Metro

Los Angeles County Metropolitan Transportation Authority
One Gateway Plaza
3rd Floor Board Room

Agenda - Final

Thursday, April 27, 2017

9:00 AM

One Gateway Plaza, Los Angeles, CA 90012,
3rd Floor, Metro Board Room

Board of Directors - Regular Board Meeting

John Fasana, Chair
Eric Garcetti, 1st Vice Chair
Sheila Kuehl, 2nd Vice Chair
Kathryn Barger
Mike Bonin
James Butts
Jacquelyn Dupont-Walker
Robert Garcia
Janice Hahn
Paul Krekorian
Ara Najarian
Mark Ridley-Thomas
Hilda Solis
Carrie Bowen, non-voting member

Phillip A. Washington, Chief Executive Officer

METROPOLITAN TRANSPORTATION AUTHORITY BOARD RULES
(ALSO APPLIES TO BOARD COMMITTEES)

PUBLIC INPUT

A member of the public may address the Board on agenda items, before or during the Board or Committee's consideration of the item for one (1) minute per item, or at the discretion of the Chair. A request to address the Board should be submitted in person at the meeting to the Board Secretary. Individuals requesting to speak on more than three (3) agenda items will be allowed to speak up to a maximum of three (3) minutes per meeting. For individuals requiring translation service, time allowed will be doubled.

Notwithstanding the foregoing, and in accordance with the Brown Act, this agenda does not provide an opportunity for members of the public to address the Board on any Consent Calendar agenda item that has already been considered by a Committee, composed exclusively of members of the Board, at a public meeting wherein all interested members of the public were afforded the opportunity to address the Committee on the item, before or during the Committee's consideration of the item, and which has not been substantially changed since the Committee heard the item.

The public may also address the Board on non-agenda items within the subject matter jurisdiction of the Board during the public comment period, which will be held at the beginning and/or end of each meeting. Each person will be allowed to speak for up to three (3) minutes per meeting and may speak no more than once during the Public Comment period. Speakers will be called according to the order in which the speaker request forms are received. Elected officials, not their staff or deputies, may be called out of order and prior to the Board's consideration of the relevant item.

In accordance with State Law (Brown Act), all matters to be acted on by the MTA Board must be posted at least 72 hours prior to the Board meeting. In case of emergency, or when a subject matter arises subsequent to the posting of the agenda, upon making certain findings, the Board may act on an item that is not on the posted agenda.

CONDUCT IN THE BOARD ROOM - The following rules pertain to conduct at Metropolitan Transportation Authority meetings:

REMOVAL FROM THE BOARD ROOM The Chair shall order removed from the Board Room any person who commits the following acts with respect to any meeting of the MTA Board:

a. Disorderly behavior toward the Board or any member of the staff thereof, tending to interrupt the due and orderly course of said meeting.
b. A breach of the peace, boisterous conduct or violent disturbance, tending to interrupt the due and orderly course of said meeting.
c. Disobedience of any lawful order of the Chair, which shall include an order to be seated or to refrain from addressing the Board; and
d. Any other unlawful interference with the due and orderly course of said meeting.

INFORMATION RELATING TO AGENDAS AND ACTIONS OF THE BOARD

Agendas for the Regular MTA Board meetings are prepared by the Board Secretary and are available prior to the meeting in the MTA Records Management Department and on the Internet. Every meeting of the MTA Board of Directors is recorded on CD's and as MP3's and can be made available for a nominal charge.

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NOTE: ACTION MAY BE TAKEN ON ANY ITEM IDENTIFIED ON THE AGENDA

CALL TO ORDER

ROLL CALL

1. APPROVE Consent Calendar Items: 2, 5.1, 7, 8, 10, 12, 13, 14, 15, 16, 20, 21, 22, 23, 24, 26, 28, 37, 38, 40, 41 and 43.

CONSENT CALENDAR

2. APPROVE **Minutes of the Regular Board Meeting held March 23, 2017.** 2017-0234

Attachments: Attachment A - March 23, 2017 RBM

PLANNING AND PROGRAMMING COMMITTEE (5-0) MADE THE FOLLOWING RECOMMENDATION:

5.1 APPROVE **Motion by Directors Solis, Garcia, Dupont-Walker and Hahn** that the Board direct the CEO to: 2017-0270

A. Based on preliminary designs, advance Item J of Motion 22.1 into environmental review independently from the I-710 Corridor Project;

   Motion 22.1 - Item J: Upgrades to the existing Los Angeles River Bike Path consisting of safety, landscaping, hardscape, lighting and access enhancements and fix-it stations including to locations, between Ocean Blvd. [Long Beach] and its northern terminus at Slauson Avenue [Vernon];

B. Establish a budget to advance Items J and G of Motion 22.1 into final design once they are cleared environmentally;

   Motion 22.1 - Item G: Construction of a new, 8-foot, Class-I bike path and access points within the Los Angeles Flood Control District right-of-way on the western levee of the Los Angeles River Channel from the Pacific Coast Highway [Long Beach] to Imperial Highway [South Gate] to connect with the existing Los Angeles River Bike Path;

C. Identify all eligible funding sources and develop a funding and project delivery strategy to accelerate implementation of Items J and G of Motion 22.1.

D. Evaluate opportunities to streamline the timelines of Item J and G of Motion 22.1 with the Rail-to-Rail/River Project, AB530 Working Group, and the LA River Gap Closure Project (Downtown LA to Vernon); and

E. Report back to the board within 90 days.

AD HOC CONGESTION, HIGHWAY AND ROADS COMMITTEE (5-0) AND CONSTRUCTION COMMITTEE (3-0) MADE THE FOLLOWING RECOMMENDATION:

7. AUTHORIZE Contract Modification No. 114 by Caltrans for **construction contract of the Segment 3 of the I-5 North Capacity Enhancements Project between SR-134 and SR-118** (Project) under the Funding Agreement No. MOU. P0008355/8501A/A6, in the amount of $552,110.89, using non local fund sources. 2017-0067

Attachments: ATTACHMENT A – AERIAL MAP
ATTACHMENT B – MSE WALL AND STRAPS
ATTACHMENT C – GALVANIZED CONDUIT ON TOP OF MSE WALL.pdf
ATTACHMENT D MSE WALL (back).pdf

AD HOC CONGESTION, HIGHWAY AND ROADS COMMITTEE (5-0) AND CONSTRUCTION COMMITTEE (3-0) MADE THE FOLLOWING RECOMMENDATION:

8. AUTHORIZE Contract Modifications No. 56-1 & No. 112 (CCO 56-1 & CCO 112) by Caltrans for the **construction contract of I-5 South Carmenita Road Interchange Improvements Project** (the Project) under the Funding Agreement No. MOU.P0006376A-03, in the total amount of $4,300,000 within the LOP budget. 2017-0095

AD HOC CONGESTION, HIGHWAY AND ROADS COMMITTEE (3-0-2) MADE THE FOLLOWING RECOMMENDATION:

10. AUTHORIZE the Chief Executive Officer to: 2017-0096

A. AWARD three, three-year on-call contracts, Contract Nos. AE30673000, AE30673001, and AE30673002, to AECOM Technical Services, Inc., CH2M Hill, Inc., and Parsons Transportation Group, Inc., respectively, for a total not-to-exceed amount of $30,000,000, for **Highway Program Project Delivery Support Services for Los Angeles County**, subject to resolution of protest(s), if any; and

B. AWARD Task Orders within the approved not to exceed cumulative value of $30,000,000.

Attachments: ATTACHMENT A - PROCUREMENT SUMMARY

ATTACHMENT B - DEOD SUMMARY

FINANCE, BUDGET AND AUDIT COMMITTEE (4-0) AND SYSTEM SAFETY, SECURITY AND OPERATIONS COMMITTEE (3-0) MADE THE FOLLOWING RECOMMENDATION:

12. CONSIDER: 2016-0499

A. ADOPTING a Life of Project (LOP) Budget for $1,407,900 for the Rail Vehicle Mist System Demonstration Project; and

B. APPROVING the award and authorize the Chief Executive Officer to execute Contract No. OP3614100 to Knorr Brake Company, LLC for **one (1) prototype Red Line Heavy Rail Vehicle on-board mist fire suppression system** for a two-year period of performance for design, installation and evaluation of the systems for a fixed price amount of $908,481 subject to resolution of protest, if any.

Attachments: Attachment A - Procurement Summary

Attachment B - DEOD Summary

FINANCE, BUDGET AND AUDIT COMMITTEE (4-0) MADE THE FOLLOWING RECOMMENDATION:

13. AUTHORIZE the Chief Executive Officer to **negotiate and award All Risk Property and Boiler and Machinery insurance policies** for all property at the current policy limits at a not to exceed price of $2.4 million for the 12-month period May 10, 2017 through May 10, 2018. 2017-0062

Attachments: Attachment A.pdf

Attachment B.pdf

Attachment C.pdf

FINANCE, BUDGET AND AUDIT COMMITTEE (4-0) MADE THE FOLLOWING RECOMMENDATION:

14. AUTHORIZE the Chief Executive Officer to award indefinite delivery/indefinite quantity (IDIQ), firm fixed unit price contracts for a three-year initial term, with two, one-year options for the following contracts: 1) PS29117000 and PS29117001 to ASK-intTag, LLC. for Card Manufacturing & Adhesive Stickers; 2) PS29117002, PS29117003, and PS29117004 to Oberthur Technologies of America Corp. for Adhesive Stickers and Card Manufacturing and Fulfillment Services, and 3) PS29117005 to Giesecke & Devrient Mobile Security America, Inc. for Fulfillment Services effective July 1, 2017, for Metro and Municipal 2017-0117

Operators. The total combined not-to-exceed amount for 3 base years and two one year options is $26,915,910 (average cost per year $5.4M) inclusive of sales tax for **TAP Card Manufacturing and Fulfillment Services**, as identified below:

- Card Manufacturing - Base: $9,272,563, Option 1: $3,090,854, Option 2: $3,090,854 in the total NTE amount of $15,454,271
- Fulfillment & Distribution- Base: $6,858,983, Option 1: $2,286,328, Option 2: $2,286,328 in the total NTE amount of $11,431,639
- Adhesive Stickers - Base: $18,000, Option 1: $6,000, Option 2: $6,000 in the total NTE amount of $30,000

Attachments: Attachment A Procurement Summary TAP.pdf
Attachment_B_DEOD Summary TAP.pdf

FINANCE, BUDGET AND AUDIT COMMITTEE (4-0) AND PLANNING AND PROGRAMMING COMMITTEE (5-0) MADE THE FOLLOWING RECOMMENDATION:

15. CONSIDER: 2017-0086

A. ADOPTING the **Phase II Metro Bike Share Expansion** (Phase II Expansion) Environmental Analysis findings that the expansion qualifies for a Categorical Exemption under Section 15303 (Class 3) New Construction or Conversion of Small Structures (Attachment A);

B. AUTHORIZING staff to file the Notice of Exemption for the Phase II Expansion;

C. ADOPTING the Phase II Expansion Title VI and Environmental Justice Analysis findings that there is no Disparate Impact and no Disproportionate Burden associated with the expansion (Attachment B); and

D. AUGMENTING the Life of Project budget for Phase II Expansion by $1,713,000 to $4,499,000 to include previously Board approved pre-launch related costs.

Attachments: Attachment A - Categorical Exemption Analysis
Attachment B - Equity Analysis Methodology & Results
Attachment C - October 19, 2016 Board Report

FINANCE, BUDGET AND AUDIT COMMITTEE (4-0) MADE THE FOLLOWING RECOMMENDATION:

16. CONSIDER: 2017-0180

A. APPROVING the SCRRA's request for additional funding for urgent structure and rail tie rehabilitation work up to $18,381,025.

B. PROGRAMMING up to $18,381,025 in **Measure R 3% funds.**

C. AUTHORIZING the Chief Executive Officer, or his designee, to negotiate and execute all necessary agreements between LACMTA and the SCRRA for the approved funding.

Attachments: Attachment A - Preliminary FY2016-17 Budget Metrolink
Attachment B - Metrolink Request for Additional Funds
Attachment C - Metrolink Asset Inspection Summary
Attachment D - Funding for Metrolink Slow order.pdf
Attachment E - Slow Order Program Schedule (High Level) 03-17-17.pdf
Attachment F-2016 12 14_MTA Hy Rail final w MTA edits.pdf

PLANNING AND PROGRAMMING COMMITTEE (5-0) MADE THE FOLLOWING RECOMMENDATION:

20. CONSIDER: 2017-0049

A. APPROVING release of **Round 5 of the Transit Oriented Development (TOD) Planning Grant Program,** offering an amount not to exceed $3,100,000;

B. APPROVING the Round 5 TOD Planning Grant Program Guidelines (Attachment A), which include the Transit Supportive Planning Toolkit and the creation of the Transit Oriented Communities Tax Increment Financing Pilot Program; and

C. ADOPTING AND CERTIFYING the Strategic Growth Council Final Grant Report as accurate.

Attachments: Attachment A - TOD Planning Grant Program Guidelines
Attachment B - SGC Grant Final Report

PLANNING AND PROGRAMMING COMMITTEE (3-0) MADE THE FOLLOWING RECOMMENDATION:

21. AUTHORIZE the Chief Executive Officer to amend **Metro's Second Revised Amended and Restated Joint Development Agreement ("JDA") with MacArthur Park Metro, LLC**, ("MPM") to: (a) extend the term of the JDA to December 31, 2017, and (b) allow Metro to terminate the JDA if Metro reasonably determines that the Ground Lease will not be executed prior to December 31, 2017 or that the mixed-use joint development project contemplated in the JDA (the "Phase B Project") is not feasible. 2017-0140

PLANNING AND PROGRAMMING COMMITTEE (3-0) MADE THE FOLLOWING RECOMMENDATION:

22. AUTHORIZE the Chief Executive Officer to execute an Exclusive Negotiations and Planning Agreement (ENA) with Trammell Crow Company and Greenland USA (Developer) for the **properties at North Hollywood Station** (Site), for 24 months with the option to extend up to 30 months. 2017-0144

Attachments: Attachment A - North Hollywood Joint Development Site
Attachment B - Proposed North Hollywood Site Plan and Program Summary
Attachment C - North Hollywood ENA Presentation

PLANNING AND PROGRAMMING COMMITTEE (3-0) MADE THE FOLLOWING RECOMMENDATION:

23. AUTHORIZE the Chief Executive Officer to: 2017-0152

A. APPROVE Project Definition for Environmental Scoping including four Northern Alignment Options; and

B. RECEIVE AND FILE the **West Santa Ana Branch (WSAB) Transit Corridor Northern Alignment Options Screening Report**.

Attachments: Attachment A - WSAB Northern Alignment Options Screening Report Executive
Attachment B - WSAB Project Definitions Map
P&P Presentation Item 23

PLANNING AND PROGRAMMING COMMITTEE (3-0) MADE THE FOLLOWING RECOMMENDATION:

24. APPROVE the formal commitment of ~~$905~~ $899.9 million of accelerated **Measure R funds to Westside Purple Line Extension Section 3** (WSPLE3) to fulfill the Federal Transit Administration's financial rating requirements for Metro's New Starts project request of ~~$1.175~~ $1.3 billion. 2017-0191

Attachments: Attachment A - Financial plan for the WSPLE3 FTA submittal revised 4-18-17

PLANNING AND PROGRAMMING COMMITTEE (3-0) MADE THE FOLLOWING RECOMMENDATION:

26. CONSIDER: 2017-0089

A. ADOPTING the **Rail to Rail Active Transportation Corridor (ATC) Project** - Segment A Preliminary Design (Attachment A); the findings of the environmental analysis that the project qualifies for CEQA Categorical Exemption under Section 15307 (Class 4) Minor Alterations to Land; and file the Notice of Exemption (NOE) (Attachment B);

B. ADOPTING the Rail to River ATC - Segment B Locally Preferred Alternative, Randolph Street Alternative, as described in the Alternative Analysis (AA) (Attachment C) and advance into the Environmental Review/Clearance and Preliminary Design phase after more refined cost estimates for Segment A are developed from 30% design documents.

Attachments: Attachment A - Rail to Rail Segment A 15% Preliminary Design

Attachment B - Rail to Rail Segment A Notice of Exemption

Attachment C - Rail to River Segment B Alternative Analysis

CONSTRUCTION COMMITTEE (3-0) MADE THE FOLLOWING RECOMMENDATION:

28. AUTHORIZE the Chief Executive Officer (CEO) to execute a Modification to Contract No. C1043 with Griffith Company, for the **design and construction of the Universal City Pedestrian Bridge**, in the amount of $450,000, increasing the total current contract value from $24,264,752 to $24,714,752 within the Life of Project budget. 2017-0138

Attachments: Attachment A - Procurement Summary.pdf

Attachment B - Contract Modification Change Order Log.pdf

Attachment C - DEOD Summary.pdf

EXECUTIVE MANAGEMENT COMMITTEE (4-0) MADE THE FOLLOWING RECOMMENDATION:

37. AUTHORIZE the Chief Executive Officer to award a 3-year, with two, one year options, firm fixed price Contract No. PS6224700 to **Mobility Advancement Group, for Metro's Mystery Rider Program** in the amount of $565,516 for the (3) year base period and $408,128 for the (2) one year options, for a total contract amount of $973,644, subject to resolution of protest(s), if any. 2017-0158

Attachments: ATTACHMENT A - Procurement Summary.pdf
ATTACHMENT B - DEOD Summary.pdf

EXECUTIVE MANAGEMENT COMMITTEE (4-0) MADE THE FOLLOWING RECOMMENDATION:

38. APPROVE **amendment of Title 6, Chapter 6-05 of the Los Angeles County Metropolitan Transportation Authority ("Metro") Administrative Code** (the "Code"), otherwise known as the Metro Customer Code of Conduct, as set forth in Attachment A. The amended Code will become effective May 1, 2017. 2017-0206

Attachments: Attachment A - Code Amendments

SYSTEM SAFETY, SECURITY AND OPERATIONS COMMITTEE (3-0) MADE THE FOLLOWING RECOMMENDATION:

40. AUTHORIZE the Chief Executive Officer to: 2017-0150

A. AWARD five (5) year, Indefinite Delivery/Indefinite Quantity Contract No. OP7396000 for a **Biomethane Gas Provider to Clean Energy Renewables**, the lowest responsive and responsible bidder for a not-to-exceed amount of $1,240,520 for the base year (for one bus division as a pilot) and a not-to-exceed amount of $54,808,110 for a four (4) year option, for a total contract amount of $56,048,630 (for all bus divisions if the pilot is successful), subject to resolution of protest(s), if any; and

B. EXECUTE individual Task Orders (Transaction Confirmations) and changes within the Board approved contract amount.

Attachments: Attachment A - Procurement Summary.pdf
Attachment B - DEOD Summary.pdf
Attachment C - Ramboll Environ Report September 29, 2016.pdf
Attachment D - Biomethane Implementation Plan.pdf

EXECUTIVE MANAGEMENT COMMITTEE MADE THE FOLLOWING RECOMMENDATIONS ON B-C (3-1) AND ON D-G (4-0):

41. ADOPT staff recommended positions: 2017-0201

- **B. AB 91 (Cervantes)** - High -Occupancy vehicle lanes **OPPOSE**
- **C. AB 344 (Melendez)** -- Toll Evasion Violations **OPPOSE**
- **D. AB 673 (Chu) -** Public transit operators: vehicle safety requirements ~~**OPPOSE UNLESS AMENDED**~~ **NEUTRAL**
- **E. AB 695 (Bocanegra)** - Avoidance of on-track equipment **SUPPORT**
- **F. AB 1454 (Bloom) / SB 768 (Allen)** - Transportation projects: lease agreements **SUPPORT**
- **G. SB 422 (Wilk)** - Transportation projects: comprehensive development lease agreements **SUPPORT (Sponsor)**

Attachments: Attachment B - AB 91 (Cervantes)
Attachment C - AB 344 (Melendez)
Attachment D - AB 673 (Chu)
Attachment E - AB 695 (Bocanegra)
Attachment F - AB 1454&SB 768 (Bloom & Allen)
Attachment G - SB 422 (Wilk)

EXECUTIVE MANAGEMENT COMMITTEE (4-0) MADE THE FOLLOWING RECOMMENDATION:

43. APPROVE **Motion by Ridley-Thomas, Fasana, Garcetti, Barger, Garcia and Dupont-Walker** to direct the Chief Executive Officer, in consultation with appropriate Departments of the County of Los Angeles including the Probation Department, Children and Family Services Department, Office of Education, the Department of Workforce Development, Aging, and Community Services, Department of Public Social Services, and other appropriate entities, to report back to the Executive Management Committee during the June board cycle with a proposed framework for a pilot educational and vocational training program, specifically though not exclusively targeting youth involved in the County's Probation or Child Welfare System, with the objective of facilitating career pathways for local youth into Los Angeles County's transportation sector. 2017-0271

NON-CONSENT

3. Report by the **Chair.** 2017-0274

4. Report by the **Chief Executive Officer.** 2017-0275

9. CONSIDER: 2017-0098

A. APPROVING $11.8 million of additional programming within the capacity of the **Measure R Highway Subregional Programs** and funding changes via the updated project list, as shown in Attachment A;

- Highway Operational Improvements in Arroyo Verdugo
- Highway Operational Improvements in Las Virgenes Malibu
- I-405, I-110, I-105 and SR-91 Ramp and Interchange Imp. (South Bay)
- I-605 Corridor "Hot Spots" Interchange Imp. in Gateway Cities
- I-710 South and/or Early Action Projects in Gateway Cities

B. AUTHORIZING the CEO or his designee to negotiate and execute all necessary agreements for approved projects; and

C. RECEIVING AND FILING the **SR-138 Capacity Enhancements** (North County) project list as shown in Attachment B.

Attachments: ATTACHMENT A - MEASURE R HIGHWAY SUBREGIONAL PROJECT LIST
ATTACHMENT B - SR 138 CAPACITY ENHANCEMENTS

CONSTRUCTION COMMITTEE FORWARDED DUE TO ABSENCES AND CONFLICTS:

27. AUTHORIZE the Chief Executive Officer (CEO) to execute a final Modification to Contract C1013R, with Skanska USA Civil West California District Inc., for the **design and construction of the west entrance at the North Hollywood Station on the Metro Red Line**, in the amount $1,261,770, adjusting the total current contract price from $15,743,901.61 to $17,005,671.61 within the life of project budget. 2017-0137

Attachments: Attachment A - Procurement Summary.pdf
Attachment B - Contract Modification Change Order Log.pdf
Attachment C - DEOD Summary.pdf

44. RECEIVE oral presentation on **High Speed Rail Component of the High Desert Corridor** by High Desert Corridor Joint Powers Authority. 2017-0184

Attachments: HDC JPA ORAL PRESENTATION.pdf

END OF NON-CONSENT ITEMS

45. CLOSED SESSION: 2017-0276

A. Conference with Legal Counsel - Existing Litigation - G.C. 54956.9(d)(1)
   1. Fred Brown, et al. v. LACMTA, LASC Case No. BC574684

B. Conference with Labor Negotiator - G.C. 54957.6
   Agency Designated Representative: Joanne Peterson or designee
   Employee Organizations: SMART, ATU, TCU, AFSCME and Teamsters

C. Conference with Real Property Negotiator - G.C. 54956.8
   1. Property Description: 1940 Century Park East, Los Angeles, CA
      Agency Negotiator: Carol A. Chiodo
      Negotiating Party: Vinci Academy L.L.C. (Tenant)
      Under Negotiation: Price and Terms

   2. Property Description: 6101 Wilshire Boulevard, Los Angeles, CA
      Agency Negotiator: Velma C. Marshall
      Negotiating Party: AU Zone Investments #2
      Under Negotiation Price and Terms

Consideration of items not on the posted agenda, including: items to be presented and (if requested) referred to staff; items to be placed on the agenda for action at a future meeting of the Committee or Board; and/or items requiring immediate action because of an emergency situation or where the need to take immediate action came to the attention of the Committee subsequent to the posting of the agenda.

COMMENTS FROM THE PUBLIC ON ITEMS OF PUBLIC INTEREST WITHIN COMMITTEE'S SUBJECT MATTER JURISDICTION

Adjournment

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

Metro

Board Report

File #: 2017-0234, **File Type:** Minutes **Agenda Number:** 2.

REGULAR BOARD MEETING
APRIL 27, 2017

SUBJECT: REGULAR BOARD MEETING MINUTES HELD MARCH 23, 2017

APPROVE **Minutes of the Regular Board Meeting held March 23, 2017.**

Metro
Los Angeles, CA

MINUTES

Board of Directors - Regular Board Meeting

Thursday, March 23, 2017

9:00 AM

One Gateway Plaza, Los Angeles, CA 90012,
3rd Floor, Metro Board Room

Directors Present:
John Fasana, Chair
Eric Garcetti, 1st Vice Chair
Sheila Kuehl, 2nd Vice Chair
Kathryn Barger
James Butts
Jacquelyn Dupont-Walker
Robert Garcia
Janice Hahn
Paul Krekorian
Ara Najarian
Mark Ridley-Thomas
Hilda Solis
Carrie Bowen, non-voting member

Phillip A. Washington, Chief Executive Officer

CALLED TO ORDER at 9:15 a.m.

ROLL CALL

APPROVED Consent Calendar Items: 2, 6, 7, ~~8~~, 10, 11, 13, 17, 19, ~~20~~, 21 and 22.**

Consent Calendar items were approved by one motion except items 8 and 20 which were held by a Director for discussion and/or separate action.

****Item required two-thirds vote**

JH	PK	JDW	MB	KB	MRT	JF	EG	SK	JB	HS	AN	RG
Y	Y	Y	A	Y	A	Y	Y	Y	Y	Y	Y	Y

1. RECOGNIZED **former Director Diane DuBois.** **2017-0189**

JH	PK	JDW	MB	KB	MRT	JF	EG	SK	JB	HS	AN	RG
P	P	P	A	P	A	P	P	P	P	P	P	P

2. APPROVED ON CONSENT CALENDAR **Minutes of the Regular Board Meeting held February 23, 2017.** **2017-0129**

3. RECEIVED report by the **Chair.** **2017-0185**

JH	PK	JDW	MB	KB	MRT	JF	EG	SK	JB	HS	AN	RG
P	P	P	A	P	P	P	P	P	P	A	P	P

4. RECEIVED report by the **Chief Executive Officer.** **2017-0186**

JH	PK	JDW	MB	KB	MRT	JF	EG	SK	JB	HS	AN	RG
P	P	P	A	P	P	P	P	P	P	A	P	P

JH = J. Hahn	KB = K. Barger	SK = S. Kuehl	RG = R. Garcia
PK = P. Krekorian	MRT = M. Ridley-Thomas	JB = J. Butts	
JDW = J. Dupont-Walker	JF = J. Fasana	HS = H. Solis	
MB = M. Bonin	EG = E. Garcetti	AN = A. Najarian	

LEGEND: Y = YES, N = NO, C = HARD CONFLICT, S = SOFT CONFLICT ABS = ABSTAIN, A = ABSENT, P = PRESENT

5. RECEIVED AND FILED report on **FY2018 Program Management Annual Program Evaluation (APE).** **2017-0047**

APPROVED **Motion by Fasana, Dupont-Walker, Hahn and Solis as amended by Bowen** that the Board direct the CEO to: **2017-0211**

A. Explore options to improve existing High-Occupancy Vehicle lanes in Los Angeles County, including:

1. Conduct a Performance Impact Study to explore raising the minimum occupancy requirement, where justified, from two-person to three-person for HOV lanes in LA County, in particular on the HOV corridors that are considered degraded;

2. Coordinate with Caltrans and the California Highway Patrol (CHP) to evaluate any safety and compliance impacts from raising the minimum occupancy requirement;

3. TDM strategies, mode shift incentives, dynamic work hours, Active Traffic Management and ITS;

B. Explore options to expand and improve ExpressLanes, including but not limited to the following:

1. Develop an acceleration strategy for constructing first- and second-tier projects outlined in the MTA Countywide ExpressLanes Strategic Plan;

2. Collaborate between Los Angeles and Orange Counties on a region-wide approach to delivering ExpressLanes projects;

3. Coordinate with Caltrans on an I-105 ExpressLanes advance improvement project to update and improve lane configuration to discourage car weaving on I-105 between I-405 and I-605;

4. Report back on congestion demand management strategies on degraded general purpose lanes in Los Angeles County, including but not limited to pricing;

5. Report back on a process and implementation plan to ensure exempt vehicles pay their fair share of ExpressLanes costs;

6. Report back on status of program that will identify and deter scofflaws in the ExpressLanes, including individuals who set the transponder to HOV while driving alone;

7. Recommend options to use toll revenue on existing facilities to advance the above studies;

(Continued on next page)

(Item 5 – continued from previous page)

C. Explore additional carpooling benefits and incentives for Los Angeles County, including but not limited to a program similar to the Bay Area Commuter Benefits Program administered by the Metropolitan Transportation Commission and the Bay Area Air Quality Management District; and

D. Report back on all the above during the September 2017 Board cycle.

JH	PK	JDW	MB	KB	MRT	JF	EG	SK	JB	HS	AN	RG
Y	Y	Y	A	Y	Y	Y	Y	N	Y	Y	Y	Y

6. APPROVED ON CONSENT CALENDAR the Resolution in Attachment A to: **2016-0987**

A. AUTHORIZE the Chief Executive Officer (CEO) or his designee to **claim $7,750,898 in fiscal year (FY) 2016-17 LCTOP grant funds for one year of Gold Line Foothill Extension Phase 2A operations and one year of Expo Line Phase 2 operations**; and

B. CERTIFY that Metro will comply with LCTOP Certification and Assurances and the Authorized Agent requirements, and authorize the CEO or his designee to execute all required documents and any amendments with the California Department of Transportation.

