engineering	20%	\$ 102,420.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 819,360.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #2 SLAUSON AVE and COMPTON AVE (Option 1)
Prepared by: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
600	LF	Roadway Striping	\$ 8.00	\$ 4,800.00
230	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 5,060.00
1640	SF	PCC Sidewalk	\$ 12.00	\$ 19,680.00
2	EA	Curb Ramp	\$ 1,500.00	\$ 3,000.00
6	EA	Ped countdown signals	\$ 800.00	\$ 4,800.00
6	EA	Audio ped signals	\$ 500.00	\$ 3,000.00
1	LS	RXR Ped Treatments (bollards/ truncated domes, signs)	\$ 10,000.00	\$ 10,000.00
1	LS	Traffic Signal Modification	\$ 60,000.00	\$ 60,000.00
REMOVALS				
1	LS	Striping Removal	\$ 5,000.00	\$ 5,000.00
		SUBTOTAL		\$ 115,340.00
		Contingency	20%	\$ 23,068.00
		Total PE	20%	\$ 23,068.00
		Construction Engineering	20%	\$ 23,068.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 184,544.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #2 SLAUSON AVE and COMPTON AVE (Option 2)
Prepared by: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
600	LF	Roadway Striping	\$ 8.00	\$ 4,800.00
230	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 5,060.00
1640	SF	PCC Sidewalk	\$ 12.00	\$ 19,680.00
2	EA	Curb Ramp	\$ 1,500.00	\$ 3,000.00
6	EA	Ped countdown signals	\$ 800.00	\$ 4,800.00
6	EA	Audio ped signals	\$ 500.00	\$ 3,000.00
4	EA	Pedestrian RXR Gate Arms	\$ 100,000.00	\$ 400,000.00
1	LS	RXR Ped Treatments (bollards/ truncated domes, signs)	\$ 12,000.00	\$ 12,000.00
1	LS	Traffic Signal Modification	\$ 60,000.00	\$ 60,000.00
REMOVALS				
1	LS	Striping Removal	\$ 5,000.00	\$ 5,000.00
		SUBTOTAL		\$ 517,340.00
		Contingency	20%	\$ 103,468.00
		Total PE	20%	\$ 103,468.00
		Construction Engineering	20%	\$ 103,468.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 827,744.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #3 SLAUSON AVE and MIRAMONTE AVE (Option 1)
Prepared by: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
200	LF	Roadway Striping	\$ 8.00	\$ 1,600.00
150	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 3,300.00
1000	SF	PCC Sidewalk	\$ 12.00	\$ 12,000.00
2	EA	Curb Ramp	\$ 1,500.00	\$ 3,000.00
REMOVALS				
1	LS	Striping Removal	\$ 2,500.00	\$ 2,500.00
		SUBTOTAL		\$ 22,400.00
		Contingency	20%	\$ 4,480.00
		Total PE	20%	\$ 4,480.00
		Construction Engineering	20%	\$ 4,480.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 35,840.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #3 SLAUSON AVE and MIRAMONTE AVE (Option 2)
Prepared by: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
1200	LF	Roadway Striping	\$ 8.00	\$ 9,600.00
1000	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 22,000.00
2000	SF	PCC Sidewalk	\$ 12.00	\$ 24,000.00
2	EA	Curb Ramp	\$ 1,500.00	\$ 3,000.00
REMOVALS				
2000	SF	AC Pavement removal	\$ 5.00	\$ 10,000.00
1	LS	Striping Removal	\$ 10,000.00	\$ 10,000.00
		SUBTOTAL		\$ 78,600.00
		Contingency	50%	\$ 39,300.00
		Total PE	20%	\$ 15,720.00
		Construction Engineering	20%	\$ 15,720.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 149,340.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #4 SLAUSON AVE and BLUE LINE STATION
Prepared by: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
300	LF	Roadway Striping	\$ 8.00	\$ 2,400.00
100	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 2,200.00
200	SF	PCC Sidewalk	\$ 12.00	\$ 2,400.00
2	EA	Curb Ramp	\$ 1,500.00	\$ 3,000.00
2	EA	Ped countdown signals	\$ 800.00	\$ 1,600.00
2	EA	Audio ped signals	\$ 500.00	\$ 1,000.00
1	LS	Add Bus Stop	\$ 10,000.00	\$ 10,000.00
1	LS	Traffic Signal Installation	\$ 250,000.00	\$ 250,000.00
REMOVALS				
300	SF	AC pavement	\$ 5.00	\$ 1,500.00
1	LS	Striping Removal	\$ 2,500.00	\$ 2,500.00
		SUBTOTAL		\$ 276,600.00
		Contingency	20%	\$ 55,320.00
		Total PE	20%	\$ 55,320.00
		Construction Engineering	20%	\$ 55,320.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 442,560.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #5 SLAUSON AVE and HOLMES AVE (Option 1)
Prepared by: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
600	LF	Roadway Striping	\$ 8.00	\$ 4,800.00
250	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 5,500.00
1500	SF	PCC Sidewalk	\$ 12.00	\$ 18,000.00
5	EA	Curb Ramp	\$ 1,500.00	\$ 7,500.00
6	EA	Ped countdown signals	\$ 800.00	\$ 4,800.00
6	EA	Audio ped signals	\$ 500.00	\$ 3,000.00
1	LS	Relocate Bus Stop	\$ 5,000.00	\$ 5,000.00
1	LS	Traffic Signal Modification	\$ 50,000.00	\$ 50,000.00
REMOVALS				
1	LS	Striping Removal	\$ 5,000.00	\$ 5,000.00
		SUBTOTAL		\$ 103,600.00
		Contingency	20%	\$ 20,720.00
		Total PE	20%	\$ 20,720.00
		Construction Engineering	20%	\$ 20,720.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 165,760.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SLAUSON STATION
Location: #5 SLAUSON AVE and HOLMES AVE (Option 2)
Prepared by: RS **Approved by:**
Date: 11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
600	LF	Roadway Striping	\$ 8.00	\$ 4,800.00
250	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 5,500.00
1500	SF	PCC Sidewalk	\$ 12.00	\$ 18,000.00
5	EA	Curb Ramp	\$ 1,500.00	\$ 7,500.00
6	EA	Ped countdown signals	\$ 800.00	\$ 4,800.00
6	EA	Audio ped signals	\$ 500.00	\$ 3,000.00
1	LS	Relocate Bus Stop	\$ 5,000.00	\$ 5,000.00
1	LS	New ped crossing and bus landings (north side)	\$ 80,000.00	\$ 80,000.00
1	LS	Traffic Signal Modification	\$ 20,000.00	\$ 20,000.00
REMOVALS				
1	LS	Striping Removal	\$ 5,000.00	\$ 5,000.00
		SUBTOTAL		\$ 153,600.00
		Contingency	20%	\$ 30,720.00
		Total PE	20%	\$ 30,720.00
		Construction Engineering	20%	\$ 30,720.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 245,760.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	SLAUSON STATION
Location: #6	60TH ST and COMPTON AVE
Prepared by: RS	Approved by:
Date:	11/28/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
400	LF	Roadway Striping	\$ 8.00	\$ 3,200.00
200	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 4,400.00
2200	SF	PCC Sidewalk	\$ 12.00	\$ 26,400.00
5	EA	Curb Ramp	\$ 1,500.00	\$ 7,500.00
6	EA	Ped countdown signals	\$ 800.00	\$ 4,800.00
6	EA	Audio ped signals	\$ 500.00	\$ 3,000.00
1	LS	Traffic Signal Modification	\$ 20,000.00	\$ 20,000.00
REMOVALS				
1	LS	Striping Removal	\$ 5,000.00	\$ 5,000.00
		SUBTOTAL		\$ 74,300.00
		Contingency	20%	\$ 14,860.00
		Total PE	20%	\$ 14,860.00
		Construction Engineering	20%	\$ 14,860.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 118,880.00

Appendix H

Sierra Madre Villa Gold Line Station



Bikeways and Linear Concepts

COLORADO BOULEVARD	
FROM:	Northrup Ave.
TO:	Pasadena City Limit west of Madre St.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes, center turn lane, and on-street parking • 74' wide • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Option 1: Add 5' colored bike lanes • Option 2: Add type B sharrows
FROM:	Pasadena City Limit east of Halstead St.
TO:	Rosemead Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes, center turn lane, and on-street parking • 74' wide • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Option 1: Add 5' colored bike lanes • Option 2: Add type B sharrows
FROM:	Rosemead Blvd.
TO:	Michillinda Ave.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes, center median, and on-street parking • 35' wide on either side of the median • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 7' colored bike lanes

DEL MAR BOULEVARD	
FROM:	Pasadena City Limit west of Madre St.
TO:	Rosemead Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes with on-street parking • 64' wide • 24-hour traffic volume west of Rosemead Blvd. in January 2006: 11,044 • Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Option 1: Road diet to 2 lanes, center-turn lane, and on-street parking; add 6' bike lanes with 2' buffer • Option 2: Add 5' colored bike lanes

SAN PASQUAL STREET	
FROM:	Pasadena City Limit west of Eaton Wash Channel
TO:	Rosemead Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes with on-street parking • 50' wide • Proposed bike route in County Bicycle Master Plan west of Madre St.; proposed bike lane in County Bicycle Master Plan east of Madre St. 	<ul style="list-style-type: none"> • Add 6' bike lanes

CALIFORNIA BOULEVARD	
FROM:	Pasadena City Limit west of Eaton Wash Channel
TO:	Rosemead Blvd.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 2 lanes, center turn lane, and on-street parking with striped shoulder (on-street parking observed to have very low occupancy) • 50' wide • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Option 1: Eliminate parking and add bike lane signs and markings to existing striped shoulder • Option 2: Remove or narrow center turn lane, maintain on-street parking, and add 6' bike lanes • Option 3: Add bike route with wayfinding signs; bicycles and on-street parking share shoulder

CALIFORNIA BOULEVARD, CONT.