7. APPROVED ON CONSENT CALENDAR: **2016-0807**

A. AUGMENTING the Life-of-Project (LOP) Budget for the **P2000 Light Rail Vehicle Overhaul Program** (CP 206044) by $30,000,000 adjusting the LOP Budget from $130,800,000 originally established March 2013, to $160,800,000;

B. AUTHORIZING the Chief Executive Officer to award a firm-fixed price Contract No. OPP2000 Light Rail Vehicle Overhaul to Alstom Transportation Inc. in the amount of $140,079,867, inclusive of taxes for a period of 50 months for the overhaul and delivery of the 52 P2000 LRVs, subject to resolution of protest(s), if any; and

C. FINDING that the award to Alstom Transportation, Inc. is the proposer providing the best value and is the most advantageous to Metro.

8. APPROVED AS AMENDED the release of the **draft Measure M Master Guidelines for public review.** **2017-0051**

AMENDING **Motion by Garcia, Garcetti, Hahn and Kuehl** that the MTA Board direct the CEO to: **2017-0212**

A. Evaluate additional Local Return allocations including but not limited to the following factors:

1. Setting a floor which allows small cities to invest in critical transportation/infrastructure project
2. Daytime and nighttime population
3. Employment population
4. Proportion of Measure M sales tax generated

B. Identify other eligible funding sources that can supplement the Measure M Local Return subfund.

C. Evaluate the reliability and validity of data sources considered in the above allocations

D. Report back on Local Return distribution for public review at the May 2017 MTA Board cycle

E. Incorporate feedback from the Measure M Policy Advisory Council into the May 2017 Board report.

JH	PK	JDW	MB	KB	MRT	JF	EG	SK	JB	HS	AN	RG
Y	Y	Y	A	Y	A	Y	Y	Y	Y	Y	Y	Y

9. APPROVED AS AMENDED: **2016-0835**

A. RECEIVING AND FILING update on **Vermont BRT Corridor Technical Study**;

B. APPROVING the findings and recommendations from the **North Hollywood to Pasadena Bus Rapid Transit (BRT) Technical Study**;

C. APPROVING advancement of the **North Hollywood to Pasadena BRT corridor into environmental review**; and

D. APPROVING initiation of a technical study for the **North San Fernando Valley BRT Improvements Project preceding environmental review**.

AMENDING **Motion by Garcetti, Ridley-Thomas and Dupont-Walker** that **2016-0213** the MTA Board direct the CEO to:

A. Proceed with the Vermont Bus Rapid Transit project as a near-term "Phase 1" transit improvement along the Vermont Avenue Corridor;

B. Initiate the study of extending the Red Line along Vermont Avenue to 125th Street, specifically focusing on connecting the Wilshire/Vermont Red Line Station to the Expo/Vermont Expo Line Station as a "Section 1";

C. Include a heavy rail alternative in the Alternative Analysis and Environmental Studies for the Measure M Vermont Transit Corridor; and

D. Report back on all the above to the Planning and Programming Committee during the July 2017 Board cycle.

JH	PK	JDW	MB	KB	MRT	JF	EG	SK	JB	HS	AN	RG
Y	Y	Y	A	Y	Y	Y	Y	Y	Y	Y	Y	Y

10. AUTHORIZED ON CONSENT CALENDAR the Chief Executive Officer to: **2017-0066**

A. EXECUTE Modification No. 6 to Contract No. AE354280011791 with **RNL Interplan, Inc. (RNL) for the Willowbrook/Rosa Parks Station Improvement Project (Project) Design and Engineering Services** to complete final design for the Project in the firm fixed amount of $1,391,035, increasing the total contract value from $6,904,331 to $8,295,366; and

B. INCREASE Contract Modification Authority (CMA) specific to Contract No. AE 354280011791 for the Willowbrook/Rosa Parks Station Improvement Project Design and Engineering Services, in the amount of $250,000, increasing the total authorized CMA amount from $1,151,214 to $1,401,214.

11. AUTHORIZED ON CONSENT CALENDAR the Chief Executive Officer, in accordance with the 2006 Board adopted Bicycle Transportation Strategic Plan (Attachment C), to award a Contract No. PS67785000 (Contract) to Estolano LeSar Perez Advisors for a three-year period of performance for the **Bicycle Education Safety Team (BEST)** program in the amount of $2,308,001.01, subject to resolution of protest(s), if any. **2016-0997**

JH	PK	JDW	MB	KB	MRT	JF	EG	SK	JB	HS	AN	RG
								C				

13. AUTHORIZED ON CONSENT CALENDAR the Chief Executive Officer to execute two Easement Agreements allowing construction of a portion of the **Hope/2nd Street Pedestrian Bridge to be built on, and Metro patron access across, private property owned by the Broad Museum**. **2017-0023**

JH	PK	JDW	MB	KB	MRT	JF	EG	SK	JB	HS	AN	RG
C				C			C	C				

17. APPROVED ON CONSENT CALENDAR **bylaws revisions for Metro's Citizens' Advisory Council (CAC)**. **2017-0075**

19. ADOPTED ON CONSENT CALENDAR staff recommended positions: **2017-0114**

B. **AB 378 (C. Garcia)** - California Global Warming Solutions Act of 2006: Regulations **SUPPORT**

C. **AB 408 (Chen)** - Eminent Domain: Final Offer of Compensation **OPPOSE**

20. AWARDED a cost plus fixed fee contract for Technical and Program Management Support Services under Contract No. OP20113000 for the **P2000 Light Rail Vehicle Overhaul Program Consultant Support Services, to CH2M Hill, Inc.**, in the not-to-exceed amount of $5,829,626 for a period of 55 months from issuance of a Notice-to-Proceed (NTP) for the overhaul of 52 Siemens P2000 LRVs, subject to resolution of protest(s), if any. **2017-0149**

JH	PK	JDW	MB	KB	MRT	JF	EG	SK*	JB	HS	AN	RG
A	A	Y	A	Y	Y	Y	A	Y	Y	A	Y	A

*Selected to vote under the Rule of Necessity

21. APPROVED ON CONSENT CALENDAR BY 2/3 VOTE: **2016-0881**

A. FINDING that compliance with PUC sections 130232 and 130233 does not constitute a method of procurement adequate for the operation of prototype equipment and herewith approves the procurement of prototype buses under PUC section 130236 without further observance of any provisions regarding contracts, bids, advertisement or notice;

B. APPROVING the **Advanced Transit Vehicle Consortium's (ATVC) Award and Execution of a non-competitive Contract No.OP29199 with BYD Motors, Inc. (BYD), for the purchase of five (5) prototype 60 foot articulated battery electric vehicles and charging equipment** at a firm fixed price of $6,594,771, including applicable taxes;

C. AUTHORIZING the Contract Modification credit in the amount of $3,000,000 under Contract No. OP33202790, with BYD, resulting from the buy-back of five (5) battery electric 40 foot vehicles delivered to Metro to be expended on the five prototype articulated battery electric vehicles in recommendation B; and

D. CLOSING project 201071 Bus Acquisition 30 Zero Emission/Super Low Emission and utilize unused funds from this project to establish a Life-of-Project (LOP) Budget of $8,109,500 for project 201074, BYD 60 foot Articulated Zero Emission Bus.

(REQUIRED TWO-THIRDS VOTE)

JH	PK	JDW	MB	KB	MRT	JF	EG	SK	JB	HS	AN	RG
				C			C					

22. AUTHORIZED ON CONSENT CALENDAR the Chief Executive Officer to award a five-year, indefinite delivery/indefinite quantity Contract No. PS28069-2000, for **space planning/installation services and furniture**, to M3 Office, Inc., for a not to exceed amount of $5,000,000 for the three-year base period, and $1,000,000 for each of the two, one-year options, for a combined total of $7,000,000 effective April 1, 2017, subject to resolution of protest(s), if any. **2016-0969**

26. APPROVED: **2017-0146**

A. AWARDING and AUTHORIZING the Chief Executive Officer to execute a cost-plus fixed fee Contract No. AE66758000 to perform preliminary engineering and complete final design for the **Core Capacity Enhancements at Division 20 for a Portal Widening and Turnback Facility** to T.Y. Lin International, Inc., in an amount not-to-exceed $10,265,661, subject to resolution of any protests;

B. AUTHORIZING Contract Modification Authority in the amount of $2,053,132 (20% of the not-to-exceed contract award value) and authorize the CEO to execute individual Contract Modifications within the Board approved Contract Modification Authority;

C. INCREASING anticipated expenditures and authorization from $3.5M to $17.2M to include contract amounts and modification authority requested in A and B, and Metro staff support costs through Final Design;

D. ENTERING into Letters of No Prejudice (LONP) with the State of California as needed to ensure the eligibility of reimbursement of State funds for design work required to begin before State funds are available;

E. FINDING the Division 20 Portal Widening and Turnback Facility is exempt from the California Environmental Quality Act (CEQA) pursuant to Public Resources Code Section 21080, subdivision (b)(10);

F. ADOPTING the Final Initial Study/Mitigated Negative Declaration (IS/MND) for the Division 20 Portal Widening and Turnback Facility, and the recommended Mitigation Monitoring and Reporting Program (MMRP) of the Final IS/MND; and

G. ASSURING that the final design in this action preserves the ability to construct a potential future station in the vicinity of 6th Street in the Arts District.

JH	PK	JDW	MB	KB	MRT	JF	EG	SK	JB	HS	AN	RG
Y	Y	Y	A	C	Y	Y	C	Y	Y	Y	C	A

27. APPROVED BY 2/3 VOTE: **2017-0087**

A. HOLDING a public hearing on the proposed Resolution of Necessity; and

B. ADOPTING the **Resolution of Necessity authorizing the commencement of an eminent domain action to acquire Parcels HS-2701 (APN 4013-008-008) and HS-2701-1 (APN 4013-007-32, 022, 021 and 029)**, consisting of the real property and site improvements (hereinafter the "Property").

(REQUIRED TWO-THIRDS VOTE)

JH	PK	JDW	MB	KB	MRT	JF	EG	SK	JB	HS	AN	RG
Y	Y	Y	A	Y	Y	Y	Y	Y	Y	A	Y	Y

28. APPROVED AS AMENDED: **2017-0121**

A. the recommended Alternative 2 with six Regional Rail run-through tracks and two High Speed Rail run-through tracks (also referred to as "6+2 Run Through Tracks" Alternative) to be carried forward in the California Environmental Quality Act (CEQA) Draft Environmental Impact Report (EIR) and National Environmental Policy Act (NEPA) Draft Environment Impact Statement (EIS) and continue to evaluate Alternatives 1, 3 and 4 as reasonable alternatives in the Draft EIR/EIS;

B. AUTHORIZING the Chief Executive Officer (CEO) to execute Modification No. 4 to Contract No. PS2415-3172, with **HDR Engineering, Inc., for Link Union Station (Link US)** to provide advanced engineering for the run-through tracks and environmental and preliminary engineering services for the expansion of Link US to connect the Link US project with Patsaouras Transit Plaza to the east and the historic Union Station to the west, increasing the total contract value by $13,761,273, from $48,279,357 to a not to exceed amount of $62,040,630;

C. AUTHORIZING the CEO to increase Contract Modification Authority (CMA) in the amount of $1,376,127, increasing the total CMA amount from $2,980,588 to $4,356,715;

D. AUTHORIZING the Chief Executive Officer to execute a funding agreement with California High-Speed Rail Authority (CHSRA) in the amount of $3,726,102 for project development work related to Contract Modification No. 4; and

E. APPROVING an amendment to increase the FY17 fiscal year budget in the amount of $9,200,000 for the LINK US Project in Cost Center 2145.

(Continued on next page)

(Item 28 – continued from previous page)

AMENDING **Motion by Fasana, Barger, Solis and Dupont-Walker** **2017-0214**
that the MTA Board direct the CEO to:

A. Authorize an amendment to the Link Union Station contract – within the limits of the approved contract authority and proposed modification – to develop a new alternative that modifies the substructure and concourse which includes, but is not limited to, the following:

   1. An outdoor and community-oriented passenger concourse option that is above or at-grade with the rail yard and maximizes panoramic views of Unions Station, the LA River and Downtown Los Angeles to passengers and visitors;

   2. Allows passengers and the community to access the train terminals from above or at-grade with the rail station and track facility while enhancing ADA accessibility and meets modern standards for fire and life safety;

   3. Limits the substructure and concourse elements to core facility operations, baggage handling, etc.;

B. Require for this modified alternative be as cost-effective as possible.

C. Direct MTA's joint development team to lead the following coordinated efforts in parallel to the Link Union Station project:

   1. Release a Request for Information/Request for Qualifications (RFI/RFQ) to attract private development opportunities within Union Station and Gateway Plaza.

   2. Partner with the City and County of Los Angeles and surrounding property owners to develop a common joint-development plan.

D. Evaluate opportunities to create pedestrian/active transportation linkages to the LA River.

E. Direct Metro's Union Station/Civic Center Taskforce to establish a volunteer-based, architectural review panel to offer suggestions and recommendations aimed at ensuring design consistency in and around Union Station that amalgamates the historic and modern elements of the surrounding area while promoting innovative ideas.

F. Develop a comprehensive community engagement strategy designed to capture input that is representative of the cultural diversity in the Union Station service area.

(Continued on next page)

(Item 28 – continued from previous page)

G. Report back on all the above during the July 2017 Board cycle.

JH	PK	JDW	MB	KB	MRT	JF	EG	SK	JB	HS	AN	RG
Y	Y	Y	A	Y	Y	Y	S	Y	Y	A	C	C

29. ADOPTED staff recommended position: **2017-0187**

AB 17 (Holden) - Transit Pass Program: Free or Reduced-Fare Transit Passes
SUPPORT

JH	PK	JDW	MB	KB	MRT	JF	EG	SK	JB	HS	AN	RG
Y	Y	Y	A	Y	Y	Y	Y	Y	Y	A	Y	Y

30. **RECEIVED** General Public comment.

31. **CLOSED SESSION:** **2017-0190**

A. Conference with Legal Counsel - Existing Litigation - G.C. 54956.9(d)(1):

1. Carol Bohaty v. LACMTA, LASC Case No. BC593988

   APPROVED settlement of $750,000.

JH	PK	JDW	MB	KB	MRT	JF	EG	SK	JB	HS	AN	RG
Y	Y	Y	A	Y	A	Y	Y	Y	A	A	Y	A

2. Carolyn Bondoc v. LACMTA, LASC Case No. BC527211

   APPROVED settlement of $300,000.

JH	PK	JDW	MB	KB	MRT	JF	EG	SK	JB	HS	AN	RG
Y	Y	Y	A	Y	A	Y	Y	Y	A	A	Y	A

B. Conference with Legal Counsel - Anticipated Litigation - G.C. 54956.9(d)(2):
Significant Exposure to Litigation (One Case)

NO REPORT.

(Continued on next page)

(Closed session, Item 31 – continued from previous page)

C. Conference with Labor Negotiator - G.C. 54957.6:
Agency Designated Representative: Joanne Peterson or designee
Employee Organizations: SMART, ATU, TCU, AFSCME and Teamsters

NO REPORT.

D. Conference with Real Property Negotiator - G.C. 54956.8:

1. Property Description: 620 W. 2nd Street, Los Angeles, CA
Agency Negotiator: Carol A. Chiodo
Negotiating Party: The Broad
Under Negotiation: Price and Terms

NO REPORT.

2. Property Description: 14 No. La Cienega, Beverly Hills, CA
Agency Negotiator: Carol A. Chiodo
Negotiating Party: Sweetzer Plaza and The Phoenix Restaurant
Under Negotiation: Price and Terms

AUTHORIZED final offer of $4,358,800 consisting of $4,300,000 for fee interest, $35,000 for loss of business goodwill and $23,800 for fixtures and equipment.

JH	PK	JDW	MB	KB	MRT	JF	EG	SK	JB	HS	AN	RG
Y	Y	Y	A	Y	A	Y	Y	Y	A	A	Y	A

ADJOURNED at 1:16 p.m.

Prepared by: Collette Langston
Board Specialist

Michele Jackson, Board Secretary

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

File #: 2017-0067, **File Type:** Contract **Agenda Number:** 7.

AD-HOC CONGESTION, HIGHWAY AND ROADS COMMITTEE
APRIL 19, 2017
CONSTRUCTION COMMITTEE
APRIL 20, 2017

SUBJECT: I-5 NORTH CAPACITY ENHANCEMENTS FROM SR-134 TO SR-118 (FUNDING AGREEMENT NO. MOU. P0008355/8501A/A6)

ACTION: AUTHORIZE CONTRACT MODIFICATION

RECOMMENDATION

AUTHORIZE Contract Modification No. 114 by Caltrans for **construction contract of the Segment 3 of the I-5 North Capacity Enhancements Project between SR-134 and SR-118** (Project) under the Funding Agreement No. MOU. P0008355/8501A/A6, in the amount of $552,110.89, using non local fund sources**.**

ISSUE

Segment 3 of the I-5 North Capacity Enhancement Project is between Buena Vista Street and Magnolia Boulevard. Segment 3 work includes fiber optic installation north of Buena Vista Street for Railroad signals. The original plan called for polyvinyl chloride (PVC) conduits to be installed behind Mechanically Stabilized Earth (MSE) Wall No. 4 for the fiber optic lines. However, the PVC conduits are in conflict with the straps that are necessary to construct the MSE wall and need to be installed different than how was originally designed.

DISCUSSION

The I-5 North Capacity Enhancements Project includes freeway widening and construction of HIGH Occupancy Vehicles (HOV) lanes and other improvements between SR-134 and SR-118. Segment 3 is between Buena Vista Street and Magnolia Boulevard.

California Department of Transportation (Caltrans) designed the largest portion of the project, and is managing the construction of the Project. Southern California Railroad Authority (SCRRA) designed the railroad portion of the project and the City of Burbank designed the City portion of the project.

Metro, SCRRA, Caltrans, and the Contractor considered multiple possible alternatives and determined that the option of mounting the conduits on top of the MSE walls would address the PVC

conduit conflict with the wall straps. Since the proposed installation exposes the conduit, a galvanized metal conduit is recommended under Contract Modification No. 114.

On January 24, 2017, Caltrans and its Contractor reached an agreement in the amount of $552,110.89 for Contract Modification No. 114. This cost covers installing galvanized metal conduits in lieu of PVC conduits for 2,060 feet, including labor, equipment, material and markups by reason of this change.

Contract modifications exceeding $500,000 require Board authorization per the Staff Delegations of Contract Action Approval and Award Authority Memo, dated February 23, 2010.

DETERMINATION OF SAFETY IMPACT

There is no impact to public safety by approving this action.

FINANCIAL IMPACT

The current Project budget for Segment 3 is $402,381,000 of which $18,798,000 is federal funds (RSTP and CMAQ), $190,162,000 is State funds (CMIA, RIP, IIP and SLPP) and $193,421,000 is Local Prop C and Measure R funds.

The total cost of this Contract Modification No. 114 does not require an increase in the overall project budget. Caltrans will pay the cost of the work from the Project CMAQ and CMIA funds or other non-local funds.

ALTERNATIVES CONSIDERED

The Board may choose not to approve the staff’s recommendation. However, this disapproval would result in further schedule delays and cost overruns.

Authorization of Contract Modification No. 114 in the amount of $552,110.89 will allow Caltrans to complete the installation of the metal conduits on the MSE Wall No. 4 parapet and prevent project delays.

NEXT STEPS

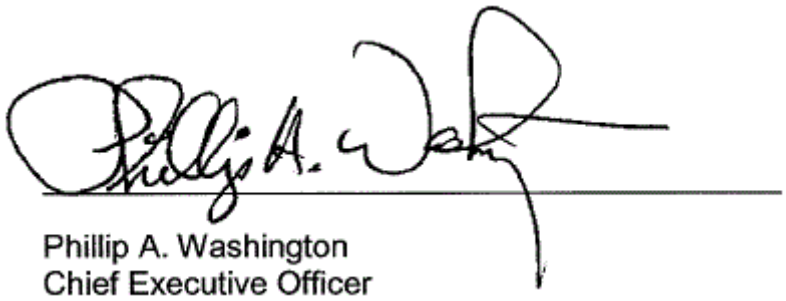
Upon Board's approval of the recommended action, Metro staff will coordinate with Caltrans to authorize the contractor to proceed with the installation of the metal conduits.

ATTACHMENTS

Attachment A - Aerial Map
Attachment B - MSE Wall and Straps
Attachment C - Galvanized Conduit on top of MSE wall
Attachment D - MSE Wall (back)

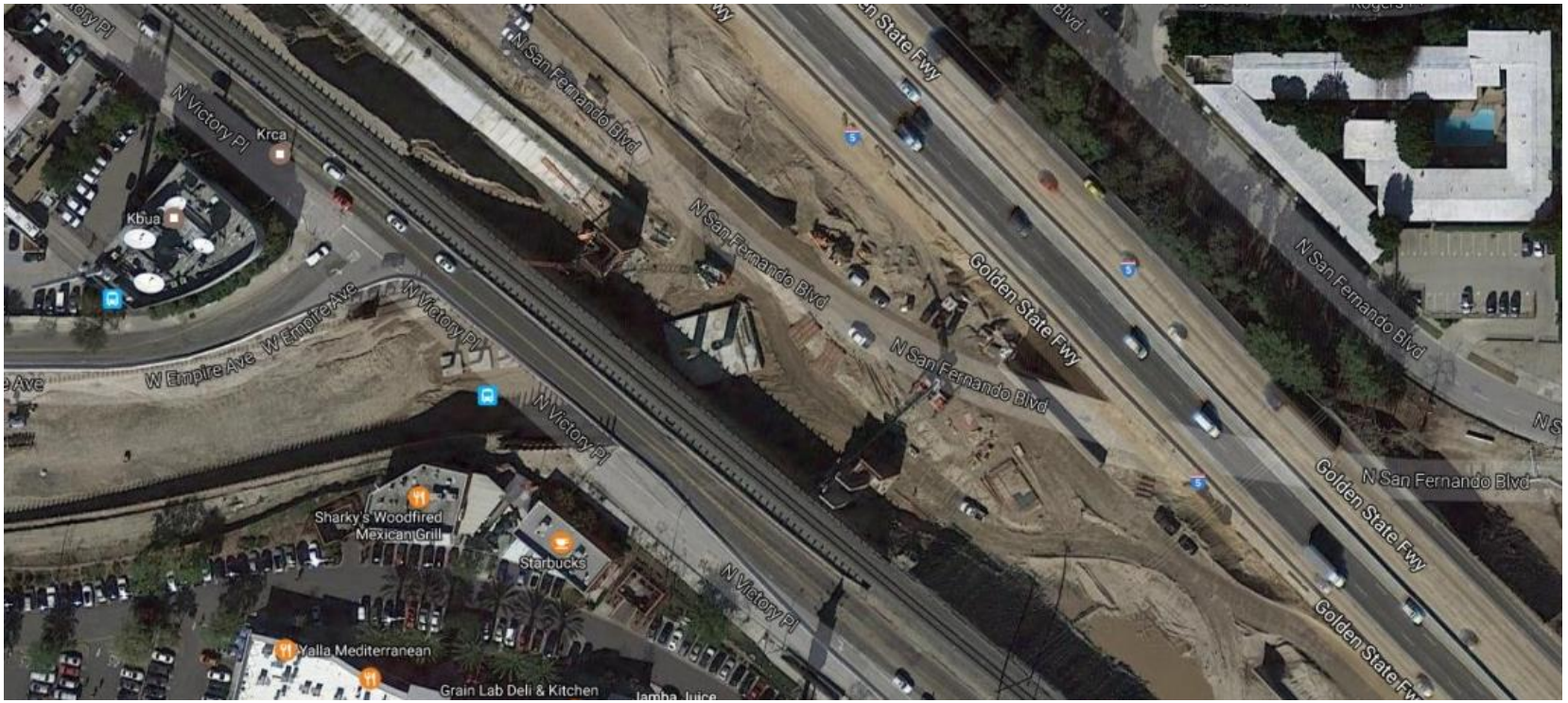
Prepared by: Maher Subeh, Director of Engineering, Highway Program (213) 922-4744
Aline Antaramian, Deputy Executive Officer, Highway Program (213) 922-7589
Abdollah Ansari, Senior Executive Officer, Highway Program (213) 922-4781
Bryan Pennington, Deputy Chief Program Management Officer (213) 922-7449

Reviewed by: Richard F. Clarke, Chief Program Management Officer (213) 922-7557



Phillip A. Washington
Chief Executive Officer

ATTACHMENT A – Aerial Map



I-5 North HOV Project at Empire Avenue

ATTACHMENT B – MSE Wall and Straps

ATTACHMENT C – Galvanized Conduit on top of MSE wall

ATTACHMENT D: MSE Wall (Back)

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

Metro

Board Report

File #: 2017-0096, **File Type:** Contract **Agenda Number:** 49.

REGULAR BOARD MEETING
JUNE 22, 2017

SUBJECT: HIGHWAY PROGRAM PROJECT DELIVERY SUPPORT SERVICES FOR LOS ANGELES COUNTY

ACTION: AWARD PROFESSIONAL SERVICES CONTRACTS

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to:

A. AWARD three, three-year on-call contracts, Contract Nos. AE30673000, AE30673001, and AE30673002, to AECOM Technical Services, Inc., CH2M Hill, Inc., and Parsons Transportation Group, Inc., respectively, for a total not-to-exceed amount of $30,000,000, for **Highway Program Project Delivery Support Services for Los Angeles County**, subject to resolution of protest(s), if any; and

B. AWARD Task Orders within the approved not to exceed cumulative value of $30,000,000.

ISSUE

The Highway program requires professional services to support the various phases of the highway program project delivery process (planning, research/data collection, environmental assessments/clearance, design, public outreach, project management, quality assurance/quality control, risk analysis, surveying, etc.). The majority of the task order assignments that may be issued under these Contracts are tasks that will require specialized services and must be initiated and completed in a relatively short period of time. The Highway Program On-Call Services Contracts will enable the initiation and award of task orders in a shorter period of time than the traditional RFP solicitation process for technical and professional services and provide for cost effective and accelerated delivery of projects.

DISCUSSION

Metro's Highway Program is delivering a number of short, mid, and long term improvement projects. This includes non-Measure R (Federal, State and Proposition C), Measure R and soon Measure M projects for which funding has been or will soon be programmed for implementation. More than $3.7 billion over the next decade have been earmarked for investments in highway improvements.

Highway Program has been utilizing an existing on-call contract that was awarded in December 2013 and will expire in June 30, 2017. This contract has been successful in assisting the Program Management (Highway, Engineering and Construction) Division to deliver highway improvement projects as well as transit-related projects on state highways and arterials. To date, staff has issued 14 task orders for a total value of $9,955,939.00

The new on call Contracts will provide the needed technical assistance to the Program Management/Highway Program Department in the following areas: (1) Planning and Technical Studies, (2) Research/Data Collection, (3) Project Approval and Environmental Document (PA/ED), (4) Plans Specifications and Estimates (PS&E) Deliverables, (5) Project Right of Way and Utility Services, (6) Intelligent Transportation Systems Support, (7) Program/Project Management Support and QA/QC, (8) Administrative Project Support Activities and other tasks as identified by Highway Programs.

DETERMINATION OF SAFETY IMPACT

The approval of this procurement will not have any negative impact on the safety of Metro's patrons or employees or the users of the highway system in LA County.

FINANCIAL IMPACT

These are task order driven contracts which will be utilized and funded by Highway related projects. The funding mechanism for executing task orders will be driven by approved fiscal year funding of the affected Highway project(s). As a result, the execution of Recommendation A for these Contracts would have minimal financial impact to the agency. Initially, the contract awards will be funded with Measure R Administration (1.5%) funds and Prop C Streets and Highways (25%) funds with subsequent task orders issued and funded by a highway project(s).

Impact to Budget

FY 17 funding for these Contracts will come from Measure R Administration (1.5%) funds under project 100055, task number 08.01, cost center 4730, and account 50316; and Proposition C Streets and Highways (25%) funds under project 405522, task number 01, cost center 4730 and account 50316.

Since these are multi-year Contracts, the Chief Program Management Officer, Senior Executive Officer, Highway Program and Cost Center Manager will be responsible for budgeting the costs in future years.

ALTERNATIVES CONSIDERED

Two alternatives were considered:

1. Utilizing Metro staff to perform the work. This alternative is not recommended since the Highway Program is not staffed to perform all the technical services authorized under these on

-call Contracts.

2. Hiring additional full time personnel. This alternative is not recommended because an on-call contract is better suited to meet the as-needed staffing requirements for specialized technical knowledge and expertise, and to cover temporary peaks in workload.

NEXT STEPS

Upon approval by the Board, staff will execute Contract Nos. AE30673000, AE30673001, and AE30673002 with AECOM Technical Services, Inc., CH2M HILL, Inc., and Parsons Transportation Group, Inc., respectively.

ATTACHMENTS

Attachment A - Procurement Summary
Attachment B - DEOD Summary

Prepared by: Benkin Jong, Senior Transportation Planner (213) 922-3053
Ernesto Chaves, Senior Director, (213) 922-7343
Abdollah Ansari, Senior Executive Officer, (213) 922-4781

Reviewed by: Debra Avila, Chief Vendor/Contract Management Officer (213) 418-3051
Richard F. Clarke, Chief Program Management Officer, (213) 922-7557

Phillip A. Washington
Chief Executive Officer

ATTACHMENT A

PROCUREMENT SUMMARY

HIGHWAY PROGRAM PROJECT DELIVERY SUPPORT SERVICES FOR LOS ANGELES COUNTY/AE30673000, AE30673001 & AE30673002

1.	**Contract Numbers**: AE30673000, AE30673001 and AE30673002	
2.	**Recommended Vendors**: AECOM Technical Services, Inc., CH2M HILL, Inc., and Parsons Transportation Group, Inc.	
3.	**Type of Procurement (check one):** ☐ **IFB** ☐ **RFP** ☒ **RFP–A&E** ☐ **Non-Competitive** ☐ **Modification** ☐ **Task Order**	
4.	**Procurement Dates**:	
	A. Issued: August 24, 2016	
	B. Advertised/Publicized: August 24, 2016	
	C. Pre-Proposal Conference: September 7, 2016	
	D. Proposals Due: October 3, 2016	
	E. Pre-Qualification Completed: March 17, 2017	
	F. Conflict of Interest Form Submitted to Ethics: March 15, 2017	
	G. Protest Period End Date: April 21, 2017	
5.	**Solicitations Picked up/Downloaded**: 168	**Proposals Received**: 9
6.	**Contract Administrator**: David Chia	**Telephone Number**: (213) 922-1064
7.	**Project Manager**: Benkin Jong	**Telephone Number**: (213) 922-3053

A. Procurement Background

This Board Action is to approve Contract Nos. AE30673000, AE30673001 and AE30673002, which are respectively issued to AECOM Technical Services, Inc., CH2M Hill, Inc. and Parsons Transportation Group, Inc. (referred to individually as "Contractor" and collectively as "Contractors"), in support of on-call project delivery support services for highway capital projects throughout Los Angeles County. Board approval of contract awards are subject to resolution of any properly submitted protest.

This Architectural and Engineering (A&E) qualifications based Request for Proposal (RFP) to award three contracts was issued in accordance with Metro's Acquisition Policy. The RFP was issued with an SBE/DVBE goal of 30% (SBE 27% and DVBE 3%).

Work for each Contract will be authorized through the issuance of separate FFP task orders. Each future task order will contain a specific statement of work for a scope of services.

Task orders will be issued to the contractors on a rotating basis. If one contractor is unable to perform the work under a task order, the task order will be issued to the next contractor.

One amendment was issued during the solicitation phase of this RFP:

- Amendment No. 1, issued on September 9, 2016, updated the Statement of Work to include safety provisions, clarified cost proposal instructions, and extended the proposal due date to October 3, 2016.

A pre-proposal conference was held on September 7, 2016, and was attended by 92 participants representing 62 companies. There were 40 questions asked and responses were released prior to the proposal due date.

A total of 168 firms downloaded the RFP and were included in the planholders' list. A total of 9 proposals were received on October 3, 2016.

B. Evaluation of Proposals

A Proposal Evaluation Team (PET), consisting of staff from Metro Highway Programs and Caltrans District 7, was convened and conducted a comprehensive technical evaluation of the proposals received.

The proposals were evaluated based on the following evaluation criteria and weights:

• Experience and Capabilities of Contractor's Team	30 percent
• Management Plan and Controls	26 percent
• Degree of Skills and Experience of Team Members	40 percent
• SBE/DVBE Contacting Outreach and Mentor Protégé Approach	4 percent

The evaluation criteria are appropriate and consistent with criteria developed for other, similar A&E on-call project delivery support services procurements. Several factors were considered when developing these weights, giving the greatest importance to the degree of skills and experience of team members and experience and capabilities of the contractors' teams.

This is an A&E, qualifications based procurement; therefore, price cannot be used as an evaluation factor pursuant to state and federal law.

During October 6, 2016 through December 7, 2016, the PET completed its independent evaluation of the proposals. The PET determined that one firm was outside the competitive range and was not included for further consideration. The firm's management plan did not satisfactorily identify personnel, key roles, or positions and also did not demonstrate how work would be distributed/assigned. In addition, the firm did not demonstrate direct experience with emerging technologies or grant writing assistance.

The eight firms within the competitive range are listed below in alphabetical order:

1. AECOM Technical Services, Inc. (AECOM)
2. CH2M Hill, Inc. (CH2M)
3. HDR Engineering, Inc. (HDR)
4. Jacobs Engineering Group, Inc. (Jacobs)
5. Kimley-Horn and Associates, Inc. **(**Kimley-Horn**)**
6. Parsons Transportation Group, Inc. (Parsons)
7. TranSystems Corporation (TranSystems**)**
8. T.Y. Lin International (TY Lin)

On November 17, 2016, the PET interviewed the eight firms within the competitive range. The project manager and key team members from each firm were invited to present their firm's respective qualifications and respond to the PET's questions. In general, all firms elaborated on their experience with innovative and cost-effective project delivery solutions and discussed their staffing levels and long term staff commitments.

In addition, the project manager and key personnel from each firm responded to the PET's inquiries regarding the firm's approach and ability to reducing tort liability, negotiating between design preferences and design standards, reconciling between contract requirements and project requirements, managing differing stakeholder interests, and resolving disputes that may arise among public agencies and stakeholders.

Qualifications Summary of Recommended Firms

AECOM

AECOM is a multinational design and engineering firm that provides design, consulting, construction, and management services. AECOM's proposal and oral presentation demonstrated expertise in a wide range of services, expertise in emerging technologies and grant writing, effective project management, quality control and risk management plans, and a skilled team of project personnel.

The proposal and oral presentation demonstrated experience in all phases of planning and design services across a wide range of disciplines. AECOM identified projects that involved planning and environmental services, preliminary and final design services, and services during construction. AECOM also identified projects involving concept reports, feasibility studies, corridor studies, project study reports, technical studies, tunneling, project approval/environmental document services, public outreach, bridge and wall structures services, traffic handling services, utilities and electrical services, landscaping services, and geotechnical services. Examples include: the I-710 South Corridor Environmental Impact Report/Environment Impact Statement (EIR/EIS), SR-47 Heim Bridge Plans, Specification & Estimate (PS&E), and I-405/Avalon Interchange Project Approval/Environment Document (PA/ED) and PS&E.

The proposal and oral presentation demonstrated substantial experience in emerging technologies, citing the design of Hyperloop test tracks for Space X and the development of the e-Highway demonstration project for the SR-47. In addition, the proposal demonstrated AECOM's experience with alternative project delivery, including the I-210 Iconic Freeway Structure, SR-91 Expansion, and the I-15/I-215 Devore Interchange.

The proposal and oral presentation provided a detailed management plan that included a task order management plan, project organization chart, quality management system, and project controls plan. The oral presentation also elaborated upon AECOM's quality management system, which has earned AECOM an ISO 9001:2008 certification for exceptional quality management.

The proposal and oral presentation stressed the importance of identifying risks, understanding stakeholder objectives, and utilizing AECOM's deep-rooted relationships with agency contacts, particularly with Caltrans geometric reviewers and district liaisons. In addition, the proposal demonstrated AECOM's local stakeholder experience, which includes Metro, Caltrans District 7, regional transportation agencies (Orange County Transportation Authority and Riverside County Transportation Commission), councils of government, cities, and local community groups.

The proposal and oral presentation demonstrated that AECOM's key personnel have direct experience across a gamut of disciplines, all stages of design, and an array of project delivery methods. Significantly, the project manager possesses 100% availability. The project manager has 32 years of experience. Other key personnel average over 27 years of experience.

<u>CH2M</u>
CH2M is a global engineering firm that specializes in consulting, design, construction, and operation services. CH2M's proposal and oral presentation showed expertise in a broad range of disciplines, expertise in emerging technologies and grant writing, effective project management, quality control and risk management plans, and an experienced team of project personnel.

The proposal demonstrated experience in all phases of planning and design services across a wide range of disciplines. The proposal identified projects that involved planning and design services, studies, and management. The proposal identified projects that involved technical studies, literature research, data collection, PA/ED services, PS&E services, right-of-way (ROW) and utility services, intelligent transportation systems (ITS) support services, project management services, and administrative project support.

The proposal demonstrated highly relevant on-call experience and substantial local stakeholder experience within the Los Angeles area, including Metro, Caltrans Districts 7, councils of government, municipalities, and city agencies.

The proposal and oral presentation demonstrated substantial experience in emerging technologies and alternative project delivery. The proposal identified leading ITS projects that involve all-electronic tolling, road user pricing, advanced traffic management (ATM) systems, vehicle-miles traveled fee (VMT) systems, adaptive traffic signal control systems (ATSCS), integrated corridor management (ICM), remote traffic microwave sensor (RTMS) detection zones, and dynamic message signs (DMS).

The proposal and oral presentation provided a detailed management plan that is based on CH2M's Program Management Framework system, which standardizes delivery strategy, processes, tools and resources around a common platform. Notably, CH2M's management plan includes utilization of an internal web-based document control system.

The proposal presented a detailed quality control plan that is ISO 9001 compliant. Key elements of the plan include production quality control reviews, technical advisory reviews, and construction management staff reviews. In addition, the proposal and oral presentation addressed CH2M's risk management plan, citing a detailed three pronged approach involving research, stakeholder involvement, and documentation.

The proposal and oral presentation demonstrated that CH2M's key personnel have direct experience across a gamut of disciplines, all stages of design, management planning, and an array of project delivery methods. The availability of personnel ranges from 20% to 90%. The project manager has 37 years of experience. Other key personnel average over 28 years of experience, and task leader's average 24 of years of experience.

<u>Parsons</u>

Parsons is a global engineering and construction company. Parsons' proposal and oral presentation showed expertise in a broad range of disciplines, expertise in emerging technologies and grant writing, effective project management, quality control and risk management plans, and an experienced team of project personnel.

The proposal demonstrated experience in all phases of planning and design services across a wide range of disciplines. It identified projects that involved technical studies, PA/ED services, PS&E, ROW and utility services, ITS services, program management services, design-build services, and funding support.

Most significantly, the proposal identified highly relevant on-call project experience with local stakeholders. Those projects included Caltrans District 7 Design On-Call (with 27 task orders processed), Caltrans District 7 Environmental On-Call (with 18

task orders processed), SANBAG Program Project Management (with over 25 projects), and Bakersfield TRIP Program Management (with 12 projects).

The proposal and oral presentation demonstrated substantial experience in emerging technologies and alternative project delivery. The proposal provided a list of project experience in dynamic shoulder use, active traffic management, tolling, travel demand management, integrated corridor management, and ITS technologies and various strategies for implementing these emerging technologies.

The proposal presentation provided a detailed management plan for planning work, monitoring progress, identifying issues, and recommending solutions. To illustrate its management plan, the proposal included a "Project Development Phases" chart, "Design Build Program Management" diagram, and "Contract Management" chart.

The proposal outlined a detailed quality control plan, which has earned Parsons an ISO 9001:2015 certification. The proposal and oral presentations detailed Parsons' risk management plan which includes the following six principal components: risk planning, risk identification, risk monitoring and control, risk prioritization (qualitative risk analysis), risk effect analysis (quantitative risk analysis), and risk response planning.

The proposal and oral presentation demonstrated that its key personnel have direct experience across a gamut of disciplines, all stages of design, and an array of project delivery methods. All key personnel have experience in management, planning, and design improvement projects. The availability of key personnel is at 70% or higher. The project manager has 25 years of experience.

Following is a summary of the PET evaluations scores:

	Firm	Average Score	Factor Weight	Weighted Average Score	Rank
1	**Parsons Transportation Group, Inc.**				
2	Experience and Capabilities of Contractor's Team	95.33	30.00%	28.60	
3	Management Plan and Controls	90.90	26.00%	23.63	
4	Degree of Skills and Experience of Team Members	95.83	40.00%	38.33	
5	SBE/DVBE Contacting Outreach and Mentor Protégé Approach	50.00	4.00%	2.00	
6	**Total**		**100.00%**	**92.56**	**1**
7	**CH2M HILL, Inc.**				
8	Experience and Capabilities of Contractor's Team	93.89	30.00%	28.17	
9	Management Plan and Controls	93.33	26.00%	24.27	

10	Degree of Skills and Experience of Team Members	94.17	40.00%	37.67	
11	SBE/DVBE Contacting Outreach and Mentor Protégé Approach	50.00	4.00%	2.00	
12	**Total**		**100.00%**	**92.11**	**2**
13	**AECOM Technical Services, Inc.**				
14	Experience and Capabilities of Contractor's Team	91.44	30.00%	27.43	
15	Management Plan and Controls	90.90	26.00%	23.63	
16	Degree of Skills and Experience of Team Members	93.33	40.00%	37.33	
17	SBE/DVBE Contacting Outreach and Mentor Protégé Approach	50.00	4.00%	2.00	
18	**Total**		**100.00%**	**90.39**	**3**
19	**HDR Engineering Group, Inc.**				
20	Experience and Capabilities of Contractor's Team	85.89	30.00%	25.77	
21	Management Plan and Controls	89.23	26.00%	23.20	
22	Degree of Skills and Experience of Team Members	85.83	40.00%	34.33	
23	SBE/DVBE Contacting Outreach and Mentor Protégé Approach	25.00	4.00%	1.00	
24	**Total**		**100.00%**	**84.30**	**4**
25	**Kimley-Horn and Associates, Inc.**				
26	Experience and Capabilities of Contractor's Team	85.33	30.00%	25.60	
27	Management Plan and Controls	86.03	26.00%	22.37	
28	Degree of Skills and Experience of Team Members	85.83	40.00%	34.33	
29	SBE/DVBE Contacting Outreach and Mentor Protégé Approach	50.00	4.00%	2.00	
30	**Total**		**100.00%**	**84.30**	**4**
31	**Jacobs Engineering Group, Inc.**				
32	Experience and Capabilities of Contractor's Team	84.22	30.00%	25.27	
33	Management Plan and Controls	89.62	26.00%	23.30	
34	Degree of Skills and Experience of Team Members	82.50	40.00%	33.00	
35	SBE/DVBE Contacting Outreach and Mentor Protégé Approach	50.00	4.00%	2.00	
36	**Total**		**100.00%**	**83.57**	**6**
37	**TranSystems Corporation**				
38	Experience and Capabilities of Contractor's Team	83.89	30.00%	25.17	

39	Management Plan and Controls	85.51	26.00%	22.23	
40	Degree of Skills and Experience of Team Members	83.33	40.00%	33.33	
41	SBE/DVBE Contacting Outreach and Mentor Protégé Approach	50.00	4.00%	2.00	
42	**Total**		**100.00%**	**82.73**	**7**
43	**T.Y. Lin International**				
44	Experience and Capabilities of Contractor's Team	85.56	30.00%	25.67	
45	Management Plan and Controls	83.46	26.00%	21.70	
46	Degree of Skills and Experience of Team Members	80.83	40.00%	32.33	
47	SBE/DVBE Contacting Outreach and Mentor Protégé Approach	50.00	4.00%	2.00	
48	**Total**		**100.00%**	**81.70**	**8**

C. Cost Analysis

The recommended fully burdened negotiated rate structure for the labor classifications required under each contract have been determined to be fair and reasonable based upon Metro's Management and Audit Services report.

Work will be performed through the issuance of separate task orders. Proposals submitted for each task order will be subjected to cost analysis, technical analysis, fact finding, and negotiation to determine the fairness and reasonableness of price.

D. Background on Recommended Contractors

AECOM

The first recommended firm, AECOM, located in Los Angeles, has been in business for over 25 years in design and engineering. The firm possesses experience in a diverse range of complex projects. Recent complex projects include the I-710 South Corridor EIR/EIS, I-710 South Utility Study, I-10/I-110 ExpressLanes design-build project, SR-2 Terminus Improvements, and the US 101/Universal Terrace Parkway Interchange.

The proposed project manager has 32 years of experience in managing the planning, design and construction of highways, bridges and transportation related structures. The proposed project manager led the I-405 Improvements (between SR-73 and OC line), I-405/SR-22 HOV Connector, Exposition Light Rail Transit Project (Phase 1), I-10 HOV Widening, and SR-22 Design-Build Program Management.

Key personnel average over 27 years of diverse transportation project experience. Project experience include the I-710 South Corridor EIR/EIS, SR-60/SR-57

Confluence, I-5 PA/ED) I-405 to SR-55), and SR-47/Vincent Thomas Bridge & Front Street/Harbor Boulevard Interchange Reconfiguration PA/ED.

CH2M

The second recommended firm, CH2M, located in Los Angeles, has been in business for over 70 years in transportation planning, design, construction, financing, traffic, operations, and management.

The firm possesses experience in a diverse range of complex projects. Notably, CH2M has managed two separate on-call contracts for Metro and Caltrans District 7. CH2M is the current contractor under Metro's contract for Project Management and Quality Assurance/Control Support Services and the current contractor under Caltrans's contract for On-Call Design Services.

The proposed project manager has 37 years of experience in transportation management, planning, and design. The proposed project manager led the I-5 North HOV & Truck Lanes PS&E, SR 710 Soundwall Package No. 3, PS&E, SR 79 Realignment PA/ED, SR 57 Northbound Widening PS&E, and I-405/SR 55 HOV Connectors PS&E.

Key personnel average over 28 years of diverse transportation project experience. Project experience include the SR-710 Gap North Study Alternatives Analyses, Project Report Preparation, and Environmental Studies Documentation, SR-170 and I-405 Soundwalls, Package 11, Caltrans Planning, Design, and Specialty Services, and California High Speed Rail Special Study.

Parsons

The third recommended firm, Parsons, headquartered in Pasadena, has been in business for over 70 years in design, engineering, and construction.

The firm possesses experience in a wide spectrum of complex projects. Notably, Parsons has managed several on-call contracts. They include the Caltrans Design On-Call, Caltrans Environmental On-Call, SANBAG Program Project Management, and Bakersfield TRIP Program Management.

The proposed project manager has 25 years of experience. Project experience includes the I-5 HOV Lane and Widening Project, I-5 Bridge Replacement at Carmenita, and I-10/I-605 Design-Build Interchange Improvement.

Key personnel average over 29 years of experience. Project experience includes US-101 Operational Improvements (PA/ED), I-405 North Improvement Project (SR-73 to I-605), and SR-91 Corridor Improvement.

All three firms possess a significant amount of local stakeholder experience. Each firm has worked closely with Metro, Caltrans, councils of government, cities, and community groups. With their extensive experience and knowledge, AECOM, CH2M and Parsons possess the ability to complete on-call task orders issued under the RFP's Statement of Work.

DEOD SUMMARY

HIGHWAY PROGRAM PROJECT DELIVERY SUPPORT SERVICES
AE30673000, AE30673001 & AE30673002

A. Small Business Participation

Highway Program on-call proposers formed teams that included Small Business Enterprise (SBE) and Disabled Veteran Business Enterprise (DVBE) firms without schedules or specific dollar commitments prior to the establishment of these on-call Contracts.

The on-call Contracts have an SBE goal of 30%, inclusive of a 27% SBE and 3% DVBE goal. Overall SBE/DVBE participation for the on-call contracts will be determined based on the aggregate of all Task Orders issued.

Small Business Goal	27% SBE 3% DVBE	Small Business Commitment	27% SBE 3% DVBE

Prime: AECOM Technical Services, Inc.

	SBE Subcontractors	% Committed
1.	Arellano Associates	TBD
2.	Civil Works Engineers	TBD
3.	Consensus	TBD
4.	GPA Consulting	TBD
5.	Guida Surveying	TBD
6.	Intueor	TBD
7.	Optitrans	TBD
8.	PacRim Engineering	TBD
9.	PQM, Inc.	TBD
10.	SHA Analytics	TBD
11.	Tatsumi & Partners	TBD
12.	V&A	TBD
13.	Value Management Strategies	TBD
14.	WKE	TBD
	Total SBE Commitment	**27%**

	DVBE Subcontractors	% Committed
1.	Leland Saylor Associates	TBD
	Total DVBE Commitment	**3%**

Prime: CH2M Hill

	SBE Subcontractors	% Committed
1.	ACT Consulting Engineers	TBD
2.	AP Engineering & Testing, Inc.	TBD
3.	Arellano Associates	TBD
4.	EPIC Land Solutions	TBD
5.	Geo-Advantec, Inc.	TBD
6.	Hout Construction Services	TBD
7.	Martini Drilling Corporation	TBD
8.	Minagar & Associates	TBD
9.	PacRim Engineering	TBD
10.	Rincon Consultants	TBD
11.	System Metrics Group	TBD
12.	Tatsumi & Partners, Inc.	TBD
13.	Wagner Engineering & Survey	TBD
	Total SBE Commitment	**27%**

	DVBE Subcontractors	% Committed
1.	Virtek Company	TBD
	Total DVBE Commitment	**3%**

Prime: Parsons Transportation Group, Inc.

	SBE Subcontractors	% Committed
1.	Arellano Associates	TBD
2.	Engineering Solutions	TBD
3.	EPIC Land Solutions	TBD
4.	GeoAdvantec, Inc.	TBD
5.	GPA Consulting	TBD
6.	Guida Surveying, Inc.	TBD
7.	SHA Analytics, LLC	TBD
8.	WKE	TBD
	Total SBE Commitment	**27%**

	DVBE Subcontractors	% Committed
1.	Global Environmental Network	TBD
2.	Ohana Vets, Inc.	TBD
3.	ZMassociates Environmental Corp.	TBD
	Total DVBE Commitment	**3%**

B. Contracting Outreach and Mentoring Plan

To be responsive, Proposers were required to submit a Contracting Outreach and Mentor Protégé Plan (COMP), which included its plan to mentor one SBE firm and one DVBE firm for protégé development. AECOM selected Optitrans (SBE) and Leland Saylor Associates (DVBE). CH2M Hill selected PacRim Engineering (SBE) and Virtek Company (DVBE). Parsons Transportation Group selected Guida Surveying (SBE) and ZMassociates (DVBE).

C. Living Wage and Service Contract Worker Retention Policy Applicability

The Living Wage and Service Contract Worker Retention Policy is not applicable to this Contract.

D. Prevailing Wage Applicability

Prevailing Wage requirements are applicable to this project. DEOD will monitor contractors' compliance with the State of California Department of Industrial Relations (DIR), California Labor Code, and, if federally funded, the U S Department of Labor (DOL) Davis Bacon and Related Acts (DBRA).

E. Project Labor Agreement/Construction Careers Policy

Project Labor Agreement/Construction Careers Policy is not applicable to this Contract.

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

File #: 2016-0499, **File Type:** Contract **Agenda Number:** 12.

FINANCE, BUDGET AND AUDIT COMMITTEE
APRIL 19, 2017
SYSTEM SAFETY, SECURITY AND OPERATIONS COMMITTEE
APRIL 20, 2017

SUBJECT: RED LINE VEHICLE EVALUATION OF ON-BOARD MIST FIRE SUPPRESSION SYSTEM PROTOTYPE

ACTION: APPROVE CONTRACT AWARD

RECOMMENDATION

CONSIDER:

A. ADOPTING a Life of Project (LOP) Budget for $1,407,900 for the Rail Vehicle Mist System Demonstration Project; and

B. APPROVING the award and authorize the Chief Executive Officer to execute Contract No. OP3614100 to Knorr Brake Company, LLC for **one (1) prototype Red Line Heavy Rail Vehicle on-board mist fire suppression system** for a two-year period of performance for design, installation and evaluation of the systems for a fixed price amount of $908,481 subject to resolution of protest, if any.

ISSUE

Metro places a high priority on the safety of our customers, the public and our employees. To that extent, there has been a constant focus on taking proactive measures to maintain our infrastructure and seek out innovative approaches to prevent casualties on our rail system. Underground tunnel fires are extremely dangerous to human health and safety because smoke accumulates very quickly in such a confined space. The severity of an underground fire is demonstrated by the Daegu subway fire in which an arsonist set fire to a train stopped at a station of the Daegu Metropolitan Subway in Daegu, South Korea. The fire occurred on February 18, 2003, and killed 192 people, while injuring another 151 people. Hence, there is a need to improve fire suppression technology industry-wide to mitigate against such consequences.

DISCUSSION

Metro is currently fully compliant with all fire safety design standards for subways. Although the interiors of modern rail vehicles utilize fire-retardant materials required by the National Fire Protection

Association Standard for Fixed Guideway Transit and Passenger Rail Systems 130 (NFPA), it is still possible for a life threatening fire to occur on board a rail vehicle. Items such as passenger clothing, luggage, computer bags, shopping bags, back-packs, etc. are routinely carried on board by passengers. These items add to the existing fuel source and raise combustion temperatures in a localized area to potentially overcome the fire-retardant properties of the vehicle's interior components, resulting in flash-overs. The open, non-compartmentalized nature of the passenger area means that a serious fire could potentially spread through an entire two car unit.

Such fuel sources are of variable flammability, unpredictable in quantity, and may be ignited by a variety of means, ranging from accidental to deliberate arson attacks using a flammable liquid as an accelerant. An arson attack is, of course, one of the worst case fire scenarios. The ease that an individual may obtain an accelerant and carry it onto a train underscores the threat. An arson fire has the potential to grow into a large fire that continues after the accelerant has been consumed, due to igniting other materials on-board the train.

The results of computational fluid dynamic modeling of smoke accumulation performed during the design of emergency ventilations systems for the three major capital projects (Crenshaw LRT, Regional Connector and Purple Line) demonstrated that even robust, intensive, active ventilation systems were insufficient to avoid significant casualties with a fast growing (i.e., arson type) rail car fire. The fans and airflow simply could not keep up with the expected smoke accumulation in the context of an accelerated fire and additional fans increase turbulence of the airflow and did not improve smoke removal by much.

Therefore, during the design stages of the Purple Line Extension (PLE), Metro's Capital Construction Projects Team requested a feasibility study to determine the practicality, safety, and economic return on investment of a fully integrated fire detection system coupled with a high pressure water mist fire suppression system to protect passenger areas within the permanently coupled, married-pair subway vehicles.

The consultants for the major capital projects analyzed the use of sprinklers within the tunnels, but determined that the initiation of the Emergency Ventilation System Fans, which have a very high air flow rate, could interfere with the ability of the sprinkled water to sufficiently douse the fire. The needed resources to maintain and test the tunnel sprinkler systems to meet Los Angeles Fire Department (LAFD) Regulation 4 standards, which require yearly testing of all systems, could present a severe operational impact and higher maintenance costs.

The search for another fire suppression option led to the evaluation of a rail-car based water-mist fire suppression system. The findings of this evaluation and basis for the staff recommendation are below.

Findings

A high pressure water mist system activated by smoke detectors provides the simplest, most cost-effective method for fire suppression and is an improvement over existing NFPA 130 compliant vehicle interior designs. The proposed system provides the following cost savings and fire, life, and safety benefits:

- Quick, automatic active response to any interior fire at the source (less than 60 seconds);
- Reduces fire spread and duration (safer for passengers);
- Reduces smoke levels (less smoke inhalation, reduced level of passenger panic);
- Reduces heat of combustion (suppresses fire, more comfortable for passengers);
- Water mist discharge does not harm passengers or require their evacuation;
- Safe and effective, even for electrical fires;
- More effective than on-board portable fire extinguishers (requires passenger application, may be vandalized or discharged);
- Effective even with passenger doors open;
- Reduces damage to the train;
- Reduces damage within the tunnel and the station which it has entered; and
- Augments facility-installed fire sprinklers for greater protection.

In consideration of this recommendation, the NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems for the USA was reviewed by the consultants and Metro Staff. NFPA 130 (2014 edition) states that on-board mist fire suppression systems have been successfully used on a number of passenger rail systems outside of the United States for the interior of passenger rail vehicles. The use of a fire suppression system may save lives during a fire, as well as provide the following benefits over station based systems:

- It offers the advantage of immediate intervention in the very incipient stages of a fire (as opposed to attacking the fire after the train reaches a station) and thus minimize casualties and property damage;
- It will provide protection for an on-board fire along the entire guide way, including a scenario in which a train on fire is stranded between stations;
- It is more economical than a station-based approach; and
- It will allow quicker restoration of service in the event of an on-board fire.

Prior to implementing the installation of a water-mist fire suppression system on Metro's heavy rail fleet, staff recommends a detailed operational assessment, demonstration, and cost evaluation. This assessment will include a pilot installation, system testing and regulatory requirements, capital costs to retrofit our fleet, vandalism and/or false activation risks, estimated lifecycle and lifecycle costs, system integration/software requirement among others. This pilot system will place Metro in an industry leadership position regarding subway fire safety innovation in the United States and reinforce Metro's safety first message. LAFD liaisons to Metro have been fully supportive of this concept from the beginning. If this demonstration is deemed successful, staff will return to the Board for a full implementation plan of the program on Metro's rail fleet.

DETERMINATION OF SAFETY IMPACT

Awarding this Contract for prototyping the on-board fire mist suppression system will significantly enhance our fire protection capabilities, increasing safety to Metro patrons, staff, and infrastructure.

FINANCIAL IMPACT

If Recommendation A is approved, an LOP budget will be established for $1,407,900 under Project 498001. At this time, this project is funded in FY17 for $70,000 in various cost centers, under Project number 498001 - Mist Fire Suppression System. It is anticipated that the demonstration will be completed in FY18. Future Costs to complete the demonstration and execute the remaining contract will be budgeted in future years. Since this is a multi-year project, the cost center manager and Corporate Safety DEO will be responsible for budgeting costs in future fiscal years.

Impact to Budget

The source of funds for the contract is Prop A 35%, which is eligible for rail capital projects and will maximize fund use based on funding allocation provisions.

ALTERNATIVES CONSIDERED

The Board may choose not to award this Contract for an on-board Mist Fire Suppression System. This choice is not recommended as the potential for significantly improving system safety and reducing future infrastructure cost would be ignored.

NEXT STEPS

Upon Board approval staff will execute the contract and issue a Notice to Proceed (NTP) to Knorr-Brake Company, LLC. At the conclusion of the evaluation period, but no earlier than 2019, staff will report to the Board with the results of the pilot program.