FROM:	Rosemead Blvd.	
TO:	Michigan Blvd.	
	EXISTING	PROPOSED
	<ul style="list-style-type: none"> • 4 lanes with on-street parking on south side of street only • 64' wide • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lanes with 2' buffer
FROM:	Michigan Blvd.	
TO:	Michillinda Ave.	
	EXISTING	PROPOSED
	<ul style="list-style-type: none"> • 4 lanes with center median • 33' wide on either side of the median • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lanes with 2' buffer

EATON WASH CHANNEL

FROM:	Eaton Blanche Park	
TO:	Huntington Dr.	
	EXISTING	PROPOSED
	<ul style="list-style-type: none"> • Creek right-of-way with adequate space for bicycle path 	<ul style="list-style-type: none"> • Add bicycle path along creek right-of-way

MADRE STREET

FROM:	Colorado Blvd.	
TO:	Huntington Dr.	
	EXISTING	PROPOSED
	<ul style="list-style-type: none"> • 2 lanes with on-street parking • Proposed bike route in County Bicycle Master Plan north of Green St. and south of San Pasqual St. • Existing bike route between Green St. and San Pasqual St. 	<ul style="list-style-type: none"> • Add bike route signs to proposed sections and sharrows and wayfinding signs to entire corridor

ROSEMEAD BOULEVARD	
FROM:	Colorado Blvd.
TO:	Huntington Dr.
EXISTING	PROPOSED
<ul style="list-style-type: none"> • 4 lanes, center median, on-street parking in northbound direction, on-street parking in southbound direction north of Yorkshire Rd., and striped shoulder in southbound direction south of Yorkshire Rd. • 36' wide on east side of the median; 40' wide on west side of the median • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 7' colored bike lane in northbound direction • Add 7' colored bike lane with 2' buffer in southbound direction

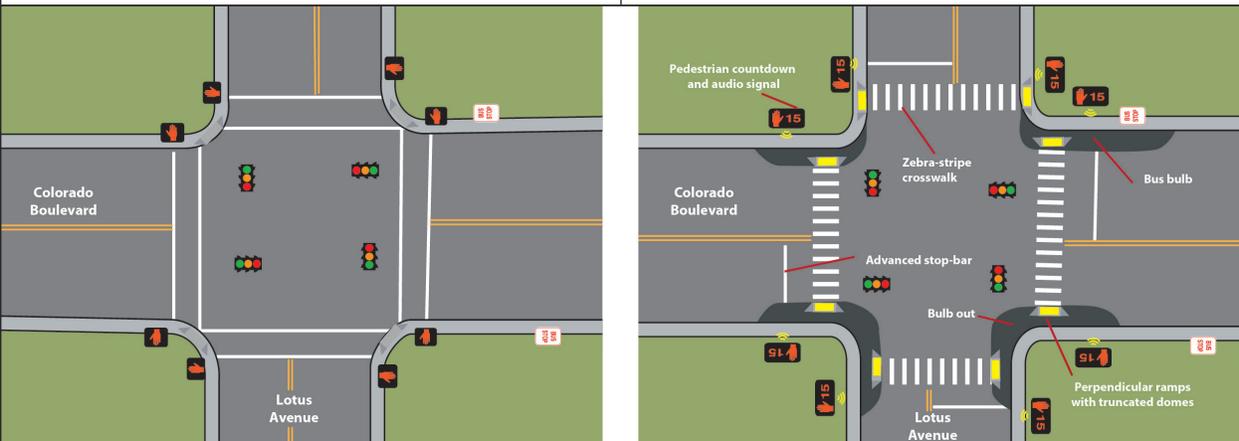
Bike Parking

The Sierra Madre Villa station site falls outside County jurisdiction, and thus is not included in these recommendations.

Intersection Improvements

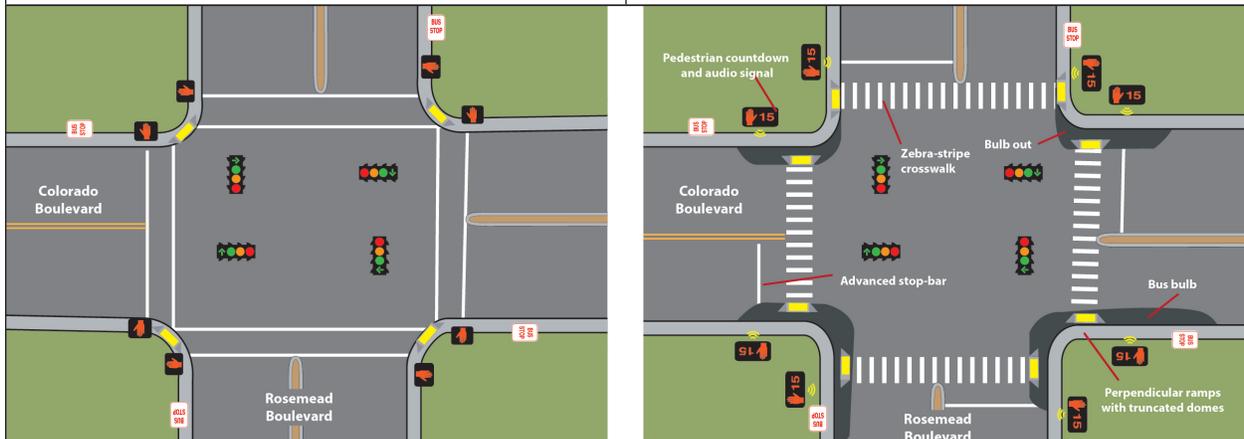
1) COLORADO BOULEVARD AND LOTUS AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> Colorado Blvd. has 4 lanes, center turn lane, and on-street parking Lotus Ave. has 2 lanes and on-street parking Signalized intersection Bus stops on Colorado Blvd. (eastbound, far side, set back from intersection; westbound, near side) 	<ul style="list-style-type: none"> Add zebra-stripe crosswalks to all crossings (4) Add pedestrian countdown signals to all crossings (8) Add audio signals to all crossings (8) Add advanced stop bars to all crossings (4) Add bulb-outs on the northwest, southwest, and southeast corners to cross Colorado Blvd. and on the southeast and southwest corners to cross Lotus Ave. (5) Add bus bulb on the northeast corner to cross Colorado Blvd. (1)



2) COLORADO BOULEVARD AND ROSEMEAD BOULEVARD

EXISTING	PROPOSED
<ul style="list-style-type: none"> Colorado Blvd. has 4 lanes, center turn lane, and on-street parking Rosemead Blvd. has 4 lanes, center median, and on-street parking Signalized intersection with protected left turns from Colorado Blvd. and Rosemead Blvd. Bus stops on Colorado Blvd. (eastbound, far side; westbound, far side) and on Rosemead Blvd. (northbound, far side; southbound, far side) Truncated domes at all crossings 	<ul style="list-style-type: none"> Add zebra-stripe crosswalks to all crossings (4) Add pedestrian countdown signals to all crossings (8) Add audio signals to all crossings (8) Add advanced stop bars to all crossings (4) Add leading pedestrian interval for all crossings Add bulb-outs on the northwest, northeast, and southwest corners to cross Colorado Blvd. and on the southeast corner to cross Rosemead Blvd. (4) Add bus bulbs on the southeast corner to cross Colorado Blvd. and on the southwest corner to cross Rosemead Blvd. (2) Remove northbound right-turn lane on Rosemead Blvd.



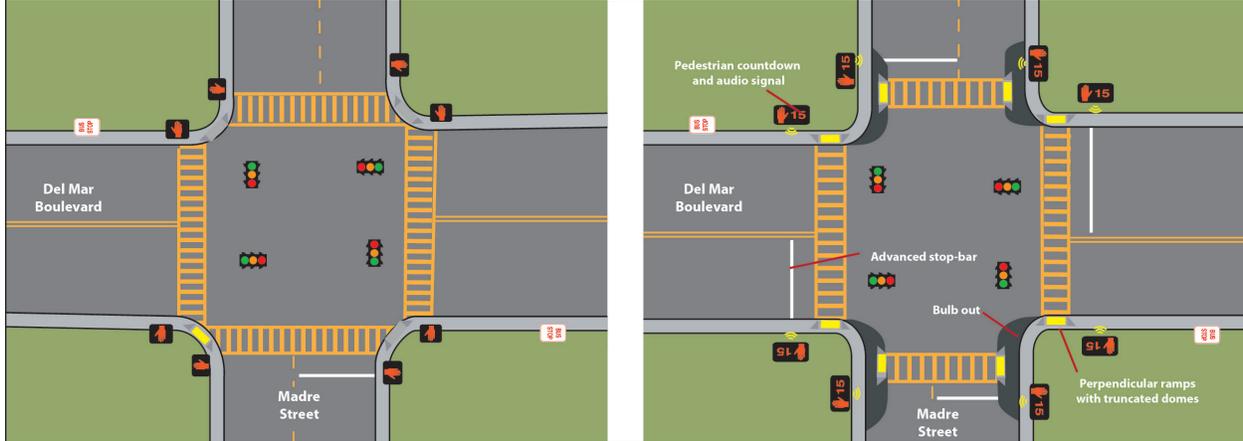
3) BRANDON STREET AND MADRE STREET

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Brandon St. has 2 lanes and on-street parking • Madre St. has 2 lanes and on-street parking • Stop-controlled intersection for Brandon St. • No striped crosswalks 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add advanced stop bars on Brandon St. (2) • Add advanced yield markings on Madre St. (2) • Add advanced yield signs on Madre St. (2) • Add R1-6 center pedestrian crossing signs on Madre St. (2) • Add advanced pedestrian warning signs on Madre St. (2) • Add bulb-outs to all corners (8)