ATTACHMENTS

Attachment A - Procurement Summary
Attachment B - DEOD Summary

Prepared by: Leonid Bukhin, Deputy Executive Officer, Corporate Safety, (213) 922-7218
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Greg Kildare, Chief Risk, Safety & Asset Management Officer (213) 922-4971

Phillip A. Washington
Chief Executive Officer

ATTACHMENT A

PROCUREMENT SUMMARY

RED LINE VEHICLE EVALUATION OF ON-BOARD MIST FIRE SUPPRESSION SYSTEM PROTOTYPE / OP3614100

1.	**Contract Number**: OP3614100	
2.	**Recommended Vendor**: Knorr Brake, Inc.	
3.	**Type of Procurement (check one):** ☐ **IFB** ☒ **RFP** ☐ **RFP–A&E** ☐ **Non-Competitive** ☐ **Modification** ☐ **Task Order**	
4.	**Procurement Dates**:	
	A. Issued: December 8, 2016	
	B. Advertised/Publicized: December 2, 2016	
	C. Pre-proposal/Pre-Bid Conference: December 19, 2016	
	D. Proposals/Bids Due: January 30, 2017	
	E. Pre-Qualification Completed: February 23, 2017	
	F. Conflict of Interest Form Submitted to Ethics: March 7, 2017	
	G. Protest Period End Date April 21, 2017	
5.	**Solicitations Picked up/Downloaded**: 10	**Bids/Proposals Received**: 1
6.	**Contract Administrator**: Susan Dove	**Telephone Number**: (213) 922-7451
7.	**Project Manager**: Leonid Bukhin	**Telephone Number**: (213) 922-7218

A. Procurement Background

This Board action is to approve Contract No. OP3614100 for the installation and design of a prototype on-board mist fire suppression system to be designed and installed on an A650 heavy rail vehicle. The purpose of this project and subsequent testing is to evaluate the reliability of such a system under revenue service conditions. Board approval of contract awards are subject to resolution of any properly submitted protest.

The RFP was issued in accordance with Metro's Acquisition Policy. This was a best value procurement, and the contract type is Firm Fixed Price.

Three amendments were issued during the solicitation phase of this RFP;

- Amendment No. 1, issued on December 19, 2016 for clarification of technical specifications and Non-Disclosure Agreement.
- Amendment No. 2, issued on January 11, 2017, to include a list of project drawings.
- Amendment No. 3, issued on January 13, 2017, to extend the proposal due date to January 30, 2017.

One proposal was received from Knorr Brakes Company, LLC. There were 10 plan holders and four firms that attended the Pre-Proposal Conference. Based on a market survey of the plan holders, including the firms that attended the Pre-Proposal Conference, it was clear that the highly specialized nature of this prototype equipment caused interested firms to decide not to submit proposals. The mist fire suppression system is a new rail car safety system that has not been proven in service in the United States. All known operational systems are located on rail cars in Europe and Asia.

B. Evaluation of Proposals

The Proposal Evaluation Team (PET) consisted staff from Metro's Corporate Safety Department, Rail Vehicle Engineering, and Rail Fleet Services. The PET convened and conducted a comprehensive technical evaluation of the proposal received. The proposal was evaluated based on the following evaluation criteria and weights:

Technical Strength and Approach	25 percent
Delivery Schedule	25 percent
Project management	10 Percent
Experience of the firm	10 Percent
Price	30 percent

The evaluation criteria are appropriate and consistent with evaluation criteria developed for similar best value procurements. Several factors were considered when developing these weights, giving the greatest importance to the firm's skills, staff experience, and price.

The RFP stated that contract award will be made to the proposer whose proposal meets the requirements of the RFP and is most advantageous to Metro based upon the proposal evaluation criteria. The initial proposal evaluation resulted in a series of clarifications to obtain further details.

Discussions and negotiations were conducted. The firm's project managers and key team members had an opportunity to present the team's qualifications and respond to the PET's questions. The discussions addressed the requirements of the RFP, experience with all aspects of the required tasks, and stressed each firm's commitment to the success of the project. Also highlighted were staffing plans, work plans, and perceived project issues. The team was asked questions relative to its proposed alternatives and previous experience. On February 20, 2017, a Best and Final Offer (BAFO) was requested.

The PET evaluated the initial proposal and the BAFO and determined that Knorr's proposal was advantageous to the LACMTA based upon the proposal evaluation criteria. Knorr's proposal met the RFP's requirements and demonstrated its expertise in Fire Mist Suppression Systems.

Qualifications Summary of Firm:

Knorr Brakes Company's German subsidiary, Knorr-Bremse AG, is the only known source that has a functional mist fire suppression system that is operational on a current operational rail car. The Knorr Brake Company's proposal includes direct support from its German subsidiary including the engineering, integration, testing and project management staff. This experience is critical because the scope of work requires the Contractor to retrofit a Metro Red Line vehicle that must remain in operation during the functional test period.

1	Firm	Average Score	Factor Weight	Weighted Average Score	Rank
2	**Knorr Brake**				
3	Technical Strength and Approach	73.33	25.00%	18.33	
4	Delivery Schedule	83.33	25.00%	20.83	
5	Project Management	86.67	10.00%	8.67	
6.	Experience/Past Performance	93.33	10.00%	9.33	
7	**Price**		30.00%	30.00	
8	**Total**		100.00%	87.16	

C. Cost/Price Analysis

The recommended price has been determined to be fair and reasonable based on an independent cost estimate (ICE), price analysis, technical evaluation, and fact finding.

	Proposer Name	Proposal Amount	Metro ICE	Negotiated or NTE amount
	Knorr Brake	$908,481	$572,700	$908,481

A technical evaluation was performed by the Project Manager to explain the difference between the proposed price and the ICE. The variance in the ICE is a result of increased proposed labor hours for activities that were not accounted for in the original estimate.

The initial ICE did not include labor and materials for the mock-up fire testing. This effort includes building the mock-up, installing the fire suppression equipment, pre-testing the system (4 days), and conducting four evaluation tests. Additionally, the mock-up testing will be performed in Germany.

The initial ICE did not contemplate the costs and logistics associated with designing

and engineering the system overseas, coupled with the additional costs needed to configure and implement the system for the US market.

Although, only one proposal was received, there was a reasonable expectation that two or more responsible offerors, competing independently, would submit technical and cost proposals in response to the publically advertised solicitation. The offer from Knorr was developed and submitted in a competitive environment with the expectation of competition.

D. Background on Recommended Contractor

Knorr-Bremse GmbH, the parent company of Knorr Brake Company, was founded in 1905. Knorr-Bremse GmbH developed air brakes for freight trains and became the largest brake manufacturer for rail vehicles in Europe.

The recommended firm, Knorr Brake Company, Inc. (KBC), has been in business for over 70 years. The firm is located in Westminster, Maryland. Knorr Brake Company is a manufacturer of Braking, Door, and HVAC systems for the Mass Transit Rail Industry. KBC is division of Knorr-Bremse, AG which is located in Munich Germany. Knorr-Bremse, AG is a leader in the design and manufacture of Brakes, Doors, HVAC, and on-Board OEM systems, aftermarket spare parts, overhaul and maintenance services for rail transit.

DEOD SUMMARY

RED LINE VEHICLE EVALUATION OF ON-BOARD MIST FIRE SUPPRESSION SYSTEM PROTOTYPE / CONTRACT NO. OP3614100

A. Small Business Participation

The Diversity & Economic Opportunity Department (DEOD) did not recommend a Small Business Enterprise (SBE) participation goal for this procurement based on the lack subcontracting opportunities. According to the Project Manager, this is a pilot test system for an On Board Mist Fire Suppression System for Heavy Rail Vehicles (OBVMFSS). To date, no transit agency has installed this type of fire suppression in North America.

B. Living Wage and Service Contract Worker Retention Policy Applicability

The Living Wage and Service Contract Worker Retention Policy is not applicable to this Contract.

C. Prevailing Wage Applicability

Prevailing wage is not applicable to this Contract.

D. Project Labor Agreement/Construction Careers Policy

Project Labor Agreement/Construction Careers Policy is not applicable to this Contract.

File #: 2017-0062, **File Type:** Program **Agenda Number:** 13.

FINANCE, BUDGET AND AUDIT COMMITTEE
APRIL 19, 2017

SUBJECT: PROPERTY INSURANCE PROGRAM

ACTION: PURCHASE ALL RISK PROPERTY AND BOILER AND MACHINERY INSURANCE

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to **negotiate and award All Risk Property and Boiler and Machinery insurance policies** for all property at the current policy limits at a not to exceed price of $2.4 million for the 12-month period May 10, 2017 through May 10, 2018.

ISSUE

The All Risk Property and Boiler and Machinery insurance policies expire on May 10, 2017.

DISCUSSION

Property insurance protects against losses to our structures and improvements, which are valued at approximately $11.9 billion up from last year's $11.2 billion. The increase in total insured value is primarily due to general replacement cost growth, acquisition of new light rail vehicles, revaluation of existing rail vehicles and revaluation of some light rail station properties. Property insurance is required by many contracts and agreements, such as our lease/leaseback deals involving a number of our operating assets.

Our insurance broker, Wells Fargo Insurance Services ("Wells Fargo"), marketed the property program to qualified insurance carriers to obtain final property insurance pricing with coverage limits of $400 million. Quotations for our property insurance program were received from carriers with A.M. Best ratings indicative of acceptable financial soundness and ability to pay claims.

The Recommended Program secures the All Risk deductible at $250,000 with no earthquake coverage and a flood deductible at 5% per location subject to a $250,000 minimum. If a loss exceeds the deductible, All Risk coverage is provided up to $400 million per occurrence for losses except for flood related damages that are covered up to $150 million. The recommended program is the same as the prior year program. Attachment A is a premium history. Attachment B shows the outline of the recommended program structure.

The recommended program does not include earthquake coverage. We received quotes at $4.5

million for $50 million in limits. LACMTA has not purchased earthquake coverage in previous years. In the event of a major disaster, we believe funding would be available through Federal and State sources to restore public transportation in Southern California. The lack of earthquake coverage is consistent with decisions made by other large government agencies including most Los Angeles County and City locations, Department of Water and Power and Metropolitan Water District.

We evaluated terrorism coverage options this renewal cycle and have not opted to purchase the coverage. Terrorism coverage is available but does not appear to be cost effective at a quoted cost of around $754,000. The Terrorism Risk Insurance Act (TRIA) which provides government support by providing mechanisms for spreading losses across policyholders was reauthorized by Congress in January 2015 after the program expired. In the past, we rejected this coverage because of the high likelihood of federal and state funding to restore transportation services as a result of a serious terrorism incident.

The current and recommended program of insurance are layered structures. Several insurance carriers participate in the program with each contributing a portion of coverage which maintains a diversified portfolio of insurance carriers. Continual monitoring through internal methods, as well as updates provided by Wells Fargo, ensure that all carriers maintain the required financial ratings indicated by financial reporting agencies and as determined by A.M. Best.

In February and March, Wells Fargo contacted multiple domestic and foreign insurance providers to present our property risks and supplemental data. Wells Fargo provided an overview of the Metro transit system during discussions with the underwriters, including our extensive security infrastructure, fire protection, loss control and minimal risk of flood exposures. Wells Fargo provided information and statistics on system operations, assets and our excellent loss history over the past fifteen years with no fixed property insurable events (only two losses of rolling stock at $1.5 million and two losses of non-revenue vehicles at $144,000).

The LACMTA property program continues to be well received by insurers due to our favorable loss history, the growth of the account from $6.7 billion in values in 2007 to $11.9 billion for this renewal and no earthquake insurance is purchased. As such, Wells Fargo presented the submission to incumbent and competing insurers in order to create competition in the insurance program. The marketing effort resulted in maintaining our incumbent carriers for the recommended program. Our collaborative marketing effort through Wells Fargo in addition to our notable evidence of exceptional loss experience resulted in less than one percent premium increase for the recommended program even though Metro's overall insurable value increased. Our rate per million dollars of insurable value continues to reflect historic lows ($202 for the recommended program versus $214 for last year's program or a rate reduction of 5.9% per million dollars of insured value).

"Insurance buyers will continue to see favorable pricing in 2017 as rates for property/casualty and other lines of insurance decline or flatten", according to the Willis Towers Watson 2017 Marketplace Realities report. "Capacity appears to be a strong driver of market conditions. Buyers with comprehensive strategic risk management and risk transfer strategies will be in an especially good position".

This year's renewal reflects our continuing favorable insurability and ability to take full advantage of

market trends irrespective of our increase in total insured value.

DETERMINATION OF SAFETY IMPACT

Approval of this procurement will not impact the safety of Metro's patrons or employees.

FINANCIAL IMPACT

The funding for two months of $400,000 for this action is included in the FY17 budget in cost center 0531, Risk Management - Non Departmental Costs, under projects 100001 - General Overhead, 300022 - Rail Operations - Blue Line, 300033 - Rail Operations - Green Line, 300044 - Rail Operations - Red Line, 300055 - Gold Line, 300066 - Expo Line, 301012 - Metro Orange Line, 306001 - Operations Transportation, 306002 - Operations Maintenance, 320011 - Union Station, and 610061 - Owned Property in account 50601 (Ins Prem For Phys Damage). The remaining ten months of premiums will be included in the FY18 budget, cost center 0531, Risk Management - Non Departmental Costs, under projects 100001 - General Overhead, 300022 - Rail Operations - Blue Line, 300033 - Rail Operations - Green Line, 300044 - Rail Operations - Red Line, 300055 - Gold Line, 300066 - Expo Line, 301012 - Metro Orange Line, 306001 - Operations Transportation, 306002 - Operations Maintenance, 320011 - Union Station, and 610061 - Owned Property in account 50601 (Ins Prem For Phys Damage). In FY17, an estimated $2.3 million will be expensed for property insurance.

Impact to Budget

There is no impact on the FY17 budget. The current fiscal year funding for this action will come from the Enterprise, General and Internal Service funds. No other sources of funds were considered for this activity because these are the funds that benefit from the insurance. This activity will result in a negligible change to operating costs from the prior fiscal year.

ALTERNATIVES CONSIDERED

The current program, the recommended program and an option with earthquake coverage are summarized in Attachment C. Based upon our favorable renewal and loss histories, we recommend continuing the current program of insurance as the most cost effective and prudent program. The option adding earthquake coverage is not recommended because the high cost of the earthquake premium does not justify the benefit of the coverage.

NEXT STEPS

Upon Board approval of this action, we will advise Wells Fargo to proceed with placement of the property insurance program outlined herein effective May 10, 2017.

ATTACHMENTS

Attachment A - Premium History
Attachment B - Recommended Pricing and Carriers

Attachment C - Alternatives Considered

Prepared by: Tim Rosevear, Manager, Risk Financing, (213) 922-6354

Reviewed by: Greg Kildare, Chief, Risk, Safety and Asset Management Officer, (213) 922-4971

Phillip A. Washington
Chief Executive Officer

ATTACHMENT A

PREMIUM HISTORY

Premium History for Property and Boiler and Machinery Policies
For Property Insurance Policies in the Following Years

	2010-2011	**2011-2012**	**2012-2013**	**2013-2014**	**2014-2015**	**2015-2016**	**2016-2017**	**2017-2018**
All Risk	$2.0 Mil	$2.0 Mil	$2.2 Mil	$2.2 Mil	$2.2 Mil	$2.3 Mil	$2.3 Mil	$2.3 Mil
Boiler & Machinery	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
Total Premium	$2.1 Mil*	$2.1 Mil*	$2.3 Mil*	$2.3 Mil*	$2.3 Mil*	$2.4 Mil*	$2.4 Mil*	$2.4 Mil*
TIV = Total Ins. Val.	$7.8 Bil	$8.6 Bil	$9.3 Bil	$9.4 Bil	$9.6 Bil	$10.0 Bil	$11.2 Bil	$11.9 Bil
Rate per Mil Ins. Val.	$271	$245	$246	$245	$240	$239	$214	$202

*** Excludes Earthquake and Terrorism Insurance**

ATTACHMENT B

RECOMMENDED PROGRAM PRICING AND CARRIERS

Wells Fargo Insurance Services USA, Inc.
Proposed Property Insurance Summary 2017-2018
Los Angeles County Metropolitan Transportation Authority

Limit	Coverage	Carrier	Participation	Total
$50MM	All Risk Excluding Flood & Earthquake	Scottsdale Indemnity Company - A+ XV	$25,000,000	$25,800
		International Ins. Co. of Hannover - A+ XV	$25,000,000	$25,103
			$50,000,000	**$50,903**
$200MM	All Risk Excluding Flood & Earthquake	Hudson Specialty Ins. Co. A XV	$50,000,000	$100,620
		Lloyd's of London - A XV	$100,000,000	$154,800
		Starr Specialty Insurance Agency**	$50,000,000	$99,549
			$200,000,000	**$354,969**
$150MM	All Risk Excluding Earthquake	Lexington Insurance Co - A XV	$100,000,000	$1,279,680
		Liberty Mutual Fire Insurance Co- A XV	$15,000,000	$200,000
		Starr Specialty Insurance Agency**	$25,000,000	$322,498
		Ironshore Specialty Ins Co - A XIV	$10,000,000	$135,605
			$150,000,000	**$1,937,783**

Estimated Program Total **$2,343,655**

**Starr Specialty Insurance Agency Consists of:
33.34% Starr Suplus Lines Insurance Company - A XV
33.33% Chubb Custom Insurance Company - A++ XV
33.33% General Security Indemnity Company of Arizona - A XV

Terrorism pricing is not included above
Earthquake pricing is not included above

ATTACHMENT C

ALTERNATIVES CONSIDERED

	Current Program	Recommended Program (Quota Share Primary)	Recommended Program With Earthquake
Deductibles	**$250,00 All Risk / 5% of location value for Flood**	**$250,00 All Risk / 5% of location value for Flood**	**$250,000 All Risk/5% of structure value for Earthquake and Flood**
All Risk Limits	**$400 Million**	**$400 Million**	**$400 Million**
Flood Limits	**$150 Million**	**$150 Million**	**$150 Million**
Earthquake Limits	**None**	**None**	**$50 Million after first 5% per location deductible**
Terrorism	**None**	**None**	**None**
Total not to Exceed or Actual Premium	**$2,324,627**	**$2,343,655**	**$6,843,655**

Metro

Board Report

File #: 2017-0117, **File Type:** Contract **Agenda Number:** 14.

FINANCE, BUDGET AND AUDIT COMMITTEE
APRIL 19, 2017

SUBJECT: TAP CARD MANUFACTURING AND FULFILLMENT SERVICES

ACTION: AWARD CONTRACTS

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to award indefinite delivery/indefinite quantity (IDIQ), firm fixed unit price contracts for a three-year initial term, with two, one-year options for the following contracts: 1) PS29117000 and PS29117001 to ASK-intTag, LLC. for Card Manufacturing & Adhesive Stickers; 2) PS29117002, PS29117003, and PS29117004 to Oberthur Technologies of America Corp. for Adhesive Stickers and Card Manufacturing and Fulfillment Services, and 3) PS29117005 to Giesecke & Devrient Mobile Security America, Inc. for Fulfillment Services effective July 1, 2017, for Metro and Municipal Operators. The total combined not-to-exceed amount for 3 base years and two one year options is $26,915,910 (average cost per year $5.4M) inclusive of sales tax for **TAP Card Manufacturing and Fulfillment Services**, as identified below:

- Card Manufacturing - Base: $9,272,563, Option 1: $3,090,854, Option 2: $3,090,854 in the total NTE amount of $15,454,271
- Fulfillment & Distribution- Base: $6,858,983, Option 1: $2,286,328, Option 2: $2,286,328 in the total NTE amount of $11,431,639
- Adhesive Stickers - Base: $18,000, Option 1: $6,000, Option 2: $6,000 in the total NTE amount of $30,000

ISSUE

The TAP program now supports twenty-four agencies and award of these contracts is necessary for the continuation of the program over the next five years. The current smart card contracts are set to expire on June 30, 2017. Over 19 million TAP cards have been issued since the beginning of the program in 2006. Due to the continued growth of this robust system, the region needs to procure additional stock to continue the expansion of the TAP program and to replace expired, lost or stolen TAP cards.

DISCUSSION

TAP cards are the key component to the TAP regional system. TAP accounts for approximately 75% of fares collected across the region. The last contract award for $16.2M for three years (average cost per year $5.4M) was issued in November 2013 and ends June 30, 2017.

The cost for procuring TAP cards, providing personalization and warehousing is about $2 per card. The purchase price of a TAP card from Metro TAP Vending Machines, Third-Party Vendors and on-line sales will continue to offset the cost of the TAP card procurement and personalization costs.

With 24 transit agencies currently participating in the TAP regional program, card replenishment and personalization will ensure seamless travel for customers. These Contracts will ensure that the TAP system remains flexible in accommodating different fare policies, fare structures and tariff regulations. Cards procured and fulfilled under these Contracts will help reduce the usage of cash fares. The Contract also includes procurement of smart decals for the U-Pass program which currently serves 10 campuses.

TAP anticipates that card manufacturing orders will be divided between Oberthur Technologies of America Corp. and ASK-intTag, LLC as the costs for manufacturing are very comparable. Card fulfillment prices for the different types of personalization vary significantly between Giesecke & Devrient Mobile Security America, Inc and Oberthur Technologies of America Corp. The majority of card fulfillment requests will be ordered from the lower priced Proposer. Based upon the current contract performance, it is prudent that TAP maintains two card fulfillment contracts due to supply chain and production issues.

The Request for Proposal was issued with the purpose of maximizing open competition within a large field of smart card suppliers and card personalization services in order to get the best pricing over the next five years. These indefinite delivery/indefinite quantity Contracts are prepared to be utilized on an “as needed” basis in which Metro has no obligation or commitment to order a defined quantity of TAP cards or personalization services. The projected quantities are estimates only, with deliveries to be ordered and released as required.

DETERMINATION OF SAFETY IMPACT

Latched stations require patrons to use a TAP card to gain entrance to gated stations by electronically releasing the turnstile or opening the leaf-barriers on Americans with Disability Act (ADA) gates. Providing TAP cards for latched gated stations has a positive impact on the safety of Metro rail riders by limiting access to paying customers, thus improving transit station security.

FINANCIAL IMPACT

The funding for smart cards is included in the proposed FY2018 budget in Regional TAP operating budget project 300016 under Line Item 50320: Contract Services account. Since this is a multi-year contract, the cost center manager and the Executive Officer, TAP Operations are responsible for budgeting future costs.

The cost of procured smart cards will be partially offset by card fees charged to customers for each new or replacement TAP card**.**

IMPACT TO BUDGET

The funding sources for project 300016 in FY18 will continue to be a mix of Prop C 40%, TDA Article 4 and fare revenues. These sources are eligible for operating and capital improvements for both bus and rail.

ALTERNATIVES CONSIDERED

The current procurement allows Metro to purchase the TAP cards and order personalization/fulfillment services necessary to continue the expansion of the TAP program and to replace expired, lost or stolen TAP cards. The alternatives considered are as follows:

1) Discontinue the purchase and use of TAP smart cards and revert back to the use of paper fare media. This action is not recommended because:

    a. TAP provides customers with the ability to travel seamlessly across LA County.

    b. TAP allows Metro and our Regional Partners the ability to implement smart fare collection practices such as 2 hour transfers, peak and off-peak pricing and rolling passes.

    c. TAP data provides accurate and meaningful information for in-depth ridership analysis and service planning.

NEXT STEPS

Upon approval by the Board, staff will execute Contracts PS29117000 and PS 29117001 to ASK-

intTag, LLC. for card manufacturing and adhesive stickers; PS29117002, PS29117003, and PS29117004 to Oberthur Technologies of America Corp. for adhesive stickers and card manufacturing and fulfillment services, and Contract No. PS29117005 to Giesecke & Devrient Mobile Security America, Inc. for fulfillment services effective July 1, 2017.

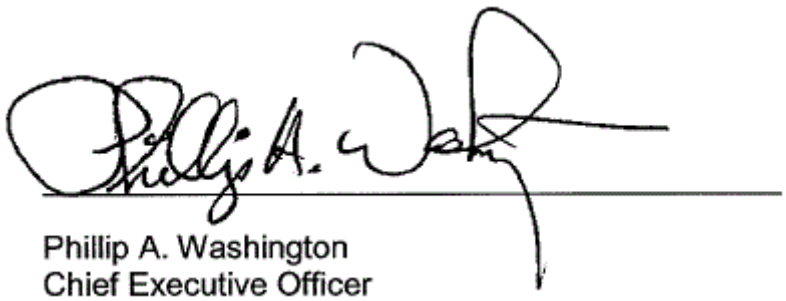
ATTACHMENTS

Attachment A - Procurement Summary
Attachment B - DEOD Summary

Prepared by: Cary Stevens, Deputy Executive Officer, TAP (213) 922-2401

Reviewed by: David Sutton, Executive Officer, TAP (213) 922-5633

Debra Avila, Chief Vendor/Contract Management Officer, (213) 418-3051



Phillip A. Washington
Chief Executive Officer

ATTACHMENT A

PROCUREMENT SUMMARY

TAP CARD MANUFACTURING AND FULFILLMENT SERVICES

1.	**Contract Number**: ASK-intTag, LLC - PS29117000, PS29117001 Oberthur Technologies of America Corp. - PS29117002, PS29117003, PS29117004 Giesecke & Devrient Mobile Security America, Inc. - PS29117005	
2.	**Recommended Vendor**: ASK-intTag, LLC - Card Manufacturing and Adhesive Stickers; Oberthur Technologies of America Corp – Adhesive Stickers, Card Manufacturing and Fulfillment Services; Giesecke & Devrient Mobile Security America, Inc. - Fulfillment Services	
3.	**Type of Procurement (check one):** ☐ **IFB** ☒ **RFP** ☐ **RFP–A&E** ☐ **Non-Competitive** ☐ **Modification** ☐ **Task Order**	
4.	**Procurement Dates**:	
	A. Issued: September 6, 2016	
	B. Advertised/Publicized: September 7, 2016	
	C. Pre-Proposal Conference: September 14, 2016	
	D. Proposals Due: November 30, 2016	
	E. Pre-Qualification Completed: March 22, 2017	
	F. Conflict of Interest Form Submitted to Ethics: December 9, 2016	
	G. Protest Period End Date: April 22, 2017	
5.	**Solicitations Picked up/Downloaded**: 18	**Bids/Proposals Received**: 5
6.	**Contract Administrator**: **Anush Beglaryan**	**Telephone Number**: **(213) 418-3047**
7.	**Project Manager**: **Cary Stevens**	**Telephone Number**: **(213) 922-2401**

A. Procurement Background

This Board Action is to approve contract awards in support of regional TAP cards manufacturing and personalization/fulfillment services for Metro and municipal operators. The Universal Fare System designed by Metro created the concept and specifications for a region-wide smart card system using a single TAP smart card that could be used for multimodal transportation, product purchases, and other future uses. TAP cards are required to support the expansion of the TAP program and for the replacements for expiring cards. Metro is responsible for ensuring that all TAP enabled municipal operators in the region have an adequate supply of cards. Board approval of contract awards are subject to resolution of any properly submitted protest.

Request for Proposal (RFP) PS29117 was issued in accordance with Metro's Acquisition Policy and the contract type is an indefinite delivery/indefinite quantity (IDIQ), firm fixed unit price.

Three amendments were issued during the solicitation phase of this RFP:

- Amendment No. 1, issued on September 30, 2016, updated the link provided for the list of Current Projects;
- Amendment No. 2, issued on November 2, 2016, extended samples and proposal due date from November 21, 2016 to November 28, 2016;
- Amendment No. 3, issued on November 14, 2016, extended samples and proposal due date from November 28, 2016 to November 30, 2016;

A total of 5 proposals were received on November 30, 2016.

The Scope of Work for the RFP was divided into the three following functions As stated in the Statement of Work Consideration Form of the RFP, proposers were requested to submit separate proposals for each function they would like to be considered for award.

1. Smart Card Manufacturing
2. Card Fulfillment and Distribution
3. Adhesive Stickers

B. Evaluation of Proposals

A Proposal Evaluation Team (PET) consisting of staff from the TAP technical team was convened and conducted a comprehensive technical evaluation of the proposals received and testing of samples which were requested as part of the RFP.

As stated in the RFP, proposals were initially evaluated by using the minimum qualifications requirements on a pass/fail basis. Proposers who met the minimum qualification requirements were then evaluated further on the weighted criteria described herein. All five proposing firms passed the minimum qualifications requirements.

The proposals for Smart Card Manufacturing were evaluated based on the following evaluation criteria and weights:

• Experience & Skills	10%
• Program Management Team Experience	10%
• Supply Chain Management	10%
• Physical & Electrical Smart card Characteristic	35%
• Printing (Graphics)/Packaging	10%
• Cost Proposal	25%
Total:	100%

The proposals for Card Fulfillment & Distribution were evaluated based on the following evaluation criteria and weights:

• Experience & Skills	15%
• Program Management Team Experience	15%
• Card Fulfillment/Personalization	20%
• Card Order Reporting & Processing	25%
• Cost Proposal	25%
Total:	100%

The proposals for Adhesive Stickers were evaluated based on the following evaluation criteria and weights:

• Experience & Skills	10%
• Physical & Electrical Characteristics	35%
• Printing (Graphics)/Packaging	15%
• Durability	15%
• Cost Proposal	25%
Total:	100%

The five proposals that were received met all of the Minimum Qualifications Requirements and were evaluated based on the evaluation criteria set forth in the RFP. The firms are listed below in alphabetical order and the functions they proposed:

1. Ask-intTag, LLC (Smart Card Manufacturing and Adhesive Stickers)
2. Gemalto, Inc. (Smart Card Manufacturing)
3. Giesecke & Devrient Mobile Security America, Inc. (Smart Card Manufacturing and Card Fulfillment and Distribution)
4. Oberthur Technologies of America Corp. (Smart Card Manufacturing, Card Fulfillment and Distribution, and Adhesive Stickers)
5. Valid USA, Inc. (Smart Card Manufacturing)

During the months of December, January, and February, the PET reviewed and scored each of the proposals and tested sample cards. Proposers provided various sample cards and adhesive stickers that were tested to ensure they met the required specifications. All five proposers passed the physical and electrical smart card characteristics testing.

Qualifications Summary of Firms

ASK-intTag, LLC.

ASK-intTag, LLC (ASK) designs and manufactures contactless smart cards, contactless tickets, labels, stickers, and related products. ASK is an international

company, headquartered in Mougins, France. The company was founded in 1997 by 4 senior managers, all from the smart card industry. ASK currently employs over 250 people with 3 manufacturing locations in: Mougins, France, Beijing, China, and Essex Junction, VT. ASK provides contactless cards for mass transit applications, and has the unique ability to adapt its contactless technology expertise to both paper and plastic. ASK can support transit agencies' requirements for both extended use and limited use of fare collection media.

ASK is a fully integrated contactless card and ticket manufacturer. All manufacturing steps and sub-components are produced by ASK, thus providing optimized turnaround time as well as a quality control that measures and analyzes all components. Moreover, ASK offers a unique sticker encoding site located at their highly secured site in Vermont.

ASK's project management team has over 50 years of experience in the industry. ASK has also proposed to put together an entire team dedicated to Metro to assist in all aspects of the project. ASK has also worked with Metro to provide adhesives stickers for the Metro U-Pass program.

Gemalto, Inc.

Gemalto, Inc. (Gemalto) has more than 15 years of experience in providing transport solutions and is a leader in digital security. Gemalto to date has had over 140 million transit cards delivered and has been serving transit authorities for over 2 decades. Its leadership has facilitated ambitious transit programs around the world in such places as Paris, London, Netherlands, Santiago de Chile, Portugal, Malaysia, Italy, Sao Paulo, and China.

Gemalto's qualified staff has a combined experience over ninety years in the payment card industry. Their experience encompasses program and product development, industrialization of innovative card bodies, manufacturing techniques, sales management, and operations.

Giesecke & Devrient Mobile Security America, Inc.

Giesecke & Devrient Mobile Security America, Inc. (G&D) is a globally operating technology company that specializes in security and advanced card solutions. G&D facilities with contactless smart card production and personalization capability include Ohio, Canada, Mexico City, Brazil, Spain, China, and Slovakia.
To date, G&D has supplied over 300 million contactless cards for transit customers across the globe. G&D also holds the earliest patents for smart card technology and has developed the Eurocheque system together with the Deutsche Bundesbank in 1968 which fathered the credit and debit card systems we have today. In addition, G&D also holds certification for manufacturing and personalization services for Visa, Mastercard, Discover and American Express.

G&D has been working with Metro since 2005 when they began delivering cards and providing services such as card stock and inventory management, card initialization and personalization, card testing, card fulfillment, and card issuance. G&D's qualified staff combined has over 96 years of experience in the smart card and services industry.

Oberthur Technologies of America Corp.

Oberthur Technologies of America Corp. (OT), the M Company, is a leader in digital security solutions for the mobility space. OT has been at the heart of mobility, from the first smart cards to the latest contactless payment technologies which equip millions of smartphones. Present in the payment, telecommunications and identity markets, OT offers end-to-end solutions in the smart transactions, mobile financial services, machine-to-machine, digital identity and transport and access control fields.

OT has been in the smart card industry for more than 20 years. The company employs 6,500 people worldwide and has a presence with facilities including seven manufacturing plants in the US, Latin America, Europe, Middle-East and Asia, 39 personalization and fulfillment centers, 12 research and development centers and 50 sales offices.

OT developed a market leading setup to support customers with one manufacturing hub in Exton, PA, two service centers in Los Angeles, CA and Chantilly, VA and two R&D centers in Los Angeles and Boston. The project management team at OT has a cumulative experience of 262 years in the smart card industry. OT has set up a dedicated project team which will oversee all aspects of the project.

Valid USA, Inc.

Valid USA, Inc. (Valid) is a publicly traded Brazilian company with over 5,000 employees worldwide. Valid has been providing security printing and card solutions for over 59 years and is expanding operations around the world. Valid has developed strong smart card manufacturing capacities in North America, Brazil, Latin America, and Europe. Over the last three years, Valid has shipped more than 16.9 million contactless smart cards. Valid's qualified staff has a combined experience of over 90 years in the smart card industry.

Contract award is recommended to the two highest scoring firms for the various functions. The following is the summary of scores for each function and firm:

Smart Card Manufacturing

Firm	Average Score	Factor Weight	Weighted Average Score	Rank
Oberthur Technologies				

Experience & Skills	100.00	10%	10.00	
Program Management Team Experience	100.00	10%	10.00	
Supply Chain Management	100.00	10%	10.00	
Physical & Electrical Smart card Characteristic	100.00	35%	35.00	
Printing (Graphics)/Packaging	100.00	10%	10.00	
Cost Proposal	89.60	25%	22.40	
Total		**100%**	**97.40**	**1**
ASK-intTag, LLC				
Experience & Skills	100.00	10%	10.00	
Program Management Team Experience	93.30	10%	9.33	
Supply Chain Management	73.33	10%	7.33	
Physical & Electrical Smart card Characteristic	100.00	35%	35.00	
Printing (Graphics)/Packaging	66.60	10%	6.66	
Cost Proposal	100.00	25%	25.00	
Total		**100%**	**93.32**	**2**
Valid USA, Inc.				
Experience & Skills	93.33	10%	9.33	
Program Management Team Experience	100.00	10%	10.00	
Supply Chain Management	80.00	10%	8.00	
Physical & Electrical Smart card Characteristic	100.00	35%	35.00	
Printing (Graphics)/Packaging	93.33	10%	9.33	
Cost Proposal	81.52	25%	20.38	
Total		**100%**	**92.04**	**3**
Giesecke & Devrient Mobile Security America, Inc.				
Experience & Skills	96.66	10%	9.66	
Program Management Team Experience	96.66	10%	9.66	
Supply Chain Management	83.33	10%	8.33	
Physical & Electrical Smart card Characteristic	100.00	35%	35.00	
Printing (Graphics)/Packaging	100.00	10%	10.00	
Cost Proposal	67.96	25%	16.99	
Total		**100%**	**89.64**	**4**
Gemalto, Inc.				

Experience & Skills	90.00	10%	9.00	
Program Management Team Experience	80.00	10%	8.00	
Supply Chain Management	40.00	10%	4.00	
Physical & Electrical Smart card Characteristic	100.00	35%	35.00	
Printing (Graphics)/Packaging	93.33	10%	9.33	
Cost Proposal	85.08	25%	21.27	
Total		**100%**	**86.60**	**5**

The two firms recommended for Smart Card Manufacturing proposed the lowest prices for the various TAP cards included in the Statement of Work.

Card Fulfillment and Distribution

Firm	Average Score	Factor Weight	Weighted Average Score	Rank
Oberthur Technologies				
Experience & Skills	96.67	15%	14.50	
Program Management Team Experience	100.00	15%	15.00	
Card Fulfillment/Personalization	80.00	20%	16.00	
Card Order Reporting & Processing	93.32	25%	23.33	
Cost Proposal	100.00	25%	25.00	
Total		**100%**	**93.83**	**1**
Giesecke & Devrient Mobile Security America, Inc.				
Experience & Skills	100.00	15%	15.00	
Program Management Team Experience	100.00	15%	15.00	
Card Fulfillment/Personalization	80.00	20%	16.00	
Card Order Reporting & Processing	93.32	25%	23.33	
Cost Proposal	35.44	25%	8.86	
Total		**100%**	**78.19**	**2**

Adhesive Stickers

Firm	Average Score	Factor Weight	Weighted Average Score	Rank
Oberthur Technologies				
Experience & Skills	100.00	10%	10.00	
Physical & Electrical Characteristics	93.34	35%	32.67	
Printing (Graphics)/Packaging	86.67	15%	13.00	
Durability	93.33	15%	14.00	
Cost Proposal	100.00	25%	25.00	
Total		**100%**	**94.67**	**1**
ASK-intTag, LLC				
Experience & Skills	100.00	10%	10.00	
Physical & Electrical Characteristics	86.66	35%	30.33	

Printing (Graphics)/Packaging	86.67	15%	13.00	
Durability	76.67	15%	11.50	
Cost Proposal	69.44	25%	17.36	
Total		**100%**	**82.19**	**2**

C. Cost/Price Analysis

The recommended price has been determined to be fair and reasonable based upon price analysis, technical evaluation, and adequate price competition. The recommended not-to-exceed amount of $26,915,910 for 5 years is based on the highest NTE amount for each of the services below. The NTE amount for 3 base years with two one-year options as identified below:

- Card Manufacturing – Base: $9,272,563, Option 1: $3,090,854, Option 2: $3,090,854 in the total NTE amount of $15,454,271
- Fulfillment & Distribution- Base: $6,858,983, Option 1: $2,286,328, Option 2: $2,286,328 in the total NTE amount of $11,431,639
- Adhesive Stickers – Base: $18,000 Option 1: $6,000, Option 2: $6,000 in the total NTE amount of $30,000

As these are indefinite delivery/indefinite quantity contracts, Metro will place orders based on need for the various services.

Card Manufacturing

	Proposer Name	Proposal Amount	Metro ICE	NTE Amount*
1.	Oberthur Technologies	$15,454,271.00	$22,120,500.00	$15,454,271.00
2.	ASK-intTag, LLC	$13,846,050.00	$22,120,500.00	$13,846,050.00

*Prices received are for evaluation purposes and are based on estimated quantities provided by Metro

Fulfillment & Distribution

	Proposer Name	Proposal Amount	Metro ICE	NTE Amount*
1.	Oberthur Technologies	$10,569,300.00	$9,619,513.00	$4,437,300.00
2.	Giesecke & Devrient Mobile Security America, Inc.	$12,516,324.00	$9,619,513.00	$11,431,639.00

*Prices received are for evaluation purposes and are based on estimated quantities provided by Metro

Adhesive Stickers

	Proposer Name	Proposal Amount	Metro ICE	NTE Amount*
1.	Oberthur Technologies	$20,835.00	$42,400.00	$20,835.00

2.	ASK-intTag, LLC	$30,000.00	$42,400.00	$30,000.00

*Prices received are for evaluation purposes and are based on estimated quantities provided by Metro

D. Background on Recommended Contractors

ASK-intTag, LLC. (ASK)

ASK was founded in 1997 by 4 senior managers, all from the smart card industry. ASK currently employs over 250 people with 3 manufacturing locations in: Mougins, France, Beijing, China, and Essex Junction, VT. ASK has acquired a worldwide leadership position in contactless cards for mass transit applications. ASK has the unique ability to adapt its contactless technology expertise to both paper and plastic.

Oberthur Technologies

Oberthur Technologies is a leader in the smart card industry for more than 20 years. The company employs 6,500 people worldwide and has a presence with facilities including 7 manufacturing plants (in the US, Latin America, Europe, Middle-East and Asia), 39 personalization and fulfillment centers, 12 Research & Development centers and 50 sales offices. The project management team at OT is highly qualified with a cumulative experience of 262 years in the smart card industry.

Giesecke & Devrient Mobile Security America, Inc.

Giesecke & Devrient Mobile Security America, Inc. (G&D) is a globally operating technology company that specializes in security and advanced card solutions. G&D has been the leader in contactless technology for over 20 years. G&D has been working with Metro since 2005 when they began delivering cards and providing services such as card stock and inventory management, card initialization and personalization, card testing, card fulfillment, and card issuance. G&D's qualified staff combined has over 96 years of experience in the smart card and services industry.

DEOD SUMMARY

TAP CARD MANUFACTURING AND FULFILLMENT / CONTRACT NO. PS29117

A. Small Business Participation

The Diversity and Economic Opportunity Department (DEOD) did not recommend a Small Business Enterprise/Disabled Veteran Business Enterprise goal for this solicitation due to lack of subcontracting opportunities. This procurement involves the manufacture and delivery of TAP cards which are proprietary in nature.

B. Living Wage and Service Contract Worker Retention Policy Applicability

The Living Wage and Service Contract Worker Retention Policy is not applicable to this Contract.

C. Prevailing Wage Applicability

Prevailing wage is not applicable to Contract.

D. Project Labor Agreement/Construction Careers Policy

Project Labor Agreement/Construction Careers Policy is not applicable to this Contract.

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

File #: 2017-0086, **File Type:** Program **Agenda Number:** 15.

FINANCE, BUDGET AND AUDIT COMMITTEE
APRIL 19, 2017
PLANNING AND PROGRAMMING COMMITTEE
APRIL 19, 2017

SUBJECT: METRO BIKE SHARE PROGRAM

ACTION: APPROVE RECOMMENDATIONS FOR METRO BIKE SHARE PHASE II EXPANSION

RECOMMENDATION

CONSIDER:

A. ADOPTING the **Phase II Metro Bike Share Expansion** (Phase II Expansion) Environmental Analysis findings that the expansion qualifies for a Categorical Exemption under Section 15303 (Class 3) New Construction or Conversion of Small Structures (Attachment A);

B. AUTHORIZING staff to file the Notice of Exemption for the Phase II Expansion;

C. ADOPTING the Phase II Expansion Title VI and Environmental Justice Analysis findings that there is no Disparate Impact and no Disproportionate Burden associated with the expansion (Attachment B); and

D. AUGMENTING the Life of Project budget for Phase II Expansion by $1,713,000 to $4,499,000 to include previously Board approved pre-launch related costs.

ISSUE

At the October 2016 meeting, the Board authorized the CEO to exercise options within the Bicycle Transit Systems (BTS) contract for provision of the equipment, installation, and operations and maintenance (O&M) of the Phase II Expansion to Venice, Pasadena, and the Port of Los Angeles (Attachment C).

Environmental Analysis

An Environmental Analysis has been completed in compliance with the California Environmental Quality Act (CEQA). Metro serves as the CEQA Lead Agency and has final approval of all plans and environmental documents. Board adoption of the findings of the Environmental Analysis and Board

authorization to file the Notice of Exemption for the Phase II Expansion to Venice, Pasadena, and the Port of Los Angeles is being requested.

Title VI and Environmental Justice Analysis

A Title VI and Environmental Justice equity evaluation has been completed consistent with the requirements set forth in Executive Order 12890 and 49CFR Section 21.5. While thresholds have not been established for non-transit programs, such as bike share, this equity evaluation seeks to determine whether or not there is reason to believe that the siting of bike share facilities might cause a Disparate Impact or Disproportionate Burden. Board adoption of the Title VI Analysis for the Phase II Expansion to Venice, Pasadena, and the Port of Los Angeles is being requested. The analyses found that there is no Disparate Impact and no Disproportionate Burden associated with the expansion

Bike Share Phase II Life of Project (LOP)

At the October 2016 Board Meeting, the Board approved the expansion of the Bike Share program including $4.499 million project cost in FY2017. It includes $2.751 million one-time capital cost, $1.713 million for pre-launch O&M cost and $35K for bicycle GPS regional modeling. Life of Project (LOP) budget for Phase II Expansion was then established for $2.786 million, excluding pre-launch O&M cost of $1.713 million. Pre-launch costs were envisioned as an operations expense. Subsequently, the project team met with Accounting Department and OMB to discuss pre-launch O&M expenses, and both departments requested to include the pre-launch cost as part of the LOP in order to comply with the Metro capital project policy. This is a reallocation of costs from operating to capital and does not represent an increase to the total Phase II Expansion project cost.

DISCUSSION

Metro launched the Countywide Bike Share Program in July 2016, serving the Downtown Los Angeles area and currently operating 61 stations. The Phase II Expansion will add up to 15 stations in Venice, 34 stations in Pasadena, and 11 stations in the Port of Los Angeles by summer 2017. Stations will be installed in accordance with local regulations and considerations regarding locations of fire hydrants, crosswalks, driveways, standpipes, street furniture, bus stops/shelters and impact on sight lines.

While a preliminary list of bike share station locations was used to perform the Environmental Analysis and the Title VI and Environmental Justice Analysis, final locations will be determined based on several factors including space availability, accessibility, and safety.

Environmental Analysis Findings

The expansion qualifies for a CEQA Categorical Exemption under the *Section 15303 (Class 3) New Construction or Conversion of Small Structures* exemption because it involves a limited number of new, small structures. The Phase II Expansion in Venice, Pasadena, and the Port of Los Angeles will add up to 60 stations with limited disturbance since the station has a weighted base and most

stations will be placed on existing paved rights-of-way such as sidewalks and streets. Small concrete pads and electrical connection work may be installed/performed on up to 5 stations.

None of the exceptions to Categorical Exemptions apply to this project. The project area does not contain important farmland, wetlands, wild and scenic rivers, floodplains or critical habitats. Stations will be located near historic structures but they are congruent with the existing urban fabric and as such would not impact any archeological or paleontological sites. The project sites will not be located on sites identified as containing hazardous materials.

Title VI and Environmental Justice Analysis Findings

A Title VI and Environmental Justice equity evaluation has been completed consistent with the requirements set forth in Executive Order 12890 and 49CFR Section 21.5. While thresholds have not been established for non-transit programs such as bike share, this equity evaluation seeks to determine whether or not there is reason to believe that the siting of bike share facilities might cause a Disparate Impact or Disproportional Burden. Two separate analyses were performed: one taking into consideration the minority population share, the other taking into consideration the poverty population share within one-half mile area around the existing and proposed stations and comparing both demographic characteristics with that of the Los Angeles County population.

The analyses found that there is no Disparate Impact and no Disproportionate Burden associated with the expansion. Although the minority share of the population benefitting from the proposed program is less than for the County as a whole, the difference is less than 5% and presumed to be no Disparate Impact. The poverty share of the proposed program is greater than for the County as a whole and therefore has no Disproportionate Burden.

DETERMINATION OF SAFETY IMPACT

Adoption of the findings of the Environmental Analysis for the Phase II Expansion, authorization for staff to file the Notice of Exemption for the Phase II Expansion, adoption of the findings of the Title VI and Environmental Justice Analysis, and the increase of Life of Project will not have any adverse safety impacts on Metro employees and patrons.

FINANCIAL IMPACT

Upon approval of recommendation 4, the life of project budget will be augmented to $4,499,000 for project number 210118 - Metro Bike Share Project Phase II Expansion. The FY17 budget will also include $2,964,000 for expansion efforts in Cost Center 4320. Since this is a multi-year project, the cost center manager and the Chief Planning Officer will be responsible for budgeting the cost in future years, including any phase(s) the Board authorized to be exercised.

There is no financial impact for the LOP increase as it is a reallocation of pre-launch cost from operating to capital funds. There is no change in the total project cost for Phase II Expansion approved by the Board in October 2016.

Impact to Budget

The sources of funds are a Call for Projects grant, cities' reimbursements, and other eligible and available local funds or general funds. No other fund impacts will occur with the LOP adjustment to this project.

ALTERNATIVES CONSIDERED

The Board may choose not to adopt the findings of the Environmental Analysis for the Phase II Expansion, not to authorize staff to file the Notice of Exemption for the Phase II Expansion, not to adopt the findings of the Title VI and Environmental Justice Analysis for the Phase II Expansion, and not augment the LOP for Phase II Expansion by $1.713 million which was the Board-approved pre-launch cost. This alternative is not recommended as it is not in line with previous Board direction.

NEXT STEPS

Upon Board adoption and authorization, the Notice of Exemption for the Phase II Expansion will be filed.

ATTACHMENTS

Attachment A - Categorical Exemption Analysis
Attachment B - Equity Analysis Methodology & Results
Attachment C - October 2016 Board Report

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Chief Executive Officer

CATEGORICAL EXEMPTION ANALYSIS

PROJECT DESCRIPTION

The Los Angeles County Metropolitan Transportation Authority (Metro) is proposing to implement a Countywide Bike Share system. Phase II of the proposed system would expand the bike share network outside of downtown Los Angeles and add approximately 60 new stations in Los Angeles (Port of Los Angeles and Venice) and Pasadena. Metro would own and manage the system's equipment and would contribute up to 50 percent of the system's capital costs.

The project includes the following actions: site plan approval by the City of Los Angeles Department of Transportation; site plan approval by the City of Pasadena Department of Transportation; approval by the Port of Los Angeles Engineering Division, approval of a Coastal Development Permit for the Port of Los Angeles and Venice locations; environmental compliance under the California Environmental Quality Act (CEQA); and placement of bike sharing stations.

Metro serves as the CEQA lead agency and would have final approval of all plans and environmental documents. The project includes up to 60 locations in the Port of Los Angeles, the community of Venice, and the City of Pasadena. While the locations listed below in Tables 1, 2, and 3 represent the general locations of each bike share station, in each city, final locations would be determined during the construction phase. Specific kiosk locations, such as intersection corners, nearby intersections, or midblock locations, would be determined based on factors like visibility and safety.

Although different bike share equipment and technologies are available, the project would include Third Generation–type equipment, with the option to upgrade equipment and technology as needed. For a Third Generation configuration, docks are wired together via plates or a top bar, and a cell/satellite connection is placed at each station kiosk. The bikes would be locked at each dock and solar power would be located at the kiosk to enable bike share operations. There are different types of configurations, and the exact configuration of each docking station would be selected during construction to best accommodate space and accessibility needs. Considerations, as outlined in the Regional Bike Share Implementation Plan, include space, safety, access, visibility, property ownership, solar access, route planning, bike share network, and street design and guidelines. Docking stations would be installed in accordance with local regulations regarding fire hydrants, crosswalks, driveways, standpipes, doorways, sidewalk widths, and effective widths.

Table 1
Potential Phase II Project Station Locations in Port of Los Angeles

Station Intersection/Point of Interest	Station Intersection/Point of Interest
Fanfare Fountain Cruise Terminal: Swinford & N. Front Street	Catalina Express site
USS Iowa	Downtown Harbor: 6th Street & Sampson
Crafted & E. 22nd Street	Ports O'Call & Nagoya Way
Doubletree Hotel: Via Cabrillo-Marina & Doubletree driveway	Cabrillo Beach
Wilmington Waterfront Park (West): Harry Bridges Blvd./John S. Gibson Blvd.	Wilmington Waterfront Park (East)
Banning Landing: S Avalon Blvd. & Water Street	

Source: Metro 2017

Table 2
Potential Phase II Project Station Locations in Venice

Station Intersection	Station Intersection
N. Venice Blvd. & Abbot Kinney Blvd.	Abbot Kinney Blvd. & Cadiz Street
N. Venice Blvd. & Pisani Place	Washington Blvd. & Pacific Avenue
Abbot Kinney Blvd. & California Avenue	Washington Blvd. & Dell Avenue
Abbot Kinney Blvd. & Westminster Avenue	S. Venice Blvd. & Walgrove Avenue
Washington Blvd. & Strongs Avenue	California Avenue & Lincoln Blvd.
Washington Blvd. & Abbot Kinney Blvd.	Rose Avenue & Rennie Avenue
N. Venice Blvd. & Lincoln Blvd.	Ocean Front Walk & N. Venice Blvd.
Rose Avenue & 7th Avenue	Windward Avenue & Windward Circle
Rose Avenue & Main Street	7th Avenue & San Juan Avenue
17th Street/SMC Expo Station	Downtown/4th Street Expo Station
N. Venice Avenue & Pacific Avenue	Ocean Front Walk & N. Venice Blvd.
Main Street & Windward Circle	Windward Avenue & Windward Circle
Ocean Front Walk & Navy Street	

Source: Metro 2017

Table 3
Potential Phase II Project Station Locations in Pasadena

Station Intersection	Station Intersection
Huntington Hospital	Marengo Avenue & Green Street (southeast side along Marengo Avenue)
Colorado Blvd. & Garfield Avenue (Paseo Colorado) (south side of E. Colorado Blvd, opposite Garfield Avenue)	Garfield Avenue & Holly Street (northwest corner along Holly Street)
Pasadena Library & E. Walnut (Walnut north side)	Euclid Avenue & Villa Street (north side along Villa Street)
Orange Grove Blvd. & Walnut Street (south side along Walnut Street)	Fair Oaks Avenue & Peoria Street (northeast corner along Peoria Street)
E. Union Street & N. Lake Avenue (north side of E. Union Avenue, just east of Lake Avenue)	S. Lake Avenue & E. Del Mar Blvd. (southwest corner along Del Mar Blvd.)

Station Intersection	Station Intersection
S. Lake Avenue & E California Blvd. (west side of S. Lake Avenue, south of E California Blvd.)	S. Chester Avenue & Cordova Avenue (south side along Cordova Avenue)
E. Colorado Avenue & Bonnie Avenue (south side of E. Colorado Blvd., west of Bonnie Avenue)	S. Raymond Avenue & Fillmore Street (northeast side)
MTA Right-of-Way – City Maintenance (Holly Street)	N. Lake Avenue & E. Maple Avenue (southbound Foothill Transit 690 stop – west side of N. Lake Avenue, south of E. Maple Street)
Allen Avenue & Corson Street (west side of Allen Avenue, north of Corson Street)	S. Raymond Avenue & E. Del Mar Blvd. (west side of S. Raymond Avenue, opposite Del Mar Metro Station)
E. Green Street & S. Hill Avenue (north side of E. Green, west of S. Hill Avenue)	S. Pasadena Avenue & W. Dayton Street (east side of S Pasadena Avenue, north of W. Dayton Street)
S. Oakland Avenue & E. Union Street (southwest corner)	N. Lake Avenue & Merrett Drive (east side of N. Lake Avenue, opposite Merrett Drive)
N. Madison Avenue & E. Green Street (Playhouse lot)	S. Wilson Avenue & San Pasqual Street (northeast corner along Wilson Avenue)
S. Oak Knoll Avenue & E. Colorado Blvd. (northeast corner on Oak Knoll Avenue)	Wilson Avenue & Colorado Blvd. (north side)
MTA Right-of-Way – City Maintenance (Colorado Blvd.)	Fair Oaks Avenue & Mountain Street (Jackie Robinson Community Center)
S. Lake Avenue & Cordova Street (south side on Cordova Street)	Mercantile Alley (south side next to the parking structure)
E. Bellevue Drive at S. Arroyo Pkwy. (northeast corner)	Cordova & S. Los Robles (northwest corner)
Rose Bowl (near bus stop)	Caltech East (north side of street)

Source: Metro 2017

CITY OF LOS ANGELES (VENICE AND PORT OF LOS ANGELES)

ENVIRONMENTAL SETTING

The City of Los Angeles General Plan land use designation where the docking stations would be located is Open Space/Commercial/Industrial/Multifamily Residential in both the Port of Los Angeles and the community of Venice. Project sites are located in urban areas adjacent to surface parking lots and paved rights-of-way. The project sites are typically surrounded by commercial sites, with high foot traffic and served by public transit. The majority of docking sites would be located on paved rights-of-way such as sidewalks and parking lots, in areas that do not contain native vegetation and are characterized by an urban type visual character. One docking site in the Port of Los Angeles is located on what is currently turf, and would require a concrete pad to be poured. The project sites both in the Port of Los Angeles and the community of Venice are located within the Coastal Zones, which is subject to the provisions of the Coastal Act of 1976.

Per Figure CR 4 in the City of Los Angeles General Plan Draft Environmental Impact Report (EIR), the project area in the Port of Los Angeles contains historic cultural monuments, while the project area in Venice does not contain historic cultural monuments (Los Angeles 1995). Docking stations would be located near historic cultural monuments, but the stations would be on sidewalks and be congruent with the existing urban fabric. The City of Los Angeles General Plan identifies the project area as largely devoid of any natural habitat that could contain any protected or endangered species (Los Angeles 1995).

Project components are described in Table 4.

Table 4
LA Metro Bike Share Project Components

Component	Description
Construction of Docking Station	Docking stations would be dropped into place. Docking stations would be held down with a weighted base, avoiding the need for bolting. One station would require the pouring of a concrete base.
Construction Equipment	Lift gate, pallet jack, trucks.
Construction Duration	Installation of docking station would take approximately four hours.
Project Operation	Docking stations would be operated by users with a pass card or a single-use permit. Bikes would be used and exchanged between stations. Solar stations would power all docking and payment stations in Venice and Port of Los Angeles.
Source: Metro 2015	

A. EXEMPT STATUS

The LA Metro Countywide Bike Share system project qualifies for a CEQA Categorical Exemption under CEQA Guidelines Section 15303, New Construction or Conversion of Small Structures (Class 3).

B. REASON WHY THE PROJECT IS EXEMPT

Article 19 (Categorical Exemptions) of the CEQA Guidelines lists classes of projects that are exempt from the requirements of CEQA. This section analyzes why this project meets the conditions for a Class 3 – New Construction or Conversion of Small Structures exemption and includes the reasons why none of the possible exceptions to Categorical Exemptions, found in Section 15300.2, Exceptions, apply to this project. The statutory language of each condition and possible exception is printed in bold italics below, followed by the project-related analysis for each condition and exception.

Categorical Exemption Analysis

15303 New Construction or Conversion of Small Structures

Class 3 consists of construction and location or limited numbers of new, small facilities or structures, installation of small new equipment and facilities in small structures…

The proposed project meets this condition. The proposed project is categorically exempt from environmental review under CEQA because the project involves the installation of a limited number of new small structures. The project would install up to 26 bike share stations in the city of Los Angeles (up to 15 in Venice and up to 11 in or near the Port of Los Angeles), as shown in Tables 1 and 2. The new structures would contain Third Generation bike docking stations, as stated above in the project description, and each docking station would be sized based on ridership expectations as outlined in the Regional Bike Share Implementation Plan. Most docking station installation would not require digging or pavement disturbance, as the stations would have a weighted base. They would be placed on existing paved surfaces, such as parking lots, or in existing rights-of-way, such as sidewalks. One docking station in Port of Los Angeles

would require that a concrete pad be poured over existing turf. Nonetheless, this disturbance would be minimal and as analyzed below would not impact environmental resources.

Conclusion

As outlined above, the proposed project qualifies for the Section 15303, New Construction or Conversion of Small Structures (Class 3), exemption category under CEQA.

C. EXCEPTIONS TO CATEGORICAL EXEMPTION ANALYSIS

The analysis is based on the City of Los Angeles General Plan Draft EIR, published on January 19, 1995.

15300.2 Exceptions

(a) Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located—a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.

This exception does not apply to the proposed project. The project area contains no important farmland, wetlands, wild and scenic rivers, floodplains, or critical habitat (Los Angeles 1995). The project would require a small patch of turf removal to install one docking station ion the Port of Los Angeles, but no important farmland, wetlands, wild and scenic rivers, floodplains, or critical habitat would be impacted. Ground disturbance would be minimal and would not impact sensitive resources. The project sites are located in the Coastal Zones for both the Port of Los Angeles and the community of Venice. Nonetheless, the project would comply with policies included in the Venice Local Coastal Program (2001) and the Port of Los Angles Master Plan (2014). For example, the project would comply with polices aimed at protecting scenic qualities (Section 30251) and enhancing public access to the coast (Section 30252) in the City of Venice Local Coastal Program. As such, the project would not impact resources in the Coastal Zones and exception (a) would not apply to the proposed project.