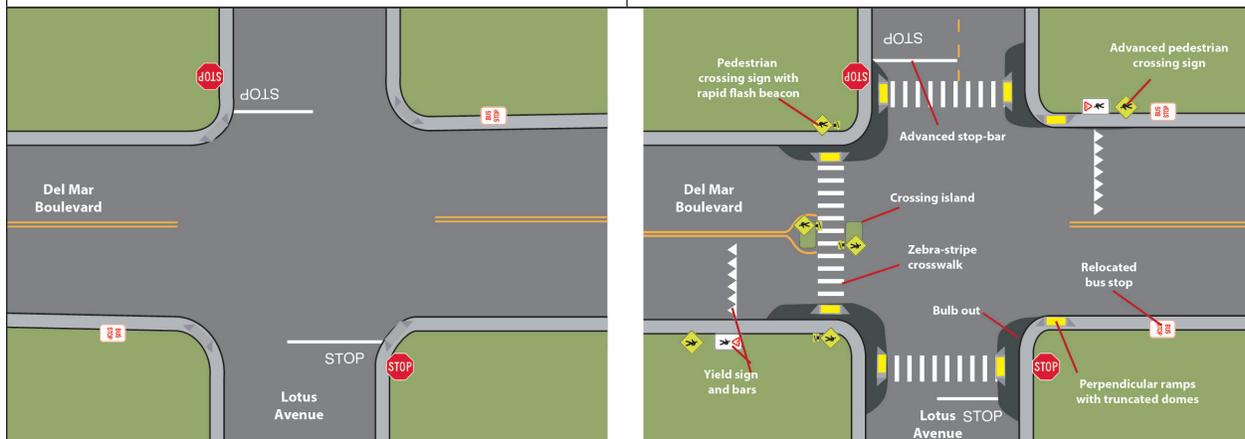
4) DEL MAR BOULEVARD AND MADRE STREET

EXISTING	PROPOSED
<ul style="list-style-type: none"> • Del Mar Blvd. has 4 lanes, center-turn lane, and on-street parking • Madre St. has 2 lanes and on-street parking • Signalized intersection • Bus stops on Del Mar Blvd. (eastbound, far side; westbound, far side) • Yellow ladder crosswalks for all crossings, advanced stop bar on northbound approach, and truncated domes on south corners 	<ul style="list-style-type: none"> • Add pedestrian countdown signals to all crossings (8) • Add audio signals to all signalized crossings (8) • Add advanced stop bars to all crossings that lack them (3) • Add bulb-outs on all crossing faces to cross Madre St. (4) • Coordinate with City of Pasadena



5) DEL MAR BOULEVARD AND LOTUS AVENUE

EXISTING	PROPOSED
<ul style="list-style-type: none"> Del Mar Blvd. has 4 lanes, center-turn lane, and on-street parking Lotus Ave. has 2 lanes and on-street parking Stop-controlled intersection for Lotus Ave. Bus stops on Del Mar Blvd. (eastbound, near side; westbound, near side) No marked crosswalks 	<ul style="list-style-type: none"> Add zebra-stripe crosswalks across north, south, and west legs of intersection (3) Add advanced stop bars on Lotus Ave. (2) Add advanced yield markings on Del Mar Blvd. (2) Add advanced yield signs on Del Mar Blvd. (2) Add pedestrian crossing signs on with rectangular rapid flashing beacons on Del Mar Blvd. (4) Add advanced pedestrian warning signs on Del Mar Blvd. (2) Add bulb-outs on all crossing faces to cross Lotus Ave. and to northwest and southwest corners to cross Del Mar Blvd. (6) Add crossing islands to west leg of intersection (1 pair) Relocate eastbound bus stop to far side of Lotus Ave.



Los Angeles County Transit Oriented Districts Access Study

This summary page provides definitions for some of the more commonly used abbreviations in these cost estimates. It also includes some notes on the variances for contingencies for each improvement.

Abbreviation/Term Used	Definition/Explanation
AC	Asphalt Concrete
CMB	Center Median Barrier
EA	Each (cost per item)
LF	Linear Foot
LS	Lump Sum (amount per improvement)
MI	Mile
PCC	Portland Cement Concrete
PE	Preliminary Engineering
SF	Square Feet
Contingency	The amount added to a cost estimate that covers unexpected expenses. This estimate typically stands at 20%, but the contingency tends to increase when the recommended improvements are not standard. Because these improvements tend to be more complex, the cost estimates build in an extra contingency to cover unforeseen expenses.

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:

SIERRA MADRE STATION

By: RS

Approved by:

Date:

11/16/2012

		Location	Cost
Bikeways and Linear Concepts			
	1	COLORADO BLVD from Northrup Ave to Pasadena City Limit w/o Madre St (Opt. 2 = \$16,400)	\$ 50,400.00
	2	COLORADO BLVD from Pasadena City Limit e/o Halstead St to Rosemead Blvd (Opt. 2 = \$4320)	\$ 98,400.00
	3	COLORADO BLVD Rosemead Blvd to Michillinda Ave	\$ 148,896.00
	4	DEL MAR BLVD from Pasadena City Limit w/o Eaton Wash to Rosemead Blvd	\$ 207,240.00
	5	SAN PASQUAL ST from Pasadena City Limit w/o Eaton Wash to Rosemead Blvd	\$ 41,600.00
	6	CALIFORNIA BLVD from Pasadena City Limit w/o Eaton Wash to Rosemead Blvd (Opt. 2 = \$85,120) (Opt. 3 = \$26,000)	\$ 41,600.00
	7	CALIFORNIA BLVD from Rosemead Blvd to Michigan Blvd	\$ 29,120.00
	8	CALIFORNIA BLVD from Michigan Blvd to Michillinda Ave	\$ 41,600.00
	9	EATON WASH CHANNEL from Eaton Blanche Park to Huntington Dr	\$ 1,984,000.00
	10	MADRE ST from Colorado Blvd to Huntington Dr	\$ 44,560.00
	11	ROSEMEAD BLVD from Colorado Blvd to Huntington Dr	\$ 458,880.00
Intersection Improvements			
	1	COLORADO BLVD and LOTUS AVE	\$ 178,944.00
	2	COLORADO BLVD and ROSEMEAD BLVD	\$ 265,472.00
	3	BRANDON ST and MADRE ST	\$ 138,496.00
	4	DEL MAR BLVD and MADRE ST	\$ 147,328.00
	4	DEL MAR BLVD and LOTUS AVE	\$ 150,182.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$ 4,026,718.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SIERRA MADRE STATION
Location: #1 COLORADO BLVD from Northrup Ave to City Limit w/o Madre St (Option 1)
By: RS **Approved by:**
Date: 11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
7000	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 10,500.00
0.14	Mi	Roadway Striping	\$ 150,000.00	\$ 21,000.00
REMOVALS				
		SUBTOTAL		\$ 31,500.00
		Contingency	20%	\$ 6,300.00
		Total PE	20%	\$ 6,300.00
		Construction Engineering	20%	\$ 6,300.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 50,400.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SIERRA MADRE STATION
Location: #1 COLORADO BLVD from Northrup Ave to City Limit w/o Madre St (Option 2)
By: RS **Approved by:**
Date: 11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.41	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 10,250.00
REMOVALS				
		SUBTOTAL		\$ 10,250.00
		Contingency	20%	\$ 2,050.00
		Total PE	20%	\$ 2,050.00
		Construction Engineering	20%	\$ 2,050.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	16,400.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SIERRA MADRE STATION
Location: #2 COLORADO BLVD from City Limit w/o Madre St to Rosemead Blvd (Option 1)
By: RS **Approved by:**
Date: 11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.27	Mi	Roadway Striping	\$ 150,000.00	\$ 40,500.00
14000	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 21,000.00
REMOVALS				
		SUBTOTAL		\$ 61,500.00
		Contingency	20%	\$ 12,300.00
		Total PE	20%	\$ 12,300.00
		Construction Engineering	20%	\$ 12,300.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 98,400.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SIERRA MADRE STATION
Location: #2 COLORADO BLVD from City Limit w/o Madre St to Rosemead Blvd (Option 2)
By: RS **Approved by:**
Date: 11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.27	Mi	Class III - Bike Routes (Sharrows only)	\$ 10,000.00	\$ 2,700.00
REMOVALS				
		SUBTOTAL		\$ 2,700.00
		Contingency	20%	\$ 540.00
		Total PE	20%	\$ 540.00
		Construction Engineering	20%	\$ 540.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	4,320.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SIERRA MADRE STATION
Location: #3 COLORADO BLVD from Rosemead Blvd to Michillinda Ave
By: RS **Approved by:**
Date: 11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.36	Mi	Green Bike Lane Striping (Paint)	\$ 150,000.00	\$ 54,000.00
26,040	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 39,060.00
REMOVALS				
		SUBTOTAL		\$ 93,060.00
		Contingency	20%	\$ 18,612.00
		Total PE	20%	\$ 18,612.00
		Construction Engineering	20%	\$ 18,612.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 148,896.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SIERRA MADRE STATION
Location: #4 DEL MAR BLVD from City limit w/o Madre St to Rosemead Blvd (Option 1)
By: RS **Approved by:**
Date: 11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.625	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 103,125.00
3,300	LF	Roadway Striping	\$ 8.00	\$ 26,400.00
REMOVALS				
		SUBTOTAL		\$ 129,525.00
		Contingency	20%	\$ 25,905.00
		Total PE	20%	\$ 25,905.00
		Construction Engineering	20%	\$ 25,905.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 207,240.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SIERRA MADRE STATION
Location: #5 SAN PASQUAL ST from City limit w/o Eaton to Rosemead Blvd
By: RS **Approved by:**
Date: 11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.65	Mi	Class II Bike Lane (Striping and Signs)	\$ 40,000.00	\$ 26,000.00
REMOVALS				
		SUBTOTAL		\$ 26,000.00
		Contingency	20%	\$ 5,200.00
		Total PE	20%	\$ 5,200.00
		Construction Engineering	20%	\$ 5,200.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	41,600.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SIERRA MADRE STATION
Location: #6 CALIFORNIA BLVD from City limit w/o Eaton to Rosemead Blvd (Option 1)
By: RS **Approved by:**
Date: 11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.65	Mi	Class II Bike Lane (Striping and Signs)	\$ 40,000.00	\$ 26,000.00
REMOVALS				
		SUBTOTAL		\$ 26,000.00
		Contingency	20%	\$ 5,200.00
		Total PE	20%	\$ 5,200.00
		Construction Engineering	20%	\$ 5,200.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	41,600.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SIERRA MADRE STATION
Location: #6 CALIFORNIA BLVD from City limit w/o Eaton to Rosemead Blvd (Option 2)
By: RS **Approved by:**
Date: 11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.65	Mi	Class II Bike Lane (Striping and Signs)	\$ 40,000.00	\$ 26,000.00
3,400	LF	Roadway Striping	\$ 8.00	\$ 27,200.00
REMOVALS				
3400	LF	Striping Removal	\$ 6.00	\$ 20,400.00
		SUBTOTAL		\$ 53,200.00
		Contingency	20%	\$ 10,640.00
		Total PE	20%	\$ 10,640.00
		Construction Engineering	20%	\$ 10,640.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 85,120.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SIERRA MADRE STATION
Location: #6 CALIFORNIA BLVD from City limit w/o Eaton to Rosemead Blvd (Option 3)
By: RS **Approved by:**
Date: 11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.65	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 16,250.00
REMOVALS				
		SUBTOTAL		\$ 16,250.00
		Contingency	20%	\$ 3,250.00
		Total PE	20%	\$ 3,250.00
		Construction Engineering	20%	\$ 3,250.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	26,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SIERRA MADRE STATION
Location: #7 CALIFORNIA BLVD from Rosemead Blvd to Michigan Blvd
By: RS **Approved by:**
Date: 11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
8,400	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 12,600.00
700	LF	Roadway Striping	\$ 8.00	\$ 5,600.00
REMOVALS				
		SUBTOTAL		\$ 18,200.00
		Contingency	20%	\$ 3,640.00
		Total PE	20%	\$ 3,640.00
		Construction Engineering	20%	\$ 3,640.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 29,120.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SIERRA MADRE STATION
Location: #8 CALIFORNIA BLVD from Michigan Blvd to Michillinda Ave
By: RS **Approved by:**
Date: 11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
12,000	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 18,000.00
1,000	LF	Roadway Striping	\$ 8.00	\$ 8,000.00
REMOVALS				
		SUBTOTAL		\$ 26,000.00
		Contingency	20%	\$ 5,200.00
		Total PE	20%	\$ 5,200.00
		Construction Engineering	20%	\$ 5,200.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 41,600.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SIERRA MADRE STATION
Location: #9 EATON WASH CHANNEL from Eaton Blanche Park to Huntington Dr
By: RS **Approved by:**
Date: 11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
5,000	LF	Roadway Striping	\$ 8.00	\$ 40,000.00
80,000	SF	AC Pavement	\$ 15.00	\$ 1,200,000.00
REMOVALS				
		SUBTOTAL		\$ 1,240,000.00
		Contingency	20%	\$ 248,000.00
		Total PE	20%	\$ 248,000.00
		Construction Engineering	20%	\$ 248,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 1,984,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SIERRA MADRE STATION
Location: #10 MADRE ST from Colorado Blvd to Huntington Dr
By: RS **Approved by:**
Date: 11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.65	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 16,250.00
1.16	Mi	Class III - Bike Routes (Sharrows only)	\$ 10,000.00	\$ 11,600.00
REMOVALS				
		SUBTOTAL		\$ 27,850.00
		Contingency	20%	\$ 5,570.00
		Total PE	20%	\$ 5,570.00
		Construction Engineering	20%	\$ 5,570.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 44,560.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SIERRA MADRE STATION
Location: #11 ROSEMEAD BLVD from Colorado Blvd to Huntington Dr
By: RS **Approved by:**
Date: 11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
81,200	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 121,800.00
1	Mi	Roadway Striping	\$ 150,000.00	\$ 165,000.00
REMOVALS				
		SUBTOTAL		\$ 286,800.00
		Contingency	20%	\$ 57,360.00
		Total PE	20%	\$ 57,360.00
		Construction Engineering	20%	\$ 57,360.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 458,880.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SIERRA MADRE STATION
Location: #1 COLORADO BLVD and LOTUS AVE
Prepared by: RS **Approved by:**
Date: 11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
360	LF	Roadway Striping	\$ 8.00	\$ 2,880.00
480	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 10,560.00
3000	SF	PCC Sidewalk	\$ 12.00	\$ 36,000.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
8	EA	Ped countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
1	LS	Striping Removal	\$ 5,000.00	\$ 5,000.00
3000	SF	AC Pavement Removal	\$ 5.00	\$ 15,000.00
		SUBTOTAL		\$ 111,840.00
		Contingency	20%	\$ 22,368.00
		Total PE	20%	\$ 22,368.00
		Construction Engineering	20%	\$ 22,368.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 178,944.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: SIERRA MADRE STATION
Location: #2 COLORADO BLVD and ROSEMEAD BLVD
Prepared by: RS **Approved by:**
Date: 11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
580	LF	Roadway Striping	\$ 8.00	\$ 4,640.00
600	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 13,200.00
4040	SF	PCC Sidewalk	\$ 12.00	\$ 48,480.00
6	EA	Curb Ramp	\$ 1,500.00	\$ 9,000.00
8	EA	Ped countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification (Loop Restoration)	\$ 50,000.00	\$ 50,000.00
REMOVALS				
1	LS	Striping Removal	\$ 10,000.00	\$ 10,000.00
4040	SF	AC Pavement Removal	\$ 5.00	\$ 20,200.00
		SUBTOTAL		\$ 165,920.00
		Contingency	20%	\$ 33,184.00
		Total PE	20%	\$ 33,184.00
		Construction Engineering	20%	\$ 33,184.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 265,472.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	SIERRA MADRE STATION
Location: #3	BRANDON ST and MADRE ST
Prepared by: RS	Approved by:
Date:	11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
300	LF	Roadway Striping	\$ 8.00	\$ 2,400.00
480	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 10,560.00
2800	SF	PCC Sidewalk	\$ 12.00	\$ 33,600.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
6	EA	Install roadside sign	\$ 1,500.00	\$ 9,000.00
REMOVALS				
1	LS	Striping Removal	\$ 5,000.00	\$ 5,000.00
2800	SF	AC Pavement Removal	\$ 5.00	\$ 14,000.00
		SUBTOTAL		\$ 86,560.00
		Contingency	20%	\$ 17,312.00
		Total PE	20%	\$ 17,312.00
		Construction Engineering	20%	\$ 17,312.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 138,496.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	SIERRA MADRE STATION
Location: #4	DEL MAR ST and MADRE ST
Prepared by: RS	Approved by:
Date:	11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
330	LF	Roadway Striping	\$ 8.00	\$ 2,640.00
360	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 7,920.00
1860	SF	PCC Sidewalk	\$ 12.00	\$ 22,320.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
8	EA	Ped countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
1	LS	Striping Removal	\$ 7,500.00	\$ 7,500.00
1860	SF	AC Pavement Removal	\$ 5.00	\$ 9,300.00
		SUBTOTAL		\$ 92,080.00
		Contingency	20%	\$ 18,416.00
		Total PE	20%	\$ 18,416.00
		Construction Engineering	20%	\$ 18,416.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 147,328.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	SIERRA MADRE STATION
Location: #5	DEL MAR ST and LOTUS AVE
Prepared by: RS	Approved by:
Date:	11/15/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
280	LF	Roadway Striping	\$ 8.00	\$ 2,240.00
484	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 10,648.00
2528	SF	PCC Sidewalk	\$ 12.00	\$ 30,336.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
4	EA	Install roadside sign	\$ 1,500.00	\$ 6,000.00
1	LS	Ped crossing signs and flashing beacons	\$ 10,000.00	\$ 10,000.00
1	LS	Bus Stop relocation	\$ 5,000.00	\$ 5,000.00
REMOVALS				
1	LS	Striping Removal	\$ 5,000.00	\$ 5,000.00
2528	SF	AC Pavement Removal	\$ 5.00	\$ 12,640.00
		SUBTOTAL		\$ 93,864.00
		Contingency	20%	\$ 18,772.80
		Total PE	20%	\$ 18,772.80
		Construction Engineering	20%	\$ 18,772.80
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 150,182.40

Appendix I

I-110/West Carson Station



Bikeways and Linear Concepts

DEL AMO BOULEVARD	
FROM:	Normandie Ave.
TO:	New Hampshire Ave.
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> • 1-lane alley, partially private property owned by Arco • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Option 1: Coordinate with Arco and add bike path • Option 2: Add bike route with sharrows and wayfinding signs on 204th St. between Normandie Ave. and New Hampshire Ave. (including 1-block jog on Budlong Ave.) and on New Hampshire Ave. between 204th St. and Del Amo Blvd.
FROM:	New Hampshire Ave.
TO:	Carson City Limit
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> • 4 lanes, median / center turn lane, and on-street parking • 83' wide • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lanes with 2' buffer

TORRANCE BOULEVARD	
FROM:	Normandie Ave.
TO:	Brody Ave.
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> • 4 lanes and on-street parking • 65' wide • 24-hour traffic volume east of Normandie Ave. in April 2009: 30,862 	<ul style="list-style-type: none"> • Option 1: Add 5' colored bike lanes • Option 2: Road diet to 2 lanes, center-turn lane, and on-street parking; add 6' colored bike lanes with 2' buffer
FROM:	Brody Ave.
TO:	Carson City Limit
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> • 4 lanes and center-turn lane • 60' wide 	<ul style="list-style-type: none"> • Add 5' colored bike lanes

LEVINSON STREET / 213TH STREET / JAFFREY AVENUE / 214TH STREET	
FROM:	Normandie Ave.
TO:	Eastern end of 214th St. at I-110
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> 2 lanes with on-street parking 	<ul style="list-style-type: none"> Add bike route with sharrows and wayfinding signs Add signal at 214th St./Vermont Ave. intersection