Docking stations would be located near historic structures, but the stations would be congruent with the existing urban fabric and as such would not impact historic resources.

The project would involve only minimal ground disturbance, in areas previously disturbed for turf installation and maintenance. As such, the project would not impact any archaeological or paleontological sites.

The project would not be located on sites identified as containing hazardous materials (DTSC 2017a, 2017b).

<u>Natural Habitat and Endangered Species</u>

The proposed project area is located in a developed urban area that does not contain substantial areas of natural habitat for plants and animals (Los Angeles 1995). Project installation would require a small amount of ground disturbance for the installation of one concrete pad for one docking station. No natural habitat or

endangered species would be impacted. No other docking stations would require any ground disturbance. The project area has no native wild vegetation, and existing vegetation is ornamental. As such, the project would not impact sensitive environments and this exception would not apply to the proposed project.

Historic Resources

Los Angeles contains numerous historic buildings and historic districts as shown in Figure CR 4 in the City of Los Angeles General Plan Draft EIR (Los Angeles 1995). Docking stations would be located in the vicinity of historic places and structures such as the Los Angeles Maritime Museum. Nonetheless, the stations would be visually congruent with the historic structures' existing urban setting and would not damage the quality of historic structures. The docking stations would not create new visual barriers that would change the historic character of an area or break up the continuity of a historic district. They would be placed on existing sidewalks, in existing parking spaces, or in parking lots and would not constitute a substantial visual change in the character of an area or contribute to a decline in a resource's importance. Further, due to their location in pre-established urban areas and their size, the docking stations would not impact the historic resources' integrity. As such, the project would not impact historic resources.

Hazardous Site

See item (e) below.

Conclusion

The project site is not located on a hazardous site that is included on any list compiled pursuant to Section 65962.5 of the Government Code. There are no wetlands, endangered species, wildlife habitats, and cultural, historical, and archaeological resources on the site; therefore, this exception is not applicable.

(b) Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.

This exception does not apply to the proposed project. The project would construct new small structures. The project would require a small amount of ground disturbance to remove a small patch of turf to pour in a pad of concrete for the installation of one docking station in the Port of Los Angeles. No other docking station would require any ground disturbance activities or vegetation removal. Because ground disturbance would be minimal, the project would not result in any significant impacts and therefore would not contribute to any cumulative biological or cultural resources impacts. Therefore, this exception would not apply to the proposed project.

(c) Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

This exception does not apply to the proposed project. There are no unusual circumstances at the project sites or planned project operations that would create a reasonable possibility of significant effects to the environment. The project would not have a significant effect on any biological or cultural resources. In addition, project implementation would follow all City of Los Angeles regulations as they relate to the installation of new small structures. The project would be compatible with the areas' land use and would

not change their functions. Therefore, there would be no potential for significant effects and this exception does not apply to the proposed project.

(d) Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.

This exception does not apply to the proposed project. There are no designated scenic highways in the project area. As such, the project would not impact any scenic resources within an officially designated state scenic highway.

(e) Hazardous Waste Sites. A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

This exception does not apply to the proposed project. A search of the GeoTracker and EnviroStor environmental databases was conducted. The records review showed that the project would not be located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code in Los Angeles (DTSC 2017a, 2017b; SWRCB 2017).

(f) Historical Resources. A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

This exception does not apply to the proposed project. The project would involve a small amount of ground-disturbing activities to remove a patch of turf and pour in a concrete pad for one docking station. All other docking stations would be placed on previously disturbed paved areas via lift gate or pallet jack, and they would be held down by a weighted base. Because ground disturbance would be minimal the project would not impact any archaeological or paleontological resources. As discussed above, historical buildings are located throughout the project area and some docking stations would be located on adjacent corner streets. Nonetheless, the docking stations would not modify the historical resources, nor would they modify the structures' integrity or eligibility. Therefore, there would be no impact on cultural resources and this exception would not apply.

CITY OF PASADENA

ENVIRONMENTAL SETTING

The City of Pasadena General Plan land use plan designations where the docking stations would be located is Open Space/Commercial/Industrial/Multifamily Residential. All project sites are located in urban areas adjacent to surface parking lots and paved rights-of-way. The project sites are typically surrounded by commercial sites, with high foot traffic and served by public transit. The docking sites would be located on paved rights-of-way such as sidewalks and parking lots, areas that do not contain native vegetation and with a low degree of visual character. Per Figure 5.4-1 of the Pasadena General Plan Draft EIR, the project area contains several historic resources. Docking stations would be located near historic cultural monuments, but they would be on sidewalks and would be congruent with the existing urban fabric. Cultural and historic resources sites are protected under federal, state, and local regulations, depending on their listing status.

The City of Pasadena Draft EIR identifies the project area as largely devoid of any natural habitat that could contain any protected or endangered species (Pasadena 2015).

Project components are described in Table 5.

Table 5
LA Metro Bike Share Project Components

Component	Description
Construction of Docking Station	Docking stations would be dropped into place. Docking stations would be held down with a weighted base, avoiding the need for bolting. Minimal ground disturbance would take place at two stations.
Construction Equipment	Lift gate, pallet jack, trucks.
Construction Duration	Installation of docking station would take approximately four hours.
Project Operation	Docking stations would be operated by users with a pass card or a single-use permit. Bikes would be used and exchanged between stations. Solar stations would power most docking and payment stations. Up to 2 docking stations will be hardwired with electricity that is not solar in origin in Pasadena.
Source: Metro 2015	

A. EXEMPT STATUS

The LA Metro Countywide Bike Share system project qualifies for a CEQA Categorical Exemption under CEQA Guidelines Section 15303, New Construction or Conversion of Small Structures (Class 3).

B. REASON WHY THE PROJECT IS EXEMPT

Article 19 (Categorical Exemptions) of the CEQA Guidelines lists classes of projects that are exempt from the requirements of CEQA. This section analyzes why this project meets the conditions for a Class 3 – New Construction or Conversion of Small Structures exemption and includes the reasons why none of the possible exceptions to Categorical Exemptions, found in Section 15300.2, Exceptions, apply to this project. The statutory language of each condition and possible exception is printed in bold italics below, followed by the project-related analysis for each condition and exception.

Categorical Exemption Analysis

15303 New Construction or Conversion of Small Structures

Class 3 consists of construction and location or limited numbers of new, small facilities or structures, installation of small new equipment and facilities in small structures…

The proposed project meets this condition. The proposed project is categorically exempt from environmental review under CEQA because the project involves the installation of a limited number of new small structures. The project would install 34 bike share stations in Pasadena, as shown in Table 3 above. The new structures would contain Third Generation bike docking stations, as stated above in the project description, and each docking station would be sized based on ridership expectations as outlined in the Regional Bike Share Implementation Plan. Docking station installation would require a small amount of digging and pouring of concrete for up to two docking stations that will be located on what is existing turf. Other docking stations will not require digging or pavement disturbance, as the stations would have a weighted base. They would be placed on existing paved surfaces, such as parking lots, or in existing rights-of-way, such as sidewalks.

Conclusion

As outlined above, the proposed project qualifies for the Section 15303, New Construction or Conversion of Small Structures (Class 3), exemption category under CEQA.

C. EXCEPTIONS TO CATEGORICAL EXEMPTION ANALYSIS

The analysis is based on the City of Pasadena's General Plan EIR, published on January 14, 2015.

15300.2 Exceptions

(a) Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located—a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.

This exception does not apply to the proposed project. The project area contains no important farmland, wetlands, wild and scenic rivers, floodplains, or critical habitat (Pasadena 2015). The project would involve minor ground disturbance for a small amount of turf removal at up to two docking stations. As such, vegetation removal and ground disturbance would be minimal.

Docking stations would be located near historic structures, but the stations would be congruent with the existing urban fabric and as such would not impact historic resources. Because ground disturbance would be minimal and the station would be congruent with surrounding areas, the project would not impact any archaeological or paleontological sites. The project sites are not identified as containing hazardous materials (DTSC 2017a, 2017b).

Natural Habitat and Endangered Species

The proposed project area is located in a developed urban area that does not contain substantial areas of natural habitat for plants and animals (Pasadena 2015). Project installation would require a small amount of ground disturbance for the installation of concrete pads for up to two docking station. Because the two stations are located on existing turf in previously disturbed areas natural habitat or endangered species would not be impacted. No other docking stations will require any ground disturbance. The project area has no native wild vegetation, and existing vegetation is ornamental. As such, the project would not impact sensitive environments and this exception would not apply to the proposed project.

Historic Resources

Pasadena contains numerous historic buildings and historic districts as shown in Figure 5.4-1 of the Pasadena General Plan Draft EIR (Pasadena 2015). Docking stations would be located in the vicinity of historic places and structures like the Rose Bowl. Nonetheless, the stations would be visually congruent with the historic structures' existing urban setting and would not damage the quality of historic structures. The docking stations would not create new visual barriers that would change the historic character of an area or break up the continuity of a historic district. They would be placed on existing sidewalks, in existing parking spaces, or in parking lots and would not constitute a substantial visual change in the character of an area or contribute to a decline in a resource's importance. Further, due to their location in pre-established urban areas and their size, the docking stations would not impact the historic resources' integrity. As such, the project would not impact historic resources.

Hazardous Site

See item (e) below.

Conclusion

The project site is not located on a hazardous site that is included on any list compiled pursuant to Section 65962.5 of the Government Code. There are no wetlands, endangered species, wildlife habitats, and cultural, historical, and archaeological resources on the site; therefore, this exception is not applicable.

(b) Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.

This exception does not apply to the proposed project. The project would construct new small structures. The project would require a small amount of ground disturbance and turf removal for up to 2 docking stations. The project would not result in any significant impacts and therefore would not contribute to any cumulative biological or cultural resources impacts. Therefore, this exception would not apply to the proposed project.

(c) Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

This exception does not apply to the proposed project. There are no unusual circumstances at the project sites or planned project operations that would create a reasonable possibility of significant effects to the

environment. The project would not have a significant effect on any biological or cultural resources. In addition, project implementation would follow all City of Pasadena regulations as they relate to the installation of new small structures. The project would be compatible with the current usage of the project areas and would not change current project site functions. Therefore, there would be no potential for significant effects and this exception does not apply to the proposed project.

(d) Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.

This exception does not apply to the proposed project. Although Highway 110 has a small segment in Pasadena that is an eligible state scenic highway, no bike stations are proposed on this stretch of highway. As such, the project would not impact scenic resources within an officially designated state scenic highway.

(e) Hazardous Waste Sites. A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

This exception does not apply to the proposed project. A search of the GeoTracker and EnviroStor environmental databases was conducted. The records review showed that the project would not be located on a site that is included on any list compiled pursuant to Section 65962.5 of the Government Code in (DTSC 2017a, 2017b; SWRCB 2017).

(f) Historical Resources. A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

This exception does not apply to the proposed project. The project would involve a small amount of ground-disturbing activities to remove turf and pour in a concrete pad for up to two docking stations. All other docking stations would be placed on previously disturbed paved areas via lift gate or pallet jack, and they would be held down by a weighted base. Because ground disturbance would be minimal, the project would not impact any archaeological or paleontological resources. As discussed above, historical buildings are located throughout the project area and some docking stations would be located on adjacent corner streets. Nonetheless, the docking stations would not modify the historical resources, nor would they modify the structures' integrity or eligibility. Therefore, there would be no impact on cultural resources and this exception would not apply.

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Equity Analysis
Methodology & Results

Proposed Bike Share Expansion Program
Siting of Program Locations
February 2017

Service Planning and Scheduling
Office of Civil Rights

Contents

1. PROPOSAL OVERVIEW

Metro's countywide bike share program is being expanded into Pasadena, Port of Los Angeles and Venice. Participants would be able to rent and return a bicycle from any of the program's self service locations. This equity evaluation considers the expansion program that would establish rental locations in and around these expansion areas. Only the siting of these locations is being evaluated.

2. METHODOLOGICAL APPROACH

Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq.) prohibits discrimination on the basis of race, color, or national origin in any program or activity that receives Federal funds or other Federal financial assistance. Programs that receive Federal funds cannot distinguish among individuals on the basis of race, color or national origin, either directly or indirectly, in the types, quantity, quality or timeliness of program services, aids or benefits that they provide or the manner in which they provide them. This prohibition applies to intentional discrimination as well as to procedures, criteria or methods of administration that appear neutral but have a discriminatory effect on individuals because of their race, color, or national origin.

If policies and practices have a potential discriminatory effect a recipient must modify the proposed changes in order to avoid, minimize, or mitigate potential disparate impacts, and then reanalyze the proposed changes in order to determine whether the modifications actually removed the potential disparate impacts. If the recipient chooses not to alter the proposed policy or practice despite the potential disparate impact, they may implement the policy or practice if they can show that it was necessary to achieve a substantial legitimate objective and that there were no alternatives that would have a less disparate impact on minority populations.

Additionally, Persons with limited English proficiency must be afforded a meaningful opportunity to participate in programs that receive Federal funds. Policies and practices may not deny or have the effect of denying persons with limited English proficiency equal access to Federally-funded programs for which such persons qualify. This aspect of Title VI is not evaluated with regard to the placement of program facilities.

Environmental justice was first identified as a national policy in 1994 when President Clinton signed Executive Order 12898 (E.O. 12898), *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. This order requires that each federal agency shall, to the greatest extent allowed by law, administer and implement its programs, policies, and activities that affect human health or the environment so as to identify and avoid "disproportionately high and adverse" effects on minority and low-income populations. E.O. 12898 thus applies to a wider population than Title VI, which does not cover low-income populations.

A Title VI and Environmental Justice equity evaluation has been completed consistent with the requirements set forth in Executive Order 12890 and 49CFR Section 21.5. One

of the primary purposes of a bike share network is to provide first and last mile connectivity for the transit system. As such a bike share system can be considered as a transit amenity and a similar methodology can be used to determine the Title VI and Environmental Justice Impacts. This equity evaluation is based on the analysis of this amenity in the context of the entire system and uses the same thresholds that are applied to other transit amenities. *-

The basic approach to this analysis is to compare the demographics of the population within one-half mile of the proposed bicycle share facilities to the demographics of Los Angeles County. This distance was chosen on the presumption that the vast majority of bike share users would walk to/from the facilities. Since the availability of a bike share facility is considered a benefit, then the benefiting population should not be significantly less minority or significantly less poor than the county population. If this is so, then there is a presumption of no Disparate Impact on minorities and no Disproportionate Burden on poverty level persons.

Data Sources

Data on the ethnicity and household income levels of the population of Los Angeles County was obtained from the 2010 US Census. Population ethnicity is available at the block group level. The poverty classification of households, and therefore members of those households, was obtained from the 2006-2010 American Community Survey (another US Census data product) and is available at the census tract level.

Step By Step Methodology

A list of the existing and proposed demonstration bicycle share facility locations was obtained and linked to a geographic database containing census data (Tables 1 and 2). Two separate analyses were performed: (1) the minority and total populations of all block groups within one-half mile of the combined bicycle share facilities were aggregated with the resulting minority population shares being compared to the minority share of the Los Angeles county population, and (2) the poverty and total populations of all census tracts within one-half mile of the combined bicycle share facilities were aggregated with the resulting poverty population shares being compared to the poverty share of the Los Angeles county population.

Table 1
Existing Bicycle Shared Facility Locations

11th St. at Maple Ave.
11th St. at Santee St.
12th St. at Hill St.
18th St. at Figueroa St.
18th St. at San Pedro St.
1st St. at Judge John Aiso
2nd St. at Figueroa St.
2nd St. at Hill St.
3rd St. at San Pedro St.
3rd St. at Santa Fe Ave.
5th St. at Grand Ave.
5th St. at Hewitt St.
7th St. at Bixel St.
7th St. at Broadway
7th St. at Main St.
7th St. at Spring St.
8th St. at Wall St.
9th St. at Los Angeles St.
Broadway at 3rd St.
Broadway at 9th St.
Factory Place at Alameda
Figueroa St. at 8th St.
Figueroa St. at 9th St.
Figueroa St. at Chavez Ave.
Figueroa St. at Pico Bl.
Flower St. at 7th St.
Grand Ave at 14th St.
Grand Ave at 3rd St.
Grand Ave at 7th St.
Grand Ave at Olympic Bl.
Grand Ave at Temple St.
Grand Ave at Washington Bl.
Hill St. at College St.
Hill St. at Washington Bl.
Hope St. at 11th St.
Hope St. at 1st St.
Hope St. at 6th St.
Hope St. at Olympic Bl.
Imperial at 7th St.
Industrial St at Mateo St.
Los Angeles at Temple St.
Main St. at 1st
Main St. at 4th St.
Main St. at 5th St.
Main St. at 6th St.
Main St. at 9th St.
New High St. at Ord St.
Olive St. at 5th
Olive St. at 8th
Pico Bl. at Flower St.
Pico Bl. at Maple St.
San Julian St. at 12th St.
Spring St. at 3rd St.
Spring St. at College St.
Stanford St.at 12th St.
Temple St. at Vignes St.
Traction Ave. at Rose St.
Union Station West Portal
Willow St. at Mateo St.
Wilshire Bl. at Witmer St.

Table 2

Proposed Bicycle Shared Facility Locations

Pasadena (Proposed)	**Port of Los Angeles (Proposed)**
Huntington Hospital	Swinford and N Front Street
Marengo Ave at Green St	Catalina Express site
Colorado Bl. at Garfield Ave (Paseo Colorado)	USS Iowa
Garfield Ave at Holly St	6th street and Sampson
Pasadena Library at Walnut	Crafted at 22nd St.
Orange Grove Blvd at Walnut St	Ports O'Call at Nagoya Way
Fair Oaks Ave at Peoria St	Cabrillo-Marina/ Doubletree driveway
E Union St at Lake Ave	Cabrillo Beach
Lake Ave at Del Mar Bl.	Wilmington Waterfront Park (West)
Lake Ave at California Bl.	Wilmington Waterfront Park (East)
Chester Ave at Cordova Ave	S Avalon Blvd and Water Street
Colorado Bl. at Bonnie Ave	**Venice (Proposed)**
Raymond Ave at Fillmore St	Venice Blvd at Abbott Kinney Bl.
MTA ROW at Holly St.	Venice Blvd at Pisani Pl.
Lake Ave at Maple Ave	Abott Kinney Bl. at California Ave.
Allen Ave at Corson St	Abott Kinney Bl. at Cadiz Ct.
Raymond Ave at Del Mar Bl.	Abott Kinney Bl. at Westminister Ave.
Green St at Hill Ave	Washington Bl. at Pacific Ave.
Pasadena Ave at Dayton St	Washington Bl. at Strongs Ave.
Oakland Ave at Union St	Washington Bl. at Dell Ave.
Lake Ave at Merrett Dr	Washington Bl. at Abbot Kinney Bl.
Madison Ave at Green St	Venice Bl. At Walgrove Ave.
Wilson Ave at San Pasqual St	Venice Bl. At Lincoln Bl.
Oak Knoll Ave at Colorado Bl.	California Ave at Lincoln Bl.
Wilson Ave at Colorado Bl.	Rose Ave at 7th Ave.
MTA ROW at Colorado Bl.	Rose Ave at Rennie Ave.
Fair Oaks Ave at Mountain St	Rose Ave at Main St.
Lake Ave at Cordova St	Main St at Rose Ave.
Mercantile Alley	Ocean Front Walk at N Venice Bl.
Bellevue at Arroyo Parkway	N Venice Bl. at Pacific Ave.
Cordova at Los Robles	Windward Ave at Windward Circle
Rose Bowl	Main St at Winward Circle
Caltech East	7th Ave at San Juan Ave.
	Ocean Front Walk at Navy St.

3. RESULTS

The comparison of minority shares of the Los Angeles county population and those within block groups within one-half mile of proposed bike share facilities is depicted in Table 3.

Table 3
Minority Population Shares

	Total Population	Minority Population	Minority Share
LA County Population	**9,181,605**	**6,869,996**	**70.0%**
Within 1/2 mile of combined Bicycle Share Facilities	**387,303**	**255,199**	**65.9%**

Similarly, the comparison of poverty shares of the Los Angeles county population and those within census tracts within one-half mile of proposed bike share facilities is depicted in Table 4.

Table 4
Poverty Population Shares

	Total Population	Minority Population	Minority Share
LA County Population	**9,604,871**	**1,508,618**	**15.7%**
Within 1/2 mile of combined Bicycle Share Facilities	**404,310**	**98,452**	**24.4%**

The minority share of the population benefitting from the proposed wexpanded program is greater than that of the County, so there is no Disparate Impact from the expanded program.

The proposed expanded bike share program will not cause a Disproportionate Burden on poverty populations as the poverty share of impacted persons is greater than the County's poverty share.

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

File #:2016-0614, **File Type:**Contract Agenda Number:10.

PLANNING AND PROGRAMMING COMMITTEE
OCTOBER 19, 2016

SUBJECT: METRO COUNTYWIDE BIKE SHARE

ACTION: AUTHORIZE CONTRACT OPTIONS TO EXPAND BIKE SHARE

RECOMMENDATIONS

APPROVE:

A. EXTENDING the Downtown Los Angeles Pilot for a period of 5 years.

B. AUTHORIZING the Chief Executive Officer (CEO) to exercise options and execute Modification No. 4 to Contract No. PS272680011357 with Bicycle Transit Systems, Inc. to account for an accelerated schedule for the implementation and operation of the **Metro Countywide Bike Share expansion in Downtown Los Angeles** for an additional 5 years and in Venice, Pasadena, and the Port of Los Angeles for 6 years in the firm fixed amount of $42,618,583, increasing the total contract value from $11,174,329 to $53,792,912 as follows:

   1. Extending Downtown Los Angeles Pilot in the amount of $19,658,911
   2. Expansion to Venice in the amount of $5,069,606
   3. Expansion to Pasadena in the amount of $12,908,510 (inclusive of an initial two-year pilot for $4,731,689 plus options for four additional years)
   4. Expansion to the Port of Los Angeles in the amount of $4,907,529
   5. Implementing GPS equipment in bicycles to support Countywide modeling efforts in the amount of $74,027

C. AUTHORIZING the Life of Project budget (LOP) including the following capital costs:
   1. $2.072M for Pasadena
   2. $670K for Port of LA
   3. $10K for Venice

D. CHANGING the project sponsor for Call for Project Grant Number F9515 (Pasadena Bike Share Start Up Capital Costs) from Pasadena to Metro in order to utilize funding toward Metro Bike Share implementation in Pasadena.

E. AUTHORIZING the CEO to take the following actions to expand the Metro Countywide Bike

Share program:

1. Negotiating and executing an amendment to the MOU between City of Los Angeles and Metro to expand bike share to Venice and extend DTLA MOU timeframe;
2. Negotiating and executing a Memorandum of Understanding (MOU) between Pasadena and Metro to set the terms of fiscal and administrative responsibility as described in the January 2015 Receive and File (Attachment C); and
3. Negotiating and executing a Memorandum of Understanding (MOU) between the Port of Los Angeles and Metro to set the terms of fiscal and administrative responsibility as described in the January 2015 Receive and File (Attachment C).

ISSUE

At the June 2015 meeting, the Board awarded a two-year contract to Bicycle Transit Systems (BTS) for the provision of the equipment, installation, maintenance and operation of the Metro Countywide Bike Share Phase 1 Pilot in downtown Los Angeles (DTLA Pilot). The contract includes phases for expanding bike share to other cities throughout the county, to be exercised upon Board authorization. Board authorization is needed to exercise phases within the contract to expand bike share to the communities of Pasadena, the Port of Los Angeles (POLA) and Venice, to modify the contract in order to allow for an accelerated expansion of the system, and to extend the operation period of DTLA.

DISCUSSION

DTLA Pilot

Metro, in partnership with the City of Los Angeles, launched the Countywide Bike Share program in DTLA on July 7, 2016. On August 1, 2016, the system opened to walk up users. The first months of the Metro Bike Share program have shown steady growth and success. September 30, 2016 will mark the end of the first quarter of Metro Bike Share operations. In the first quarter, the program surpassed 50,000 total rides and 2,000 annual flex or monthly pass-holders. As another measure of performance, we also track number of rides per bike per day. The system goal is to reach two rides per bike per day by the 12 month mark of operations. We are at one ride per bike per day and showing steady growth in this metric. The Metro Bike Share program continues to work towards increasing program awareness, growing ridership and increasing pass sales.

In tandem with our outreach efforts and per the Board's direction, we are also working with the City of Los Angeles and community partners Los Angeles Bicycle Coalition (LACBC) and Multicultural Communities for Mobility (MCM) to make the bike share program equitable and accessible to all. This work is being funded through a grant provided by the Better Bike Share Partnership. We will continue to report on this work and the outcomes of the grant funded outreach.

Extending the DTLA period of performance will allow us to continue to grow and strengthen bike share as a first and last mile solution to access Metro rail and bus stops and encourage bicycling as a mode of transportation for short trips.

Bike Share Expansion

The current contract with BTS allows for a regional bike share system with up to five phases including approximately nine different bike share ready communities in Los Angeles County, as identified in the Implementation Plan. The scope was tailored to be inclusive of all the regional needs for bike share since the best way to ensure regional interoperability is to use one vendor for all of Los Angeles County.

Since the award of contract, staff has continued to meet with the Bike Share Working Group and provided presentations at each of the Council of Governments, sharing updates on the DTLA Pilot, and providing information that would better inform potential participation in Metro's Bike Share program. Through this effort, three communities have confirmed that they are ready to have bike share launched within their jurisdiction: Pasadena, POLA and Venice within the City of Los Angeles.

City of Los Angeles Expansion to Venice

Expansion to the community of Venice was identified through the 2015 Board adopted Implementation Plan as phase five of the Metro Countywide Bike Share program. Indicators for success such as density, existing bikeway network, and support have contributed to moving up the Venice expansion. In line with Board direction and in an effort to address system interoperability, the Venice expansion will also explore siting station within the City of Santa Monica.

The City of Los Angeles and City of Santa Monica have an established MOU allowing for up to five bike share station locations to be located in the other's right-of-way in order to facilitate inter-jurisdictional trips. Five Hulu stations are already located in the City of Los Angeles' Venice neighborhood. The two cities and Metro will collaborate in efforts to work toward interoperability and user-friendliness. Per Metro's MOU with the City of Los Angeles, locations within the City of Santa Monica be delivered by the City of Los Angeles ready for station installation.

An accelerated launch to Venice is being accomplished by exercising a portion of Phase III in BTS' contract. Expansion to Venice and the Santa Monica area would include up to 15 stations with a summer 2017 launch date. Due to economies of scale, 82 stations were purchased as part of the DTLA Pilot, with 65 implemented and 17 stations available for expansion in other areas of the City of Los Angeles. The City of Los Angeles has indicated they would like to allocate 15 of these stations to Venice and Santa Monica. The summer 2017 launch date reflects a two-year acceleration of a portion of Phase III in BTS's contract. The costs of the Venice expansion will be shared between Metro and the City of Los Angeles as directed by the Board in the January 2014 Motion 58 (Attachment E) and Received and Filed by the Board in January 2015 (Attachment C). Attachment D reflects each agency's financial responsibility.

Pasadena Expansion

The City of Pasadena was identified through the 2015 Board adopted Implementation Plan as Phase II of the Metro Countywide Bike Share program. Expansion to Pasadena would include approximately 34 stations with a scheduled launch for summer 2017. This launch date reflects a one-year acceleration over what was included in BTS's contract. The cost of the Pasadena expansion will be shared between Metro and the City of Pasadena as directed by the Board in the January 2014 Motion 58 (Attachment E) and Received and Filed by the Board in January 2015 (Attachment C).

Attachment D reflects each agency's financial responsibility.

In anticipation of launching bike share, the City of Pasadena applied for and was awarded Call for Project funding in 2015 for the Pasadena Bike Share Capital Cost. As Metro is the lead agency in implementing the Countywide Bike Share program, the City of Pasadena has requested that sponsorship of the Call for Project (F9515) be transferred to Metro. The grant award amount shall be applied towards the City's 50% contribution of capital cost. The City of Pasadena shall fulfill its financial commitment of the 50% local match, with a minimum 20% hard match and minimum 30% in-kind match towards the grant amount.

Port of Los Angeles Expansion

POLA has expressed interest in joining Metro's Countywide Bike Share program to provide visitors and residents with improved connectivity between key waterfront attractions. Expansion to POLA would include approximately 11 stations with a scheduled launch for summer 2017. The cost of POLA expansion will be shared between Metro and POLA as directed by the Board in the January 2014 Motion 58 (Attachment E) and Received and Filed by the Board in January 2015 (Attachment C). Attachment D reflects each agency's financial responsibility.

Memorandum of Understanding

The execution of an MOU between Metro and each expansion jurisdiction is necessary to implement a bike share system where Metro is acting as the lead agency administering the contract to install bike share stations on each jurisdiction's right-of-way. The MOUs set terms of fiscal and administrative responsibility for the expansions. The financial participation is set at 50/50 split for capital and 35/65 split for operating and maintenance (O&M) per the direction of Metro Board Motion 58 (Attachment E) and the Receive and File report in January 2015 (Attachment C). The agreement outlines the roles and responsibilities of Metro and each jurisdiction by setting the procedures for reimbursement of the capital and O&M costs, the rights of advertisement/sponsorship, and the delivery of bike share station locations.

Based on lessons learned from the DTLA Pilot and input from the expansion cities, the MOU will also address early termination provisions, cost overruns and revenue reconciliation splits between cities. Included is a provision to offer the participating city first right of refusal to take ownership of the equipment should the program be terminated. The MOUs also clarify that any cost overruns incurred due to the participating city's inability to deliver station locations on a timely manner, will be borne by the city.

DETERMINATION OF SAFETY IMPACT

The Metro Countywide Bike Share expansion will not have any adverse safety impacts on Metro employees and patrons.

FINANCIAL IMPACT

The proposed FY17 project cost is $4.499M. Of this, $2.751M is a one-time capital cost, $1.713M for pre-launch O&M costs and $35K for bicycle GPS for regional modelling. Since the expansions will be

launched at the end of FY17, the majority of the costs for the fiscal year will be capital. Attachment D reflects the funding plan for the continuation of the DTLA pilot and the proposed expansion phases.

The FY17 budget only includes $2.7M for expansion phases' capital costs in Cost Center 4320 (Bike Programs), under Project 200015 (Metro Bike Share Phase II Implementation in Pasadena) and no pre-launch O&M costs have been included. The proposed action will require an additional $51K for capital and $1.713M for pre-launch O&M for a total of $1.764M to Cost Center 4320 under Project 405305 (Bikeshare Prelaunch and Plan), for expansion phases to be redistributed to the appropriate newly developed project numbers upon the Board approval. The $35K needed for bicycle GPS for all cities are included in the FY17 budget under Cost Center 4320, Project 405302 (Complete Streets).

Since this is a multi-year contract, the cost center manager and Chief Planning Officer will be responsible for budgeting the cost in future years, including any phase(s) the Board authorized to be exercised.

Impact to Budget

For contracting purposes, $2.735M is already included in the FY17 budget. Countywide Planning and OMB staff will identify available and eligible funding in the mid-year budget process to cover the additional $1.764M capital and pre-launch costs. This funding will be partially or wholly restored (depending on revenues) to the general funds with cities' reimbursements and 2015 Call for Projects fund assignment to ensure revenue neutrality and no impact to other programs supported through the general fund. Anticipated cities' reimbursements and Metro contributions are outlined in Attachment D.

ALTERNATIVES CONSIDERED

The Board may choose not to exercise the contract options or modify the contract to allow for an accelerated expansion. This alternative is not recommended, as it is not in line with previous Board direction.

NEXT STEPS

Bike Share Marketing and Outreach

Since the DTLA Pilot launch, Metro has continued to conduct outreach and marketing activities with an emphasis on educating the public about bike share, increasing bike share sales passes, and encouraging ridership. The Bike Metro program has participated in over a dozen community events, hosted bike share pass sales, and provided briefings to community-based organizations and elected officials.

In coordination with Metro, the City of Los Angeles has hosted and organized over a dozen bike share rides. They have also continued to keep the Business Improvement Districts informed of bike share activities.

As a new mode of transportation for the DTLA area, employers and hotels have inquired about how bike share can be offered as a benefit to their employees and guests. In response to this interest

and as part of our ongoing outreach, marketing and bike share education efforts, we will be launching a pilot Bulk Pass and Single Ride program. Outreach for the program will be a coordinated effort led by the Active Transportation group and will include Metro's Communications Department and the Shared Use Mobility and Implementation group, the City of Los Angeles, and Bicycle Transit Systems.

Bike Share Title Sponsor
We continue to work with BTS and Comcast Spectator in securing a title sponsor. We have had several meetings with prospective sponsors and continue to reach out to others. We will continue to keep the Board apprised of progress.

Feasibility Study and Preliminary Station Siting
In response to the July 2015 Board Motion 22.1 (Attachment F) directing staff to conduct additional feasibility studies and preliminary station siting for potential expansion communities, staff issued a request for proposals (RFP) on June 13, 2016. Proposals are currently under review.

Upon approval by the Board, staff will execute Modification No. 4 to Contract No. PS272680011357 with Bicycle Transit Systems, Inc.

ATTACHMENTS

Attachment A - Procurement Summary
Attachment B - Contract Modification/Change Order Log
Attachment C - January 2015 Bike Share Program Receive and File
Attachment D - Bike Share Funding/Expenditure Plan
Attachment E - January 2014 Metro Board Motion 58
Attachment F - July 2015 Metro Board Motion 22.1
Attachment G - DEOD Summary

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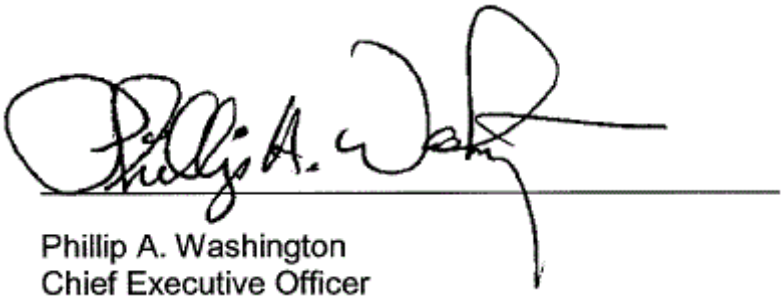

Phillip A. Washington
Chief Executive Officer

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

Metro

Board Report

File #: 2017-0180, **File Type:** Program **Agenda Number:** 16.

FINANCE BUDGET & AUDIT COMMITTEE
APRIL 19, 2017

SUBJECT: FUNDING RECOMMENDATION FOR METROLINK TRACK AND STRUCTURE REHABILITATION WORK

ACTION: APPROVE PROGRAMMING OF MEASURE R FUNDS

RECOMMENDATION

CONSIDER:

A. APPROVING the SCRRA's request for additional funding for urgent structure and rail tie rehabilitation work up to $18,381,025.

B. PROGRAMMING up to $18,381,025 in **Measure R 3% funds.**

C. AUTHORIZING the Chief Executive Officer, or his designee, to negotiate and execute all necessary agreements between LACMTA and the SCRRA for the approved funding.

ISSUE

On December 1, 2016 Board of Director's meeting, the Board authorized the CEO to provide Metrolink with "pre-contract award authority" action plan that authorizes Metrolink to proceed with the development of the necessary scope(s) of work, advertise the contract opportunities, and structure the procurements with a series of options to provide flexibility with respect to the amount of funding available. Metrolink's actual award of contracts would not be authorized until such time as Metro's Board approves an appropriation by April 30, 2017 (refer to Attachment A).

Since then, staff in collaboration with SCRRA has performed several due diligence reviews between November 23, 2016 and February 28, 2017 inspecting 29 "Priority A" bridges, culverts and rail ties. Staff has completed the first round of due diligence review of Metrolink's "Priority A" urgent structure and rail tie rehabilitation work. Staff intends to work with SCRRA on a multi-phase approach and recommending an approval of up to $18,381,025 of additional funding for Metrolink's urgent structure and rail tie rehabilitation work for the first phase. Metro along with the other SCRRA Joint Power Authority members have committed to working with SCRRA to fund the urgent structure and rail tie rehabilitation work to prevent slow orders.

DISCUSSION

Background

On November 18, 2016, Metrolink staff provided its Board of Directors with a report for track and structure rehabilitation funding that will be required in the next 18 months for track and within 36 months for bridges and culverts totaling approximately $45,357,800 that were divided into two sets of priority groupings, A and B. Priority A is comprised of a total of $29,417,000 and is regarded as a higher priority than Priority B projects totaling $15,940,300. However, Metrolink indicated that both A & B projects are necessary to prevent the imposition of slow orders and service disruptions on the impacted segments beginning as early as June 2017. Metrolink staff has indicated that if funding is not made available by the Member Agencies, Metrolink will need to develop a plan for operations with deferred rehabilitation that will likely result in “slow orders” and service disruptions on the impacted segments beginning June 2017 (refer to Attachment B). A slow order is generally initiated when the railroad agency believes that conditions on or about the Rights of Way (ROW) prevent trains from operating at normally designated speeds which could result in substantial delays to riders or a reduction in service. Metrolink has estimated that Metro’s share of this appropriation is up to $26,855,000 for Priority A and up to $5,009,316 for Priority B for a total of $31,864,316 million.

Due Diligence Review

In order to provide assurance to the Metro Board, prior to any multi-million dollar commitment of funding, that the highest priority rehabilitation projects are addressed in the most expeditious manner, particularly in the event of a risk to the operational safety of our passengers, staff performed due diligence review of Metrolink’s “Priority A” urgent structure and rail tie rehabilitation work from November 23, 2016 through March 27, 2017. Staff inspected as many ties, bridges, turnouts and culverts within the aforementioned time period to corroborate and validate Metrolink’s priority list so that it can be used to provide guidance for programming of funds for urgent structure and rail tie rehabilitation work (refer to Attachment C). Staff has also hired a consultant, WSP, to review and validate SCRRA’s state of good repair projects including performing a condition risk assessment to be used as a diagnostic tool for budget allocation.

Staff is working with SCRRA on a multi-phasing approach to Metrolink’s urgent structure and rail tie rehabilitation work totaling up to $31,864,316, beginning with “Priority A” projects and followed by “Priority B” projects. Staff has inspected 29 bridges and culverts and over 10 miles of rail ties in the Valley, Ventura, San Gabriel and River Subdivisions under the “Priority A” projects. For the 29 bridges and culverts under “Phase A” projects inspected as part of phase 1, staff concurs with SCRRA that at least 10 bridges and culverts including ties and turnouts need to be replaced immediately within the next three years. The remaining 19 bridges and culverts under “Phase A” projects inspected as part of phase 1 appear to be in “fair to satisfactory” conditions and do not require immediate replacement within the next 3 years even though these structures are at least over 29 years old and older. However, since these structures are old and approaching their service life, staff is recommending that it be programmed for replacement within the next ten (10) years with continuous annual inspections. SCRRA staff concurs with Metro’s inspection report and has agreed to work with Metro to reprioritize their urgent structure rehabilitation work based on Metro’s due diligence review (refer to Attachment

F). Staff is recommending approval of up to $18,381,025 of additional funding for Metrolink's urgent structure and rail tie rehabilitation work (refer to Attachment D). The list in Attachment D is meant to be used as a diagnostic tool for allocation of funds only. It is SCRRA's responsibility to provide an independent condition risk assessment to determine which structures should be replaced and in which order. In addition, staff included rehabilitation work on Los Angeles Union Station canopies, Sierra and Juniper crossing improvements on the San Gabriel Subdivision and East Bank improvements under "Priority B" on the River Subdivision as part of the $18,381,025 since Union Pacific Railroad and other Joint Powers Authority (JPA) members have all committed to their share of the costs for the work.

SCRRA indicated that if the funding has been secured by all the JPA members by April 2017, they will award the contract in May 2017 and complete construction by May 2019 (refer to Attachment E). Staff has asked SCRRA for a more detailed project delivery and schedule including cash flow forecast on the urgent structure and rail tie rehabilitation work for the four Metrolink subdivisions on the Valley, Ventura, River and San Gabriel. Metro along with the other SCRRA Joint Power Authority members have committed to working with SCRRA to fund the urgent structure and rail tie rehabilitation work to prevent slow orders.

DETERMINATION OF SAFETY IMPACT

Maintaining Metro owned assets and infrastructure in a state of good repair will eliminate system failures which could result in additional cost to LACMTA or exposure to liability.

FINANCIAL IMPACT

Metro staff is requesting the programming of up to $18,381,025 of Measure R 3%. Metro staff will appropriate additional funding on an annual basis in correlation to Metrolink's work plan and cash flow to complete the slow order projects.

ALTERNATIVES CONSIDERED

The Board could chose not to approve funding the Metrolink rehabilitation work of Metro owned ROW. This is not recommended since passenger safety and operational efficiency are among our agency's highest priorities. Further, if this rehabilitation work is not funded slow orders could be imposed.

NEXT STEPS

1. Continue to perform the due diligence review on the remaining balance of Metrolink's urgent structure and rail tie rehabilitation work totaling up to $31,864,316.
2. Report back to the board with staff's assessment and a funding plan of the remaining urgent track and structure rehabilitation work as part of phase 2 by December 2017.

ATTACHMENTS

Attachment A - Metro Board Report, November 16, 2016

Attachment B - SCRRA Board Report, November 18, 2016
Attachment C- Metrolink Asset Inspection Summary, March 23, 2017
Attachment D- Funding Request for Metrolink's Urgent Structure and Rail Tie Rehabilitation (Slow Order) Work
Attachment E- SCRRA Proposed Project Delivery Schedule for Urgent Structure and Rail Tie Rehabilitation (Slow Order) Work
Attachment F- MTA/SCRRA Joint Review on Valley Subdivision

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Phillip A. Washington
Chief Executive Officer

METROLINK

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY

TRANSMITTAL DATE: November 11, 2016

MEETING DATE: November 18, 2016 **ITEM 11**

TO: Board of Directors

FROM: Arthur T. Leahy ATL

SUBJECT: Preliminary FY2016-17 Budget Amendment for Additional Rehabilitation Funding

Issue

At the September 23, 2016 and October 28, 2016 Board Meetings, staff provided reports on the need for additional rehabilitation funding and the strategy for completing the track and structures projects throughout the system. In those reports, the Board was advised that certain track segments would require rehabilitation to be completed within the next eighteen months, and that certain bridges and culverts would require rehabilitation to be completed within the next thirty-six months. Funding commitments for these track and structures rehabilitation projects are required to allow work to be completed within those time frames. If additional funding is not approved, safety considerations would recommend slow orders and weight restrictions to be applied to the affected areas, principally along line segments operating on the Valley, Ventura, River and San Gabriel Subdivisions.

Recommendations

It is recommended that the Board approve a preliminary FY2016-17 budget amendment totaling $49,202,650, including:

1) An amount of $45,357,800 to allow the initiation of projects required to bring the track, bridges, and culverts to a sufficient condition to preclude the necessity for slow orders or weight restrictions;
2) An amount of $3,351,500 to provide additional required funding for the Los Angeles Union Station Canopy Rehabilitation Project, a portion of which was approved in the FY2016-17 (FY17) capital budget; and
3) An amount of $493,350 to provide funds covering the rehabilitation portion of crossing improvements at Sierra and Juniper on the San Bernardino Line.

Alternatives

The Board could:

1) Choose to reduce the amounts of any or all of the proposed spending authority, which may necessitate slow orders and/or weight restrictions in those areas for which projects are unfunded; or
2) Not approve any or all of the proposed spending authority, which would result in slow orders and/or weight restrictions within the next six to eighteen months.

Strategic Goal Alignment

This report aligns with the strategic goal to *ensure a safe operating environment.*

Background

Rehabilitation to Avoid Slow Orders

The Authority is responsible for maintaining rail network assets including nearly 400 miles of track in a state of good repair. The breakdown of key track and structure assets includes 3.8 million feet of rail, 1.1 million concrete or wood ties with fasteners, 285 crossing surfaces, 442 turnouts, 261 bridges, 580 culverts and 6 tunnels. In addition to track and structure assets, various system assets including signals, communications, train control centers, Positive Train Control (PTC) and specialized Maintenance-of-Way (MOW) equipment must be maintained to a State of Good Repair.

As shown on Attachment A, funding for overall rehabilitation and replacement has fluctuated between $18 million (M) and $47M per year during the past 10 years, and has increasingly become inadequate to sustain necessary rehabilitation of track, bridges and culverts, specifically for the Valley, Ventura, San Gabriel and River line segments.

For FY2015-16 (FY16), there was no funding for rehabilitation of track assets on the Ventura (Los Angeles), Valley, River, or Pasadena subdivisions. As a consequence of the lack of funding, the condition of the track, bridge, tunnel and culvert assets continues to steadily degrade, and in some cases will reach an unsafe condition for normal operation within the next eighteen to thirty-six months. With the recent levels of funding obtained, the Authority is only able to address projects on a "worst-first" basis, and therefore assets that require rehabilitation but are not in the very worst condition, have been deferred. Attachment B provides the historic funding for track and structures over the past five years.

The FY 2016-17 Preliminary Budget included approximately $103 million for rehabilitation projects, but this amount was reduced to $30 million in the FY 2016-17 Adopted Budget. Staff has continued to monitor and assess the condition of track and structures, and additional funding is required to address immediate needs for rehabilitation or replacement. Attachments C and D provide a table and corresponding maps listing the locations and work that is recommended.

A prioritized list of the individual projects by subdivision is provided in Attachment E. The amounts requested are in addition to any previously programmed amounts, but were requested in the Preliminary FY 2016-17 budget. The table and maps are also divided into an "A" and "B" list. The "A" list is for the highest priority and the "B" list is for the next-highest priority work necessary. The lists do not include separately programmed or yet-to-be programmed rehabilitation work such as signal, communication, train control system work and work on other line segments.

If funding is not made available, staff would need to develop a plan for operations on the track segments with deferred rehabilitation. This would result in slow orders on the impacted segments and cause significant service impacts. Slow orders would be imposed beginning in June 2017. The corresponding typical increase in run-times for a Valley, Ventura or San Bernardino Line train trip could be 10 to 15 minutes. Weight limits on bridges may also need to be imposed,

restricting the gross weight for freight cars from 315,000 down to 286,000 pounds. The freight railroads would be very concerned about this course of action and likely reduce their freight revenue contributions to the Authority or take other action.

Los Angeles Union Station Canopies

During the FY17 Budget Process, a letter from the Los Angeles County Metropolitan Transportation Authority (Metro) was provided to the Authority describing an urgent need for the Rehabilitation of the Los Angeles Union Station (LAUS) Canopies as shown on Attachment F. As a result of reduced funding for rehabilitation in the FY17 adopted budget, this project was cut from the original five platforms to only two. In the course of bid solicitation, it has been found that original estimates did not take into account railroad specific requirements, and that performing rehabilitation work on only two platforms, instead of all five at the same time, will be far more expensive per platform. Therefore, staff is requesting the funding to rehabilitate all platform canopies at the same time. Member shares for additional platform canopy funding are as shown on Attachment G.

Grade Crossings at Sierra and Juniper Avenues

The City of Fontana and San Bernardino Line Bernardino Associated Governments (SANBAG) are undertaking a project to improve the Sierra Avenue and Juniper Avenue highway-rail crossings on the San Bernardino Line. Funding is requested in order to complete the Authority's rehabilitation portion of the project concurrently with the crossing improvement work being undertaken by SANBAG. This rehabilitation project requires an amount of $493,350, which would be shared by SANBAG and Metro.

Total Member Agency Shares

Total Member Agency shares associated with this preliminary budget amendment are as shown on Attachment H. This request has been discussed multiple times with the Technical Advisory Committee (TAC) and the Member Agencies. Staff will continue to work with the TAC with Member Agencies regarding rehabilitation project delivery timelines and cash flow requirements. Budget amendments would be brought before the Member Agencies' Boards to request amounts for specific projects as those projects are agreed to by Member Agencies, with the timing based on budget authorization necessary to make contract awards. For the all-share projects for LAUS and the East Bank on the River Subdivision, all Member Agencies' contributions are required, otherwise the projects cannot proceed.

Budget Impact

Board approval of these recommended actions would not increase the amount of the FY 2016-17 Budget – Capital Rehabilitation until such time as amendments to the FY 2016-17 Budget covering specific projects are presented to and approved by the Board, which may total up to $49,202,650. Staff will return to the Board with requested amendments to the FY 2016-17 Adopted Budget as funding amounts and timing of Member Agency approvals are finalized.

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Ronnie Campbell
Chief Financial Officer

Elissa K. Konove
Deputy Chief Executive Officer

ATTACHMENT A

HISTORICAL REHABILITATION PROGRAM BUDGET (Excluding Rotem Settlement):
(000's)

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
$ 32,441	$ 28,542	$ 45,165	$ 46,728	$ 25,086	$ 17,954	$ 27,836	$ 33,837	$ 25,796	$ 21,054	$ 29,779

ATTACHMENT B

Historic Metrolink Rehabilitation Funding for Track and Structures

Row Labels	2012-13	2013-14	2014-15	2015-16	2016-17	Grand Total	Average	# of Bridges	# of Culverts	# of Tunnels	Track Miles
Structures	**$1,986,786**	**$545,000**	**$11,563,594**	**$3,466,107**	**$4,060,460**	**$21,621,947**	**$4,324,389**	**261**	**580**	**6**	
Olive			$693,362			$693,362	$138,672	6	13		
Orange	$1,242,000	$75,000	$7,074,482	$2,725,000	$485,000	$11,601,482	$2,320,296	54	108		
River	$155,250		$76,976			$232,226	$46,445	14	5		
San Gabriel			$80,000	$112,000	$168,000	$360,000	$72,000	33(LA)/ 26(SB)	66(LA)/ 36(SB)		
Valley	$372,600	$350,000	$2,086,056		$867,860	$3,676,516	$735,303	57	207	3	
Ventura (LA)	$197,032		$497,941			$694,973	$138,995	25	19	3	
Ventura (VC)	$19,904	$120,000	$1,054,777	$629,107	$2,539,600	$4,363,388	$872,678	18	35		
Track	**$5,449,694**	**$10,310,233**	**$7,132,621**	**$4,910,650**	**$14,849,853**	**$42,653,050**	**$8,530,610**				**400**
Olive		$397,936	$6,638	$318,000		$722,574	$144,515				5.98
Orange	$3,245,916	$3,643,416	$462,300	$2,137,750	$6,912,120	$16,401,502	$3,280,300				78.93
Pasadena		$745,531	$375,000			$1,120,531	$224,106				16.52
Redlands				$300,000		$300,000	$60,000				
River	$310,501	$200,000	$3,623,024		$4,899,216	$9,032,741	$1,806,548				32.53
San Gabriel	$496,800	$1,340,000	$1,438,000	$1,640,200	$1,305,300	$6,220,300	$1,244,060				45.60(LA)/ 33.43(SB)
System	$310,500	$1,677,000	$800,000			$2,787,500	$557,500				
Valley	$335,603	$1,375,000	$82,228		$1,400,000	$3,192,831	$638,566				98.73
Ventura (LA)	$543,375	$178,350	$25,896			$747,621	$149,524				32.85
Ventura (VC)	$207,000	$753,000	$319,535	$514,700	$333,217	$2,127,452	$425,490				20.06

ATTACHMENT C

Rehabilitation Projects to Avoid Slow Orders

Subdivision	Location	Quantity/Cost														Total Track and Structures	Speed Reduction/Weight Limit	Timeline				
		Rail		Ties		Crossing		Turnouts		Subtotal Track	Bridge		Culvert		Subtotal Bridges/Culverts			Project Type	Advertise Contract	Award Contract	Begin Construction	End Construction
Valley	A: Santa Clarita to Palmdale			8450	$2,112,500	1	$400,000	1	$500,000	$3,012,500	13	$9,160,000	15	$5,320,000	$14,480,000	$17,492,500	10 MPH Speed Reduction **Reduce Gross Weight from 315,000 to 286,000 lbs	Track Projects Bridge Projects Culvert Projects	2/28/2017 8/1/2017 2/28/2017	4/30/2017 10/1/2017 4/30/2017	6/1/2017 11/1/2017 6/1/2017	12/31/2017 11/1/2018 12/31/2017
	B: Glendale to Burbank			8000	$2,000,000					$2,000,000	2	$1,760,000	0	$0	$1,760,000	$3,760,000	10 MPH Speed Reduction **(See above)	Track Projects Bridge Projects Culvert Projects	2/28/2017 8/1/2017 2/28/2017	4/30/2017 10/1/2017 4/30/2017	6/1/2017 11/1/2017 6/1/2017	12/31/2017 11/1/2018 12/31/2017
Ventura	A: Chatsworth to Burbank Airport			12000	$3,000,000			1	$375,000	$3,375,000	2	$2,800,000	0	$0	$2,800,000	$6,175,000	10 MPH Speed Reduction **(See above)	Track Projects Bridge Projects Culvert Projects	2/28/2017 8/1/2017 2/28/2017	4/30/2017 10/1/2017 4/30/2017	6/1/2017 11/1/2017 6/1/2017	12/31/2017 11/1/2018 12/31/2017
	B: Moorpark to Simi Valley	3150*	$412,500	7600	$1,900,000	2	$800,000	1	$375,000	$3,487,500	2	$1,310,400	1	$150,000	$1,460,400	$4,947,900	10 MPH Speed Reduction **(See above)	Track Projects Bridge Projects Culvert Projects	2/28/2017 8/1/2017 2/28/2017	4/30/2017 10/1/2017 4/30/2017	6/1/2017 11/1/2017 6/1/2017	12/31/2017 11/1/2018 12/31/2017
San Gabriel	A: Montclair to Rialto			9000	$2,250,000					$2,250,000	1	$1,400,000	0	$0	$1,400,000	$3,650,000	10 MPH Speed Reduction **(See above)	Track Projects Bridge Projects Culvert Projects	2/28/2017 8/1/2017 2/28/2017	4/30/2017 10/1/2017 4/30/2017	6/1/2017 11/1/2017 6/1/2017	12/31/2017 11/1/2018 12/31/2017
	B: Baldwin Park to Covina					1	$400,000			$400,000	0	$0	0	$0	$0	$400,000	10 MPH Speed Reduction	Track Projects Bridge Projects Culvert Projects	2/28/2017 8/1/2017 2/28/2017	4/30/2017 10/1/2017 4/30/2017	6/1/2017 11/1/2017 6/1/2017	12/31/2017 11/1/2018 12/31/2017
River	A: LAUS	1800	$225,000	5300	$1,325,000			1	$550,000	$2,100,000	0	$0	0	$0	$0	$2,100,000	5 MPH Speed Reduction	Track Projects Bridge Projects Culvert Projects	2/28/2017 8/1/2017 2/28/2017	4/30/2017 10/1/2017 4/30/2017	6/1/2017 11/1/2017 6/1/2017	12/31/2017 11/1/2018 12/31/2017
	B: East Bank	31680	$3,960,000	5000	$1,250,000			3*	$1,622,400	$6,832,400	0	$0	0	$0	$0	$6,832,400	10 MPH Speed Reduction	Track Projects Bridge Projects Culvert Projects	2/28/2017 8/1/2017 2/28/2017	4/30/2017 10/1/2017 4/30/2017	6/1/2017 11/1/2017 6/1/2017	12/31/2017 11/1/2018 12/31/2017

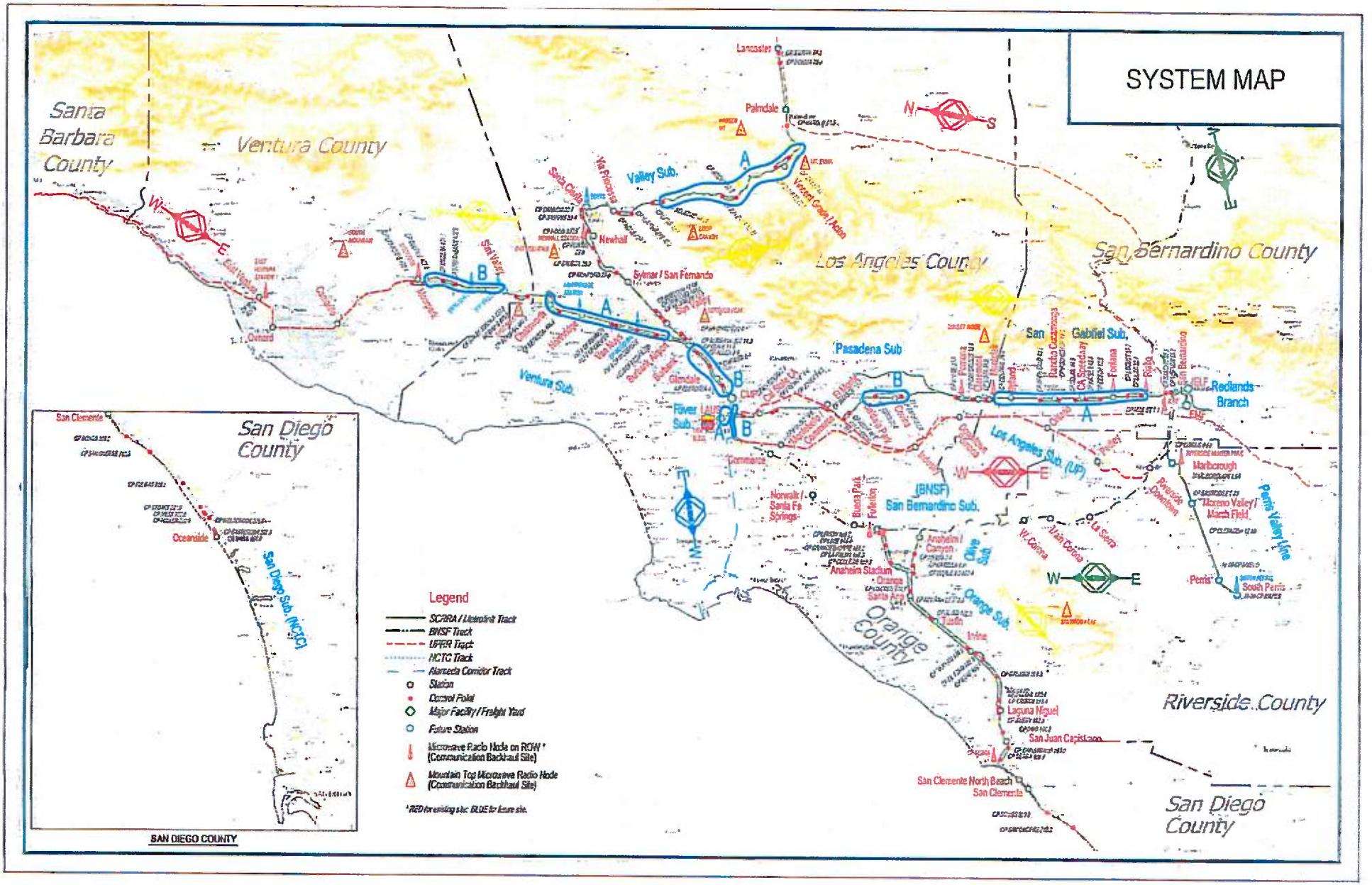
*Reduced from Previous Totals

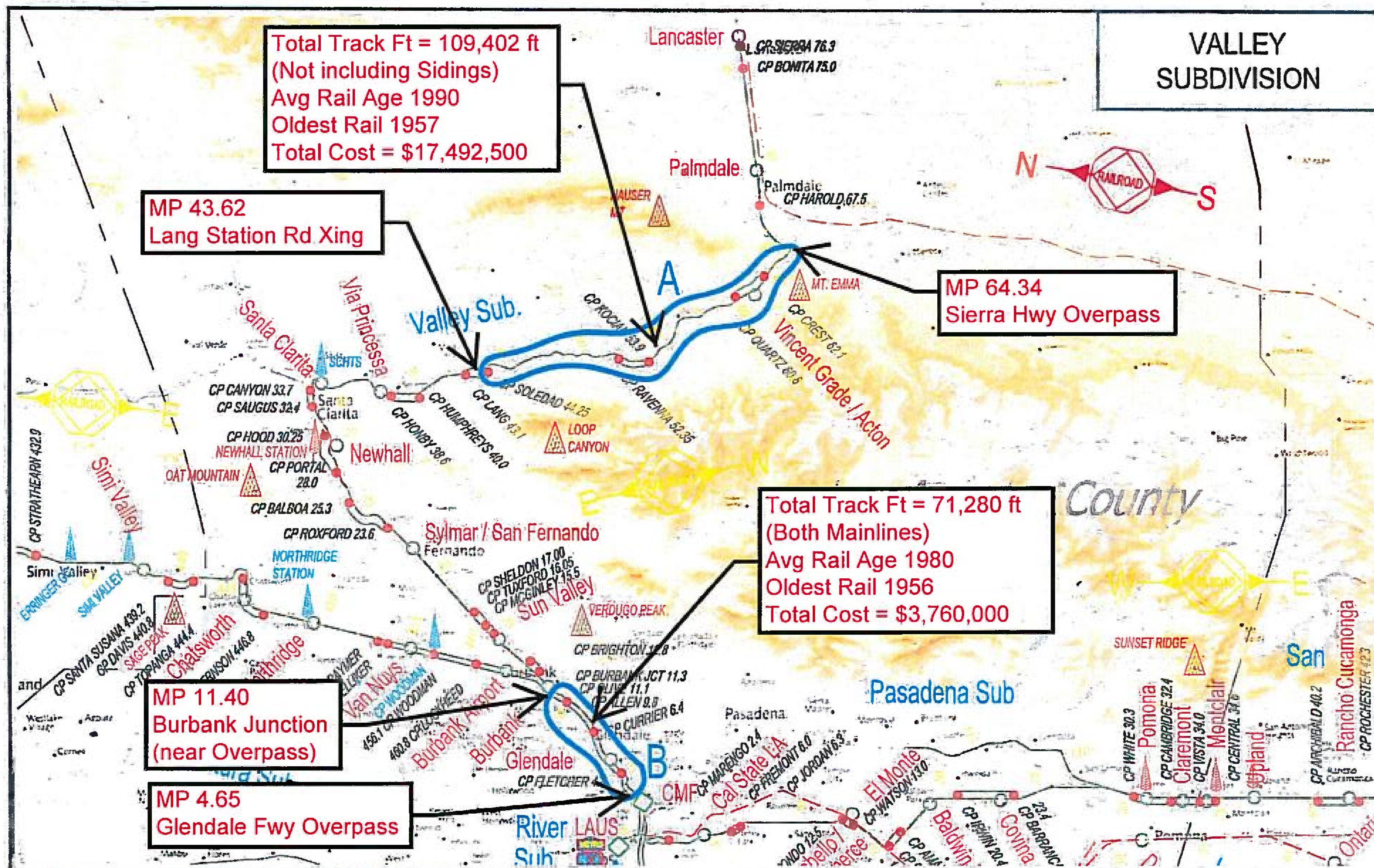
TOTAL FUNDING NEED TO AVOID SLOW ORDERS $45,357,800