CARSON STREET	
FROM:	Normandie Ave.
TO:	Carson City Limit
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> 5 lanes (3 eastbound, 2 westbound), center-turn lane, and on-street parking on the north side of the street 84' wide 24-hour traffic volume east of Budlong Ave. in February 2012: 34,901 	<ul style="list-style-type: none"> Remove 1 eastbound travel lane Add 6' colored bike lanes with 2' buffer

220TH STREET	
FROM:	Normandie Ave.
TO:	Vermont Ave.
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> 2 lanes with on-street parking Proposed bike route in County Bicycle Master Plan 	<ul style="list-style-type: none"> Add bike route with sharrows and wayfinding signs

223RD STREET	
FROM:	Normandie Ave.
TO:	Vermont Ave
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> • 4 lanes with on-street parking • 64' wide • 24-hour traffic volume east of Meyler St. in February 2012: 22,863 • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Option 1: Road diet to 2 lanes, center-turn lane, and on-street parking; add 6' colored bike lanes with 2' buffer • Option 2: Add 5' colored bike lanes
FROM:	Vermont Ave.
TO:	Carson City Limit
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> • 4 lanes, median / center turn lane, and on-street parking on the south side of the street • 33' wide on either side of the median • 24-hour traffic volume east of Vermont Ave. in December 2006: 28,832 • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lanes

228TH STREET	
FROM:	Normandie Ave.
TO:	Carson City Limit
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> • 2 lanes with on-street parking 	<ul style="list-style-type: none"> • Add bike route with sharrows and wayfinding signs

NORMANDIE AVENUE	
FROM:	214th St. / Levinson St.
TO:	225th St.
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> • 4 lanes and center turn lane • 60' wide • Parallel abandoned railroad right-of-way within City of Los Angeles 	<ul style="list-style-type: none"> • Pending railroad right-of-way acquisition, add bike path along abandoned railroad right-of-way • Coordinate with City of Los Angeles
FROM:	225th St.
TO:	Storm Pkwy.
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> • 4 lanes and center turn lane • 62' wide • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lanes
FROM:	Storm Pkwy.
TO:	Sepulveda Blvd.
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> • 4 lanes, center turn lane, and on-street parking on the east side of the street • 64' wide • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lane in southbound direction • Add Type B sharrows in northbound direction

VERMONT AVENUE	
FROM:	Del Amo Blvd.
TO:	Torrance Blvd.
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> • 4 lanes, center-turn lane, and on-street parking • 84' wide • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lanes with 2' buffer

VERMONT AVENUE, CONT.	
FROM:	Torrance Blvd.
TO:	End of median south of Javelin St.
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> • 4 lanes, median, and on-street parking • 33' wide on either side of the median • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lanes
FROM:	End of median south of Javelin St.
TO:	Carson St.
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> • 4 lanes, center-turn lane, and on-street parking • 82' wide • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lanes with 2' buffer
FROM:	Carson St.
TO:	223rd St.
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> • 4 lanes, center-turn lane, and on-street parking • 84' wide • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lanes with 2' buffer
FROM:	223rd St.
TO:	Sepulveda Blvd.
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> • 4 lanes, median, and on-street parking • 33' wide on either side of the median • Proposed bike lane in County Bicycle Master Plan 	<ul style="list-style-type: none"> • Add 6' colored bike lanes

INTERSTATE 110/CARSON STATION PARK AND RIDE LOT RIGHT-OF-WAY	
FROM:	214th St.
TO:	Carson St.
EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> Right-of-way abutting I-110 and Carson Station Park and Ride Lot 	<ul style="list-style-type: none"> Add bike path from 214th St. pedestrian overpass, along freeway/park and ride lot right-of-way, to Carson St. Coordinate with Caltrans

Bike Parking

Currently, there is no bicycle parking at the station. We recommend adding bicycle racks and lockers to the station following the Guidelines for Bicycle Parking.

Intersection Improvements

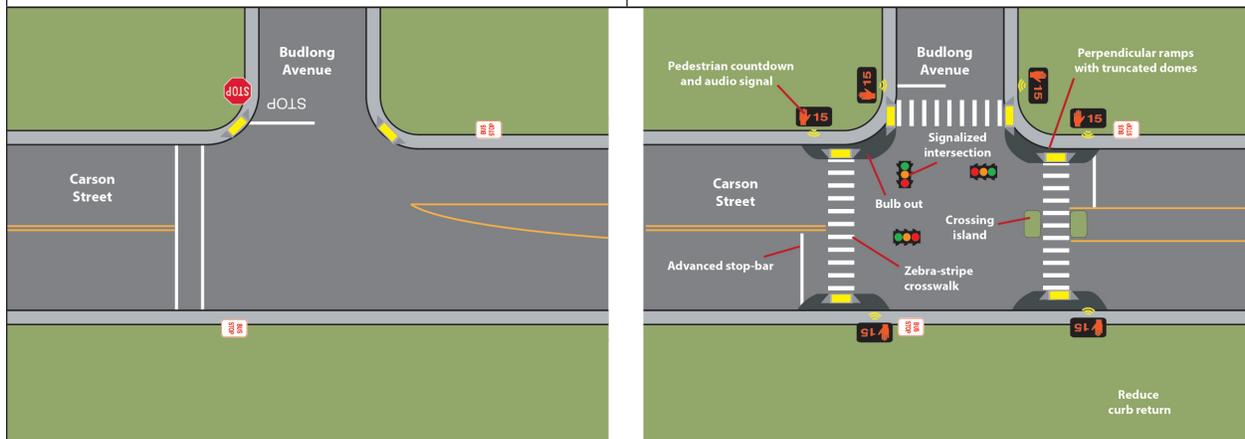
1) 214TH STREET AND VERMONT AVENUE

EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> • 214th St. has 2 lanes and on-street parking • Vermont Ave. has 4 lanes, center-turn lane, and on-street parking (parking not permitted in vicinity of intersection) • Stop-controlled intersection for 214th St. • Bus stops on Vermont Ave. (northbound, near side; southbound, near side) 	<ul style="list-style-type: none"> • Signalize intersection • Add zebra-stripe crosswalks to all crossings (4) • Add pedestrian countdown signals to all crossings (8) • Add audio signals to all crossings (8) • Add advanced stop bars to all crossings (4) • Add leading pedestrian interval for all crossings • Add bulb-outs on all crossing faces of 214th St. (4) • Reduce curb returns on all crossing faces of Vermont Ave. (4) • Add crossing islands across Vermont Ave., preserving left turn lanes by reallocating right-of-way from parking lane (2 pairs)



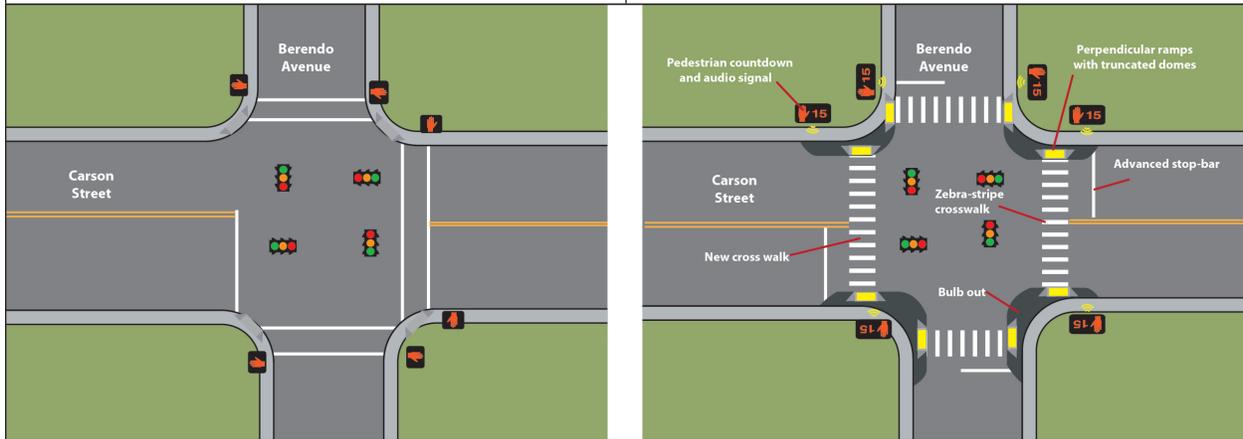
2) CARSON STREET AND BUDLONG AVENUE

EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> Carson St. has 4 lanes, center-turn lane, and on-street parking Budlong Ave. has 2 lanes and on-street parking Unsignalized T-intersection Bus stops on Carson St. (eastbound, near side; westbound, near side) Former crosswalk on west crossing of Carson St. was removed Harbor-UCLA Medical Center located south of intersection 	<ul style="list-style-type: none"> Add zebra-stripe crosswalks to all crossings (3) Signalize the intersection (use warrants) (6) Add pedestrian countdown signals to all crossings (6) Add audio signals to all crossings (6) Add advanced stop bars to all crossings (3) Add bulb-outs to both crossings of Carson St. (4) Add crossing islands to east crossing of Carson St. (1 pair)



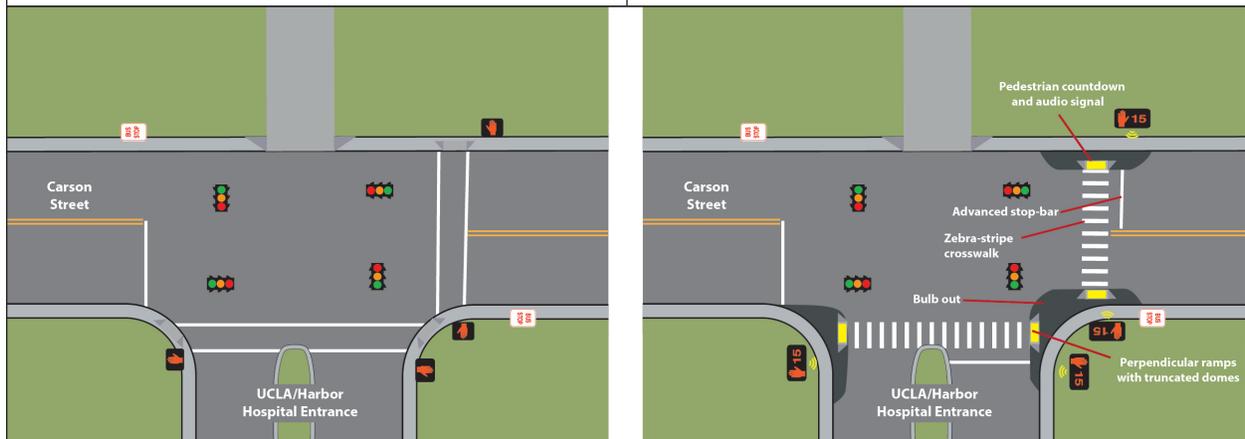
3) CARSON STREET AND BERENDO AVENUE

EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> • Carson St. has 4 lanes, center-turn lane, and on-street parking • Berendo Ave. has 2 lanes and on-street parking • Signalized intersection • Lateral-line crosswalks on the east crossing of Carson St. and both crossings of Berendo Ave. • Harbor-UCLA Medical Center located south of intersection 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to existing crossings and add a new zebra-stripe crosswalk to west crossing of Carson St. (4) • Add pedestrian countdown signals to all crossings (8) • Add audio signals to all crossings (8) • Add advanced stop bars to all crossings (4) • Add bulb-outs to both Carson St. crossings and to south crossing of Berendo Ave. (6)



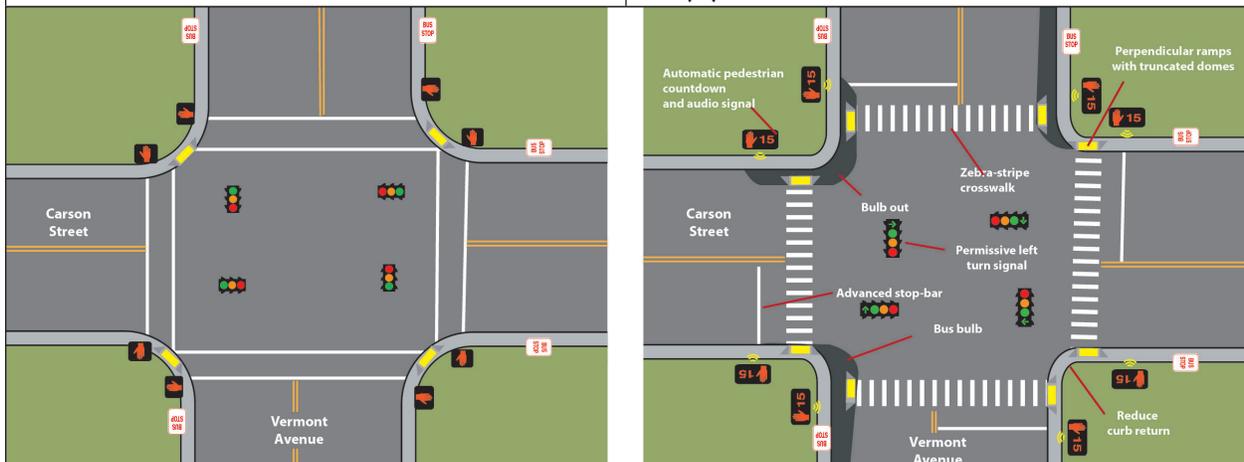
4) CARSON STREET AND HARBOR-UCLA MEDICAL CENTER ENTRANCE

EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> Carson St. has 4 lanes, center-turn lane, and on-street parking Harbor-UCLA Medical Center entrance has 4 lanes Signalized intersection Bus stops on Carson St. (eastbound, far side; westbound, far side) Lateral-line crosswalks on the east crossing of Carson Street and the hospital driveway Harbor-UCLA Medical Center located south of intersection 	<ul style="list-style-type: none"> Add zebra-stripe crosswalks to existing crossings (2) Add pedestrian countdown signals to both crossings (4) Add audio signals to both crossings (4) Add advanced stop bars to both crossings (2) Add bulb-outs to Carson St. crossing and driveway crossing (4)



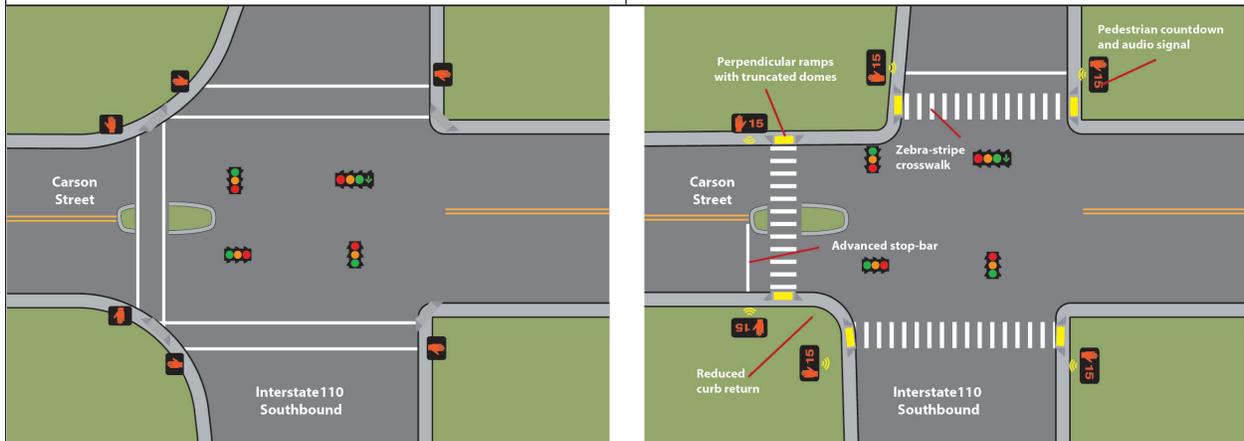
5) CARSON STREET AND VERMONT AVENUE

EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> Carson St. has 5 lanes (3 eastbound, 2 westbound), center-turn lane, and on-street parking on the north side of the street Vermont Ave. has 4 lanes, center-turn lane, and on-street parking Signalized intersection with protected/permissive left turns from Carson St. and Vermont Ave. Bus stops on Carson St. (eastbound, far side; westbound, near side) and Vermont Ave. (northbound, far side; southbound, near and far sides) Truncated domes on all corners Harbor-UCLA Medical Center located at southwest corner of intersection 	<ul style="list-style-type: none"> Add zebra-stripe crosswalks to all crossings (4) Add pedestrian countdown signals to all crossings (8) Add audio signals to all crossings (8) Add advanced stop bars to all crossings (4) Remove pushbuttons and set walk phase to automatic Add leading pedestrian interval for all crossings Convert protected/permissive left turns to protected left turns for both Carson St. and Vermont Ave. Add bulb-outs on northwest corner to cross Carson St. and Vermont Ave. (2) Add bus bulbs on the northeast and southwest corners to cross Vermont Ave. (2) Reduce curb returns on northeast, southeast, and southwest corners to cross Carson St. (3)



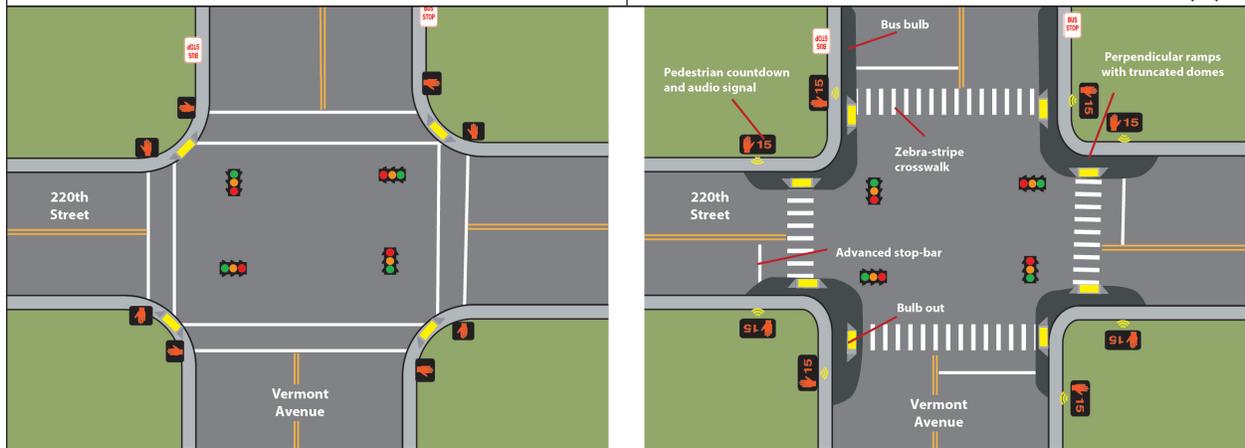
6) CARSON STREET AND SOUTHBOUND INTERSTATE 110 RAMPS: CARSON STATION

EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> Carson St. has 5 lanes (3 eastbound, 2 westbound), center-turn lane, and on-street parking on the north side of the street I-110 ramps have 2 lanes Signalized intersection with protected left turn on westbound Carson St. Pedestrian crossing of east leg prohibited Crossing island to cross west approach of Carson St. 	<ul style="list-style-type: none"> Add zebra-stripe crosswalks to north, west, and south intersection approaches (3) Add pedestrian countdown signals to all marked crossings (6) Add audio signals to all marked crossings (6) Add advanced stop bars to southbound and eastbound approaches (2) Reduce curb returns on the northwest, and southwest corners to cross Carson St. (2) Coordinate with Caltrans



7) 220TH STREET AND VERMONT AVENUE

EXISTING	RECOMMENDED IMPROVEMENTS
<ul style="list-style-type: none"> • 220th St. has 2 lanes and on-street parking • Vermont Ave. has 4 lanes, center-turn lane, and on-street parking (parking not permitted in vicinity of intersection) • Signalized intersection • Bus stops on Vermont Ave. (northbound, far side; southbound, near side) • Truncated domes on all corners 	<ul style="list-style-type: none"> • Add zebra-stripe crosswalks to all crossings (4) • Add pedestrian countdown signals to all crossings (8) • Add audio signals to all crossings (8) • Add advanced stop bars to all crossings (4) • Add bulb-outs on all crossing faces of 220th St., and on the southwest and southeast corners to cross Vermont Ave. (6) • Add bus bulbs to the northwest and northeast corners to cross Vermont Ave. (3)



Los Angeles County Transit Oriented Districts Access Study

This summary page provides definitions for some of the more commonly used abbreviations in these cost estimates. It also includes some notes on the variances for contingencies for each improvement.

Abbreviation/Term Used	Definition/Explanation
AC	Asphalt Concrete
CMB	Center Median Barrier
EA	Each (cost per item)
LF	Linear Foot
LS	Lump Sum (amount per improvement)
MI	Mile
PCC	Portland Cement Concrete
PE	Preliminary Engineering
SF	Square Feet
Contingency	The amount added to a cost estimate that covers unexpected expenses. This estimate typically stands at 20%, but the contingency tends to increase when the recommended improvements are not standard. Because these improvements tend to be more complex, the cost estimates build in an extra contingency to cover unforeseen expenses.

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: **CARSON STATION**

By: RS

Approved by:

Date:

1/11/2013

		Location	Cost
Bikeways and Linear Concepts			
	1	DEL AMO BLVD from Normandie Ave to New Hampshire Ave (Option 2 = \$21,200)	\$ 368,000.00
	2	DEL AMO BLVD from New Hampshire Ave to Carson City Limit	\$ 73,280.00
	3	TORRANCE BLVD from Normandie Ave to Brody Ave (Option 2 = \$145,920)	\$ 231,840.00
	4	TORRANCE BLVD from Brody Ave to Carson City Limit	\$ 243,360.00
	5	LEVINSON ST/213TH ST/JAFFREY AVE/214TH ST from Normandie Ave to east end of 214th St at I-110	\$ 349,200.00
	6	CARSON ST from Normandie Ave to Carson City Limit	\$ 257,920.00
	7	220TH ST from Normandie Ave to Vermont Ave	\$ 20,000.00
	8	223RD ST from Normandie Ave to Vermont Ave (Option 2 = \$103,680)	\$ 256,800.00
	9	223RD ST from Vermont Ave to Carson City Limit	\$ 42,560.00
	10	228TH ST from Vermont Ave to Carson City Limit	\$ 25,200.00
	11	NORMANDIE AVE from 214th St/Levinson St to 225th St	\$ 1,824,000.00
	12	NORMANDIE AVE from 225th St to Storm Pkwy	\$ 187,200.00
	13	NORMANDIE AVE from Storm Pkwy to Sepulveda Blvd	\$ 114,048.00
	14	VERMONT AVE from Del Amo Blvd to Torrance Blvd	\$ 158,976.00
	15	VERMONT AVE from Torrance Blvd to end of median south of Javelin	\$ 65,280.00
	16	VERMONT AVE from end of median south of Javelin to Carson St	\$ 212,928.00
	17	VERMONT AVE from Carson St to 223rd St	\$ 240,000.00
	18	VERMONT AVE from 223rd St to Sepulveda Blvd	\$ 392,064.00
	19	I-110/CARSON STATION PARK R/W from 214th St to Carson St	\$ 320,000.00
Intersection Improvements			
	1	214TH ST AND VERMONT AVE	\$ 500,480.00
	2	CARSON ST AND BUDLONG AVE	\$ 403,264.00
	3	CARSON ST AND BERENDO AVE	\$ 175,552.00
	4	CARSON ST AND UCLA MEDICAL CENTER ENTRANCE	\$ 141,984.00
	5	CARSON ST AND VERMONT AVE	\$ 183,472.00
	6	CARSON ST AND I-110 SB RAMPS	\$ 98,705.00
	7	220TH ST AND VERMONT AVE	\$ 181,507.20
ENGINEER'S ESTIMATE GRAND TOTAL			\$ 7,067,638.20

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #1 DEL AMO BLVD from Normandie Ave to New Hampshire Ave (Option 1)
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
46000	SF	AC Pavement Overlay	\$ 5.00	\$ 230,000.00
REMOVALS				
		SUBTOTAL		\$ 230,000.00
		Contingency	20%	\$ 46,000.00
		Total PE	20%	\$ 46,000.00
		Construction Engineering	20%	\$ 46,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 368,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
 Location: #1 DEL AMO BLVD from Normandie Ave to New Hampshire Ave (Option 2)
 By: RS Stantec
 Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.53	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 13,250.00
REMOVALS				
		SUBTOTAL		\$ 13,250.00
		Contingency	20%	\$ 2,650.00
		Total PE	20%	\$ 2,650.00
		Construction Engineering	20%	\$ 2,650.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	21,200.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #2 DEL AMO BLVD from New Hampshire Ave to City Limit
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
27200	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 40,800.00
1	LS	Prohibit parking	\$ 5,000.00	\$ 5,000.00
REMOVALS				
		SUBTOTAL		\$ 45,800.00
		Contingency	20%	\$ 9,160.00
		Total PE	20%	\$ 9,160.00
		Construction Engineering	20%	\$ 9,160.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 73,280.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON
Location: #3 TORRANCE BLVD from Normandie Ave to Brody Ave (Option 1)
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.46	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 75,900.00
46000	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 69,000.00
REMOVALS				
		SUBTOTAL		\$ 144,900.00
		Contingency	20%	\$ 28,980.00
		Total PE	20%	\$ 28,980.00
		Construction Engineering	20%	\$ 28,980.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 231,840.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #3 TORRANCE BLVD from Normandie Ave to Brody Ave (Option 2)
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
2400	LF	Roadway Striping	\$ 8.00	\$ 19,200.00
38400	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 57,600.00
REMOVALS				
2400	LF	Striping Removal	\$ 6.00	\$ 14,400.00
		SUBTOTAL		\$ 91,200.00
		Contingency	20%	\$ 18,240.00
		Total PE	20%	\$ 18,240.00
		Construction Engineering	20%	\$ 18,240.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 145,920.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #4 TORRANCE BLVD from Brody Ave to City Limit
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
64000	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 96,000.00
0.31	Mi	Roadway Striping	\$ 150,000.00	\$ 46,500.00
REMOVALS				
1600	LF	Striping Removal	\$ 6.00	\$ 9,600.00
		SUBTOTAL		\$ 152,100.00
		Contingency	20%	\$ 30,420.00
		Total PE	20%	\$ 30,420.00
		Construction Engineering	20%	\$ 30,420.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 243,360.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #5 LEVINSON ST/213TH ST/JAFFREY AVE/214TH ST from Normandie Ave to 214th St/I-110
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.73	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 18,250.00
1	LS	New Traffic Signal	\$ 200,000.00	\$ 200,000.00
REMOVALS				
		SUBTOTAL		\$ 218,250.00
		Contingency	20%	\$ 43,650.00
		Total PE	20%	\$ 43,650.00
		Construction Engineering	20%	\$ 43,650.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 349,200.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #6 CARSON ST from Normandie Ave to City Limit
By: RS Approved by:
Date: 11/14/2002

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.5	Mi	Roadway Striping	\$ 200,000.00	\$ 100,000.00
30000	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 45,000.00
REMOVALS				
2700	LF	Striping Removal	\$ 6.00	\$ 16,200.00
		SUBTOTAL		\$ 161,200.00
		Contingency	20%	\$ 32,240.00
		Total PE	20%	\$ 32,240.00
		Construction Engineering	20%	\$ 32,240.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 257,920.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #7 220TH ST from Normandie Ave to Vermont Ave
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.5	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 12,500.00
REMOVALS				
		SUBTOTAL		\$ 12,500.00
		Contingency	20%	\$ 2,500.00
		Total PE	20%	\$ 2,500.00
		Construction Engineering	20%	\$ 2,500.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	20,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #8 223RD ST from Normandie Ave to Vermont Ave **Option 1**
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.5	Mi	Class II - Bike Lane (Road Diet, 4 to 3 lanes)	\$ 165,000.00	\$ 82,500.00
52000	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 78,000.00
REMOVALS				
		SUBTOTAL		\$ 160,500.00
		Contingency	20%	\$ 32,100.00
		Total PE	20%	\$ 32,100.00
		Construction Engineering	20%	\$ 32,100.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 256,800.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #8 223RD ST from Normandie Ave to Vermont Ave **Option 2**
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
43200	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 64,800.00
REMOVALS				
		SUBTOTAL		\$ 64,800.00
		Contingency	20%	\$ 12,960.00
		Total PE	20%	\$ 12,960.00
		Construction Engineering	20%	\$ 12,960.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 103,680.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON
Location: #9 223RD ST from Vermont Ave to City Limit
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
14400	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 21,600.00
1	LS	Prohibit Parking	\$ 5,000.00	\$ 5,000.00
REMOVALS				
		SUBTOTAL		\$ 26,600.00
		Contingency	20%	\$ 5,320.00
		Total PE	20%	\$ 5,320.00
		Construction Engineering	20%	\$ 5,320.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 42,560.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #10 228TH ST from Normandie Ave to City Limit
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.63	Mi	Class III - Bike Routes (Signing and Sharrows)	\$ 25,000.00	\$ 15,750.00
REMOVALS				
		SUBTOTAL		\$ 15,750.00
		Contingency	20%	\$ 3,150.00
		Total PE	20%	\$ 3,150.00
		Construction Engineering	20%	\$ 3,150.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	25,200.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #11 NORMANDIE AVE from 214th St to 225th St
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
54000	SF	AC Pavement	\$ 15.00	\$ 810,000.00
3	LS	Traffic Signal Modification	\$ 50,000.00	\$ 150,000.00
REMOVALS				
		SUBTOTAL		\$ 960,000.00
		Contingency	50%	\$ 480,000.00
		Total PE	20%	\$ 192,000.00
		Construction Engineering	20%	\$ 192,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 1,824,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #12 NORMANDIE AVE from 225th St to Storm Pkwy
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.38	Mi	Roadway striping	\$ 150,000.00	\$ 57,000.00
32000	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 48,000.00
REMOVALS				
2000	LF	Striping removal	\$ 6.00	\$ 12,000.00
		SUBTOTAL		\$ 117,000.00
		Contingency	20%	\$ 23,400.00
		Total PE	20%	\$ 23,400.00
		Construction Engineering	20%	\$ 23,400.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 187,200.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #13 NORMANDIE AVE from Storm Pkwy to Sepulveda Blvd
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.27	Mi	Class III - Bike Routes (Sharrows Only)	\$ 10,000.00	\$ 2,700.00
0.27	Mi	Roadway Striping	\$ 160,000.00	\$ 43,200.00
11280	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 16,920.00
REMOVALS				
1410	LF	Striping removal	\$ 6.00	\$ 8,460.00
		SUBTOTAL		\$ 71,280.00
		Contingency	20%	\$ 14,256.00
		Total PE	20%	\$ 14,256.00
		Construction Engineering	20%	\$ 14,256.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 114,048.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #14 VERMONT AVE from Del Amo Blvd to Torrance Blvd
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.3	Mi	Roadway Striping	\$ 150,000.00	\$ 45,000.00
30000	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 45,000.00
REMOVALS				
1560	LF	Striping removal	\$ 6.00	\$ 9,360.00
		SUBTOTAL		\$ 99,360.00
		Contingency	20%	\$ 19,872.00
		Total PE	20%	\$ 19,872.00
		Construction Engineering	20%	\$ 19,872.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 158,976.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #15 VERMONT AVE from Torrance Blvd to s/o Javelin St
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
27200	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 40,800.00
REMOVALS				
		SUBTOTAL		\$ 40,800.00
		Contingency	20%	\$ 8,160.00
		Total PE	20%	\$ 8,160.00
		Construction Engineering	20%	\$ 8,160.00
ENGINEER'S ESTIMATE GRAND TOTAL			\$	65,280.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #16 VERMONT AVE from s/o Javelin St to Carson St
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.4	Mi	Roadway Striping	\$ 150,000.00	\$ 60,000.00
40320	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 60,480.00
REMOVALS				
2100	LF	Striping removal	\$ 6.00	\$ 12,600.00
		SUBTOTAL		\$ 133,080.00
		Contingency	20%	\$ 26,616.00
		Total PE	20%	\$ 26,616.00
		Construction Engineering	20%	\$ 26,616.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 212,928.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #17 VERMONT AVE from Carson St to 223rd St
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
0.5	Mi	Roadway Striping	\$ 150,000.00	\$ 75,000.00
50000	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 75,000.00
REMOVALS				
		SUBTOTAL		\$ 150,000.00
		Contingency	20%	\$ 30,000.00
		Total PE	20%	\$ 30,000.00
		Construction Engineering	20%	\$ 30,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 240,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #18 VERMONT AVE from 223rd St to Sepulveda Blvd
By: RS Approved by:
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
42240	SF	Green Bike Lane Striping (Paint)	\$ 1.50	\$ 63,360.00
1	Mi	Roadway Striping	\$ 150,000.00	\$ 150,000.00
REMOVALS				
5280	LF	Striping removal	\$ 6.00	\$ 31,680.00
		SUBTOTAL		\$ 245,040.00
		Contingency	20%	\$ 49,008.00
		Total PE	20%	\$ 49,008.00
		Construction Engineering	20%	\$ 49,008.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 392,064.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #19 I-110/CARSON STATION R/W from 214th St to Carson St
By: RS **Approved by:**
Date: 11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
4000	SF	AC Pavement & grading	\$ 50.00	\$ 200,000.00
REMOVALS				
		SUBTOTAL		\$ 200,000.00
		Contingency	20%	\$ 40,000.00
		Total PE	20%	\$ 40,000.00
		Construction Engineering	20%	\$ 40,000.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 320,000.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	CARSON STATION
Location: #1	214TH ST AND VERMONT AVE
By: RS	Approved by:
Date:	11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
314	LF	Roadway Striping	\$ 8.00	\$ 2,512.00
300	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 6,600.00
1774	SF	PCC Sidewalk	\$ 12.00	\$ 21,288.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Warrant Study and Installation	\$ 250,000.00	\$ 250,000.00
REMOVALS				
2000	SF	AC Pavement Removal	\$ 5.00	\$ 10,000.00
		SUBTOTAL		\$ 312,800.00
		Contingency	20%	\$ 62,560.00
		Total PE	20%	\$ 62,560.00
		Construction Engineering	20%	\$ 62,560.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 500,480.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:

CARSON STATION

Location: #2

CARSON ST AND BUDLONG AVE

By: RS

Approved by:

Date:

1/11/2013

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
395	LF	Roadway Striping	\$ 8.00	\$ 3,160.00
340	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 7,480.00
1800	SF	PCC Sidewalk	\$ 12.00	\$ 21,600.00
6	EA	Curb Ramp	\$ 1,500.00	\$ 9,000.00
6	EA	Pedestrian countdown signals	\$ 800.00	\$ 4,800.00
6	EA	Audio ped signals	\$ 500.00	\$ 3,000.00
1	LS	Traffic Signal Installation	\$ 200,000.00	\$ 200,000.00
REMOVALS				
1	LS	Striping Removal	\$ 3,000.00	\$ 3,000.00
		SUBTOTAL		\$ 252,040.00
		Contingency	20%	\$ 50,408.00
		Total PE	20%	\$ 50,408.00
		Construction Engineering	20%	\$ 50,408.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 403,264.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:

CARSON STATION

Location: #3

CARSON ST AND BERENDO AVE

By: RS

Approved by:

Date:

1/11/2013

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
540	LF	Roadway Striping	\$ 8.00	\$ 4,320.00
400	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 8,800.00
2600	SF	PCC Sidewalk	\$ 12.00	\$ 31,200.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification	\$ 40,000.00	\$ 40,000.00
REMOVALS				
1	LS	Striping Removal	\$ 3,000.00	\$ 3,000.00
		SUBTOTAL		\$ 109,720.00
		Contingency	20%	\$ 21,944.00
		Total PE	20%	\$ 21,944.00
		Construction Engineering	20%	\$ 21,944.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 175,552.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station: CARSON STATION
Location: #4 CARSON ST AND UCLA MEDICAL CENTER ENTRANCE
By: RS **Approved by:**
Date: 1/11/2013

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
300	LF	Roadway Striping	\$ 8.00	\$ 2,400.00
370	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 8,140.00
2000	SF	PCC Sidewalk	\$ 12.00	\$ 24,000.00
4	EA	Curb Ramp	\$ 1,500.00	\$ 6,000.00
4	EA	Pedestrian countdown signals	\$ 800.00	\$ 3,200.00
4	EA	Audio ped signals	\$ 500.00	\$ 2,000.00
1	LS	Traffic Signal Modification	\$ 40,000.00	\$ 40,000.00
REMOVALS				
1	LS	Striping Removal	\$ 3,000.00	\$ 3,000.00
		SUBTOTAL		\$ 88,740.00
		Contingency	20%	\$ 17,748.00
		Total PE	20%	\$ 17,748.00
		Construction Engineering	20%	\$ 17,748.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 141,984.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:

CARSON STATION

Location: #5

CARSON ST AND VERMONT AVE

By: RS

Approved by:

Date:

11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
490	LF	Roadway Striping	\$ 8.00	\$ 3,920.00
485	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 10,670.00
3140	SF	PCC Sidewalk	\$ 12.00	\$ 37,680.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification (Re-Phasing and Loops)	\$ 40,000.00	\$ 40,000.00
REMOVALS				
		SUBTOTAL		\$ 114,670.00
		Contingency	20%	\$ 22,934.00
		Total PE	20%	\$ 22,934.00
		Construction Engineering	20%	\$ 22,934.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 183,472.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:

CARSON STATION

Location: #6

CARSON ST AND I-110 SB RAMPS

By: RS

Approved by:

Date:

11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
220	LF	Roadway Striping	\$ 8.00	\$ 1,760.00
175	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 3,850.00
795	SF	PCC Sidewalk	\$ 12.00	\$ 9,540.00
6	EA	Curb Ramp	\$ 1,500.00	\$ 9,000.00
6	EA	Pedestrian countdown signals	\$ 800.00	\$ 4,800.00
6	EA	Audio ped signals	\$ 500.00	\$ 3,000.00
1	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
		SUBTOTAL		\$ 51,950.00
		Contingency (Caltrans)	50%	\$ 25,975.00
		Total PE	20%	\$ 10,390.00
		Construction Engineering	20%	\$ 10,390.00
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 98,705.00

LATOD STATION AREA IMPROVEMENTS



ENGINEERING COST ESTIMATE

Station:	CARSON STATION
Location: #7	220TH ST AND VERMONT AVE
By: RS	Approved by:
Date:	11/14/2012

Quantity	Unit	Item	Unit Price	Total Cost Per Item
INSTALLATIONS				
312	LF	Roadway Striping	\$ 8.00	\$ 2,496.00
629	LF	PCC Curb over 6" CMB	\$ 22.00	\$ 13,838.00
4359	SF	PCC Sidewalk	\$ 12.00	\$ 52,308.00
8	EA	Curb Ramp	\$ 1,500.00	\$ 12,000.00
8	EA	Pedestrian countdown signals	\$ 800.00	\$ 6,400.00
8	EA	Audio ped signals	\$ 500.00	\$ 4,000.00
1	LS	Traffic Signal Modification (Loop Restoration)	\$ 20,000.00	\$ 20,000.00
REMOVALS				
400	LF	Striping Removal	\$ 6.00	\$ 2,400.00
		SUBTOTAL		\$ 113,442.00
		Contingency	20%	\$ 22,688.40
		Total PE	20%	\$ 22,688.40
		Construction Engineering	20%	\$ 22,688.40
ENGINEER'S ESTIMATE GRAND TOTAL				\$ 181,507.20