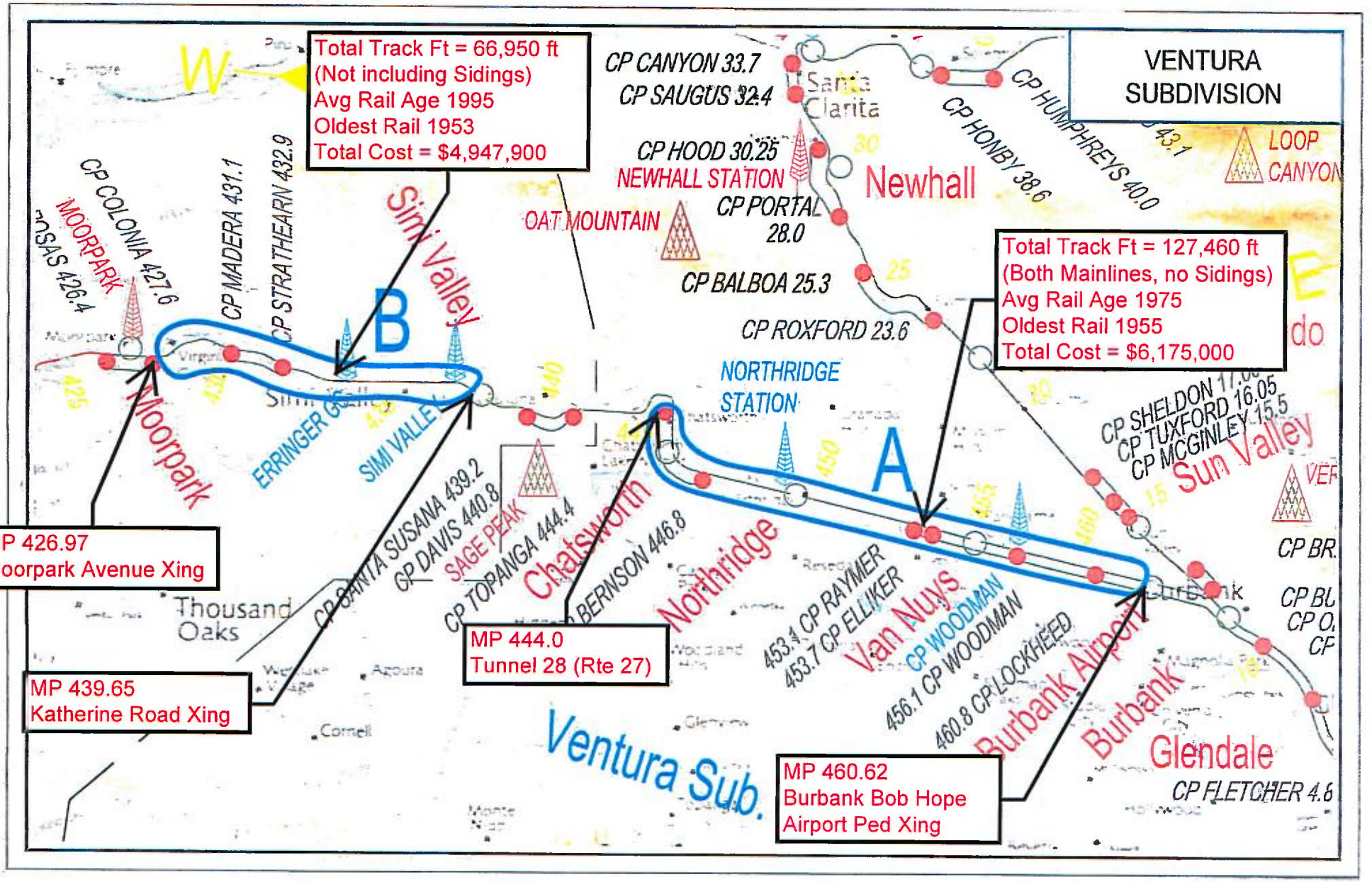
Summary Table By Member Agency

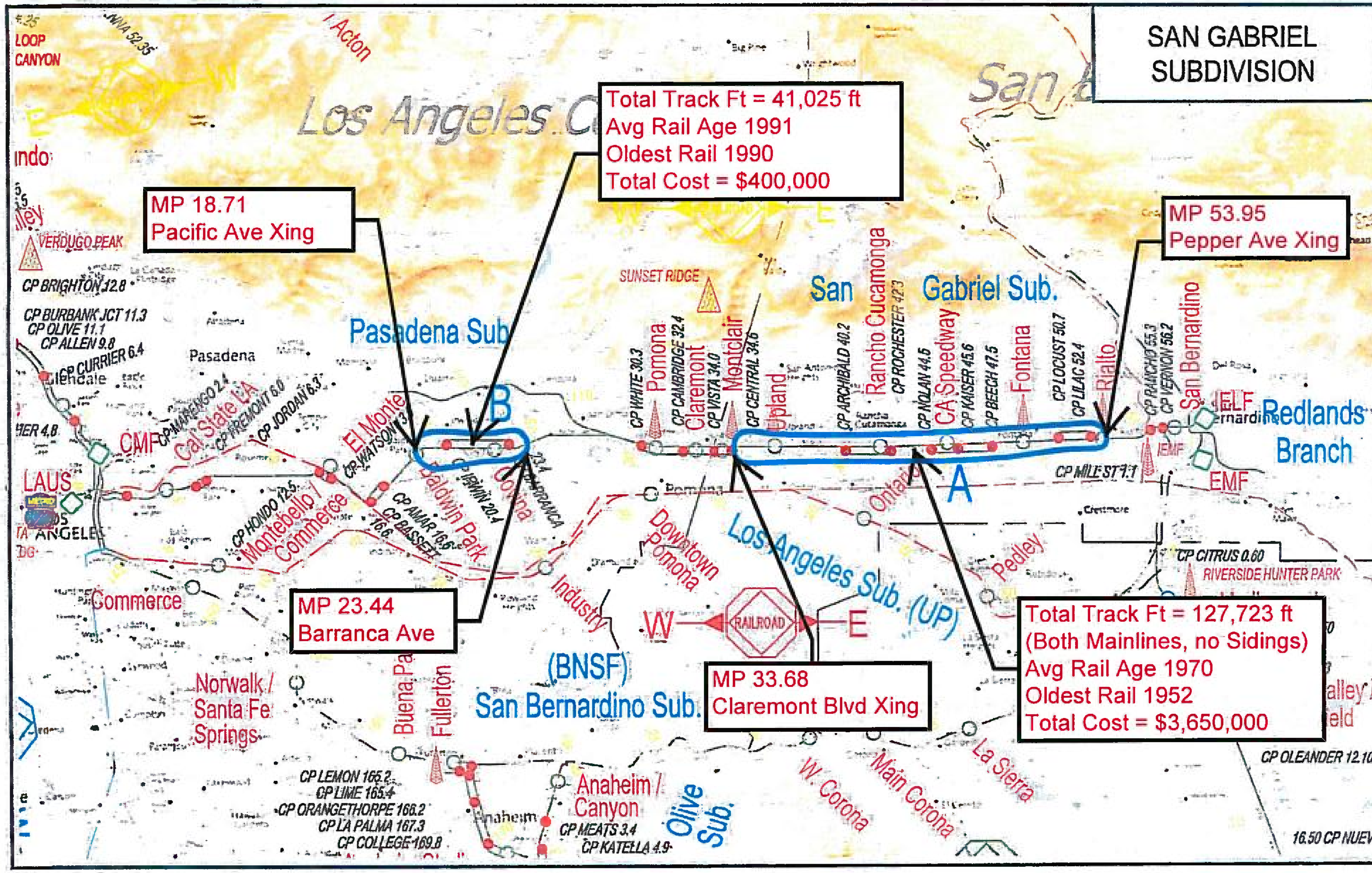
Subdivision		Location	TOTAL	METRO	OCTA	RCTC	SANBAG	VCTC	UPRR
Valley	A	SCR to PMD	$17,492,500	$17,492,500					
Valley	B	GDL to BUR	$3,760,000	$3,760,000					
Ventura	A	CWT-BBA	$6,175,000	$6,175,000					
Ventura	B	MPK-SIM	$4,947,900					$4,947,900	
San Gabriel	A	MCL-RIA	$3,650,000	$2,190,000			$1,460,000		
San Gabriel	B	BWP-COV	$400,000	$240,000			$160,000		
River	A	LAUS	$2,100,000	$997,500	$415,800	$233,100	$302,400	$151,200	
River EB*	B	East Bank	$6,832,400	$1,009,316	$420,726	$235,861	$305,982	$152,991	$4,707,524
Sub-Total (A)	A		$29,417,500	$26,855,000	$415,800	$233,100	$1,762,400	$151,200	$0
Sub-Total (B)	B		$15,940,300	$5,009,316	$420,726	$235,861	$465,982	$5,100,891	$4,707,524
Grand Total			**$45,357,800**	**$31,864,316**	**$836,526**	**$468,961**	**$2,228,382**	**$5,252,091**	**$4,707,524**

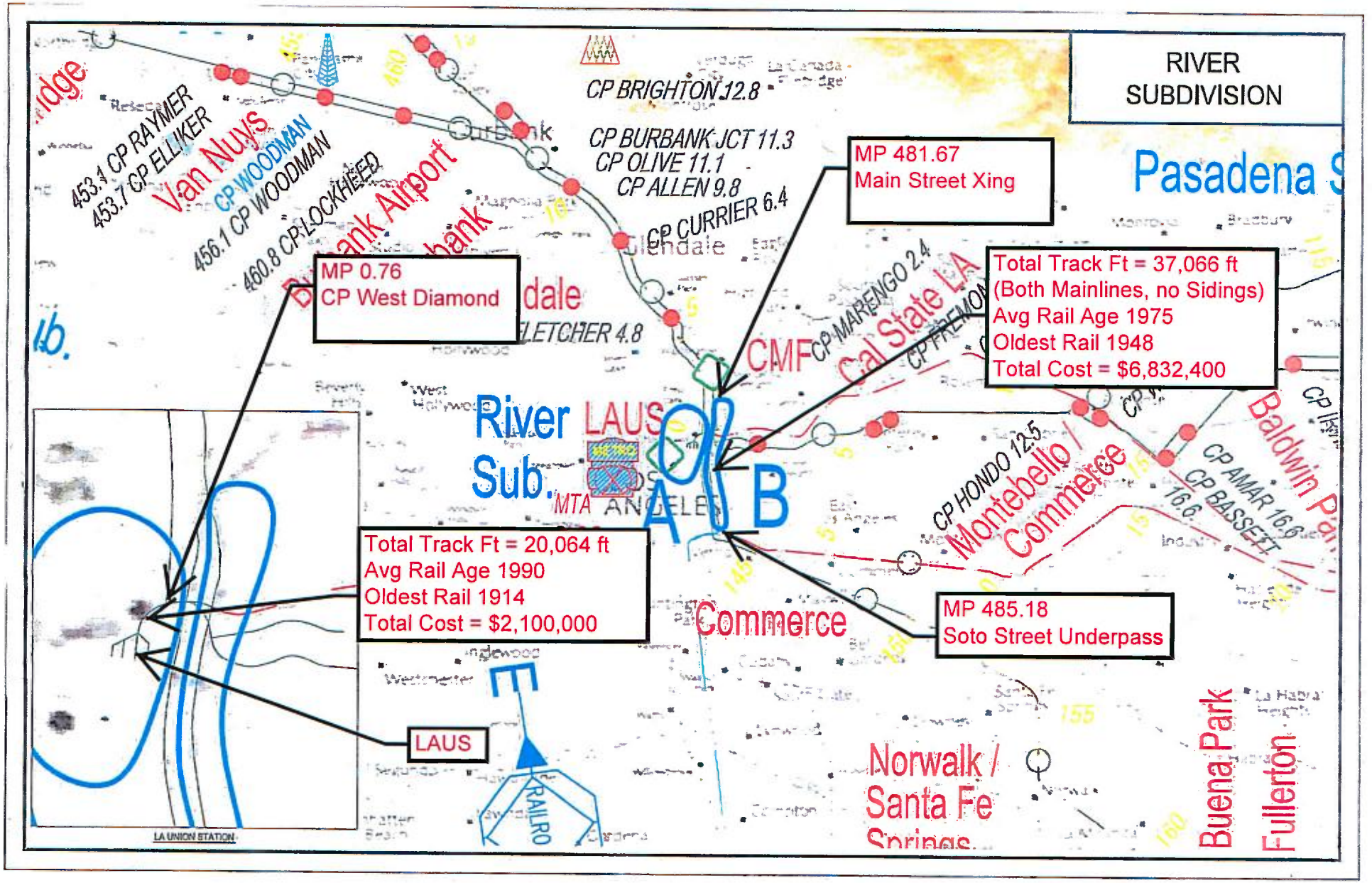
*For Costing Purposes, East Bank assumes Zone 2 location and UPRR Share of 68.9%


SYSTEM MAP
Santa Barbara County
Ventura County
Los Angeles County
San Bernardino County
Orange County
Riverside County
San Diego County
Lancaster
Palmdale
Valley Sub.
Vincent Grade / Acton
Santa Clarita
Via Princessa
Newhall
Sylmar / San Fernando
San Fernando Valley
Chatsworth
Simi Valley
Moorpark
Oxnard
Ventura Sub.
Glendale
Pasadena Sub
San Gabriel Sub.
Redlands Branch
Fullerton Sub.
Commerce
Los Angeles Sub. (UP)
(BNSF) San Bernardino Sub.
Norwalk / Santa Fe Springs
Anaheim / Canyon
Anaheim Stadium
Orange
Santa Ana
Orange Sub.
Irvine
Laguna Niguel
San Juan Capistrano
San Clemente North Beach
San Clemente
San Diego Sub. (NCTD)
Oceanside
Riverside Downtown
Marlborough
Moreno Valley / March Field
Perris Valley Line
Perris
South Perris
La Sierra
W. Corona
Main Corona
Legend
SCRRA / Metrolink Track
BNSF Track
UPRR Track
NCTD Track
Alameda Corridor Track
Station
Control Point
Major Facility / Freight Yard
Future Station
Microwave Radio Node on ROW * (Communication Backhaul Site)
Mountain Top Microwave Radio Node (Communication Backhaul Site)
* RED for existing site; BLUE for future site.
SAN DIEGO COUNTY


VALLEY
SUBDIVISION
Total Track Ft = 109,402 ft
(Not including Sidings)
Avg Rail Age 1990
Oldest Rail 1957
Total Cost = $17,492,500
MP 43.62
Lang Station Rd Xing
MP 64.34
Sierra Hwy Overpass
Total Track Ft = 71,280 ft
(Both Mainlines)
Avg Rail Age 1980
Oldest Rail 1956
Total Cost = $3,760,000
MP 11.40
Burbank Junction
(near Overpass)
MP 4.65
Glendale Fwy Overpass
A
B
N
S
Lancaster
CP SIERRA 76.3
CP BONITA 75.0
Palmdale
CP HAROLD 67.5
MT. EMMA
CP CREST 62.1
CP QUARTZ 60.6
Vincent Grade / Acton
CP RAVENNA 52.35
CP SOLEDAD 44.25
CP LANG 43.1
CP HUMPHREYS 40.0
CP HONBY 38.6
LOOP CANYON
Valley Sub.
Via Princessa
Santa Clarita
CP CANYON 33.7
CP SAUGUS 32.4
CP HOOD 30.25
NEWHALL STATION
Newhall
OAT MOUNTAIN
CP PORTAL 28.0
CP BALBOA 25.3
CP ROXFORD 23.6
Sylmar / San Fernando
CP STRATHEARN 432.9
Simi Valley
NORTHRIDGE STATION
CP SHELDON 17.00
CP TUXFORD 16.05
CP MCGINLEY 15.5
Sun Valley
VERDUGO PEAK
CP BRIGHTON
CP BURBANK JCT 11.3
CP CURRIER 6.4
CP SANTA SUSANA 439.2
CP DAVIS 440.8
SAGE PEAK
CP TOPANGA 444.4
Chatsworth
Van Nuys
CP WOODMAN
Burbank Airport
Burbank
Glendale
CP FLETCHER
River
Sub
LAUS
CMF
CP MARENGO 2.4
Cal State LA
CP FREMONT 6.0
CP JORDAN 6.9
Pasadena
Pasadena Sub
El Monte
CP WATSON 13.0
Baldwin
CP IRWIN 20.4
Covina
SUNSET RIDGE
County
San
CP WHITE 30.3
Pomona
CP CAMBRIDGE 32.4
Claremont
CP VISTA 34.0
Montclair
Upland
CP ARCHIBALD 40.2
Rancho Cucamonga
CP ROCHESTER 42.3
Ontario


Total Track Ft = 66,950 ft
(Not including Sidings)
Avg Rail Age 1995
Oldest Rail 1953
Total Cost = $4,947,900
VENTURA SUBDIVISION
Total Track Ft = 127,460 ft
(Both Mainlines, no Sidings)
Avg Rail Age 1975
Oldest Rail 1955
Total Cost = $6,175,000
MP 426.97
Moorpark Avenue Xing
MP 439.65
Katherine Road Xing
MP 444.0
Tunnel 28 (Rte 27)
MP 460.62
Burbank Bob Hope
Airport Ped Xing
CP CANYON 33.7
CP SAUGUS 32.4
CP HOOD 30.25
NEWHALL STATION
CP PORTAL 28.0
CP BALBOA 25.3
CP ROXFORD 23.6
NORTHRIDGE STATION
CP HONBY 38.6
CP HUMPHREYS 40.0
CP COLONIA 427.6
CP MADERA 431.1
CP STRATHEARN 432.9
CP SAS 426.4
CP SANTA SUSANA 439.2
GP DAVIS 440.8
CP TOPANGA 444.4
CP BERNSON 446.8
453.1 CP RAYMER
453.7 CP ELLIKER
CP WOODMAN
456.1 CP WOODMAN
460.8 CP LOCKHEED
CP SHELDON 17.0
CP TUXFORD 16.05
CP MCGINLEY 15.5
CP FLETCHER 4.6
Moorpark
Simi Valley
Thousand Oaks
Chatsworth
Northridge
Van Nuys
Burbank Airport
Burbank
Glendale
Sun Valley
Newhall
Santa Clarita
OAT MOUNTAIN
SAGE PEAK
ERRINGER GRADE
SIMI VALLEY
LOOP CANYON
Ventura Sub.
A
B


SAN GABRIEL SUBDIVISION
Total Track Ft = 41,025 ft
Avg Rail Age 1991
Oldest Rail 1990
Total Cost = $400,000
MP 18.71
Pacific Ave Xing
MP 23.44
Barranca Ave
MP 33.68
Claremont Blvd Xing
MP 53.95
Pepper Ave Xing
Total Track Ft = 127,723 ft
(Both Mainlines, no Sidings)
Avg Rail Age 1970
Oldest Rail 1952
Total Cost = $3,650,000
A
B
Los Angeles
San Gabriel Sub.
Pasadena Sub
Los Angeles Sub. (UP)
San Bernardino Sub.
(BNSF)
Olive Sub.
Redlands Branch
LOOP CANYON
Acton
VERDUGO PEAK
SUNSET RIDGE
CP BRIGHTON 12.8
CP BURBANK JCT 11.3
CP OLIVE 11.1
CP ALLEN 9.8
CP CURRIER 6.4
Pasadena
CMF
Cal State LA
CP MARENGO 2.4
CP FREMONT 6.0
CP JORDAN 6.3
El Monte
CP WATSON 13
LAUS
Commerce
CP HONDO 12.5
Montebello / Commerce
CP AMAR 16.6
CP BASSETT 16.6
Baldwin Park
IRWIN 20.4
Covina
23.4 BARRANCA
Industry
Downtown Pomona
Norwalk / Santa Fe Springs
Buena Pa
Fullerton
CP LEMON 165.2
CP LIME 165.4
CP ORANGETHORPE 166.2
CP LA PALMA 167.3
CP COLLEGE 169.8
Anaheim
Anaheim / Canyon
CP MEATS 3.4
CP KATELLA 4.9
CP WHITE 30.3
Pomona
CP CAMBRIDGE 32.4
Claremont
CP VISTA 34.0
Montclair
CP CENTRAL 34.6
Upland
CP ARCHIBALD 40.2
Rancho Cucamonga
CP ROCHESTER 42.3
CP NOLAN 44.5
CA Speedway
CP KAISER 45.6
CP BEECH 47.5
Fontana
CP LOCUST 50.7
CP LILAC 52.4
Rialto
CP RANCHO 55.3
CP VERNON 56.2
San Bernardino
EMF
CP MILE ST 1.1
Ontario
Pedley
RAILROAD
W
E
CP CITRUS 0.60
RIVERSIDE HUNTER PARK
W. Corona
Main Corona
La Sierra
CP OLEANDER 12.10
16.50 CP NUEV


RIVER SUBDIVISION
MP 0.76
CP West Diamond
MP 481.67
Main Street Xing
Total Track Ft = 37,066 ft
(Both Mainlines, no Sidings)
Avg Rail Age 1975
Oldest Rail 1948
Total Cost = $6,832,400
Total Track Ft = 20,064 ft
Avg Rail Age 1990
Oldest Rail 1914
Total Cost = $2,100,000
MP 485.18
Soto Street Underpass
LAUS
CP BRIGHTON 12.8
CP BURBANK JCT 11.3
CP OLIVE 11.1
CP ALLEN 9.8
CP CURRIER 6.4
CP RAYMER
CP ELLIKER
CP WOODMAN
CP LOCKHEED
CP MARENGO 2.4
CP HONDO 12.5
CP AMAR 16.6
CP BASSETT 16.6
CMF
River Sub.
Van Nuys
Burbank Airport
Cal State LA
Commerce
Montebello / Commerce
Norwalk / Santa Fe Springs
Buena Park
Fullerton
Baldwin Park
Pasadena
LA UNION STATION

ATTACHMENT E

Track and Structures Rehab Projects Priority List

					Condition of Asset								
Sub	Category	Priority	Cost	Scope	Year Built	Engineer's Assessment Rating	Inspector's Condition Rating	Inspection Date	Track Speed (Pass/Frt)	Advertise Contract	Award Contract	Begin Construction	End Construction
Valley	Priority A Bridges	1	$840,000	50.64: Replace rail top	1909	3.2	5	7/14/16	35/30	8/1/2017	10/1/2017	11/1/2017	2/1/2018
		2	$840,000	50.51: Replace rail top	1909	3.3	5	7/14/16	35/30	8/1/2017	10/1/2017	11/1/2017	2/1/2018
		3	$840,000	46.91: Replace rail top	1938	3.3	5	7/22/16	44/30	8/1/2017	10/1/2017	11/1/2017	2/1/2018
		4	$840,000	50.77: Replace rail top	1909	3.4	5	7/13/16	35/30	8/1/2017	10/1/2017	2/1/2018	5/1/2018
		5	$500,000	47.45: Replace rail top	1938	3.4	5	7/20/16	35/30	8/1/2017	10/1/2017	2/1/2018	5/1/2018
		6	$840,000	50.46: Replace rail top	1909	3.5	5	7/15/16	35/30	8/1/2017	10/1/2017	2/1/2018	5/1/2018
		7	$500,000	52.66: Replace rail top	1930	3.5	5	7/12/16	28/25	8/1/2017	10/1/2017	2/1/2018	5/1/2018
		8	$500,000	44.38: Replace rail top	1944	3.5	5	8/4/16	34/30	8/1/2017	10/1/2017	5/1/2018	8/1/2018
		9	$500,000	55.19: Replace rail top	1944	3.5	5	7/11/16	50/35	8/1/2017	10/1/2017	5/1/2018	8/1/2018
		10	$840,000	47.03: Replace rail top	1938	3.6	5	7/21/16	44/30	8/1/2017	10/1/2017	5/1/2018	8/1/2018
		11	$1,120,000	47.33: Replace rail top	1938	3.6	5	7/21/16	35/30	8/1/2017	10/1/2017	5/1/2018	8/1/2018
		12	$500,000	48.08: Replace rail top	1938	3.6	4	7/19/16	35/30	8/1/2017	10/1/2017	5/1/2018	8/1/2018
		13	$500,000	54.05: Replace rail top	1946	3.6	5	7/12/16	50/35	8/1/2017	10/1/2017	5/1/2018	8/1/2018
		Subtotal	$9,160,000										
	Priority B Bridges	1	$500,000	8.41: Replace rail top	1906	3.9	5	9/20/16	79/55	8/1/2017	10/1/2017	8/1/2018	11/1/2018
		2	$1,260,000	10.63: Replace rail top	1906	3.9	5	9/19/16	79/55	8/1/2017	10/1/2017	8/1/2018	11/1/2018
		Subtotal	$1,760,000										
	Priority A Culverts	1	$350,000	55.91: Replace clay pipe - collapsed	1922	3.2	4	8/13/15	59/45	2/28/2017	4/30/2017	6/1/2017	8/1/2017
		2	$350,000	53.84: Replace timber box	1904	3.3	4	8/17/15	39/25	2/28/2017	4/30/2017	6/1/2017	8/1/2017
		3	$280,000	49.99: Replace timber box	1922	3.4	4	11/9/15	29/25	2/28/2017	4/30/2017	6/1/2017	8/1/2017
		4	$280,000	44.16: Replace timber box	1939	3.4	4	1/5/16	39/30	2/28/2017	4/30/2017	7/1/2017	9/1/2017
		5	$280,000	50.57: Replace timber box	1950	3.4	4	10/30/15	35/30	2/28/2017	4/30/2017	7/1/2017	9/1/2017
		6	$280,000	55.75: Replace timber box	1927	3.5	5	8/13/15	47/35	2/28/2017	4/30/2017	7/1/2017	9/1/2017
		7	$280,000	48.74: Replace clay pipe - joint displacement	1900	3.5	4	11/11/15	29/25	2/28/2017	4/30/2017	8/1/2017	10/1/2017
		8	$280,000	displacement	1922	3.6	5	8/17/15	50/35	2/28/2017	4/30/2017	8/1/2017	10/1/2017
		9	$350,000	displacement	1922	3.6	4	8/13/15	50/35	2/28/2017	4/30/2017	8/1/2017	10/1/2017
		10	$420,000	66.78: Replace RCP - separated joints	1921	3.7	4	8/4/15	79/60	2/28/2017	4/30/2017	9/1/2017	11/1/2017
		11	$700,000	52.99: Replace aged cast iron pipe	1900	3.7	3	10/26/15	39/25	2/28/2017	4/30/2017	9/1/2017	11/1/2017
		12	$280,000	added	1988	3.8	4	11/9/15	29/25	2/28/2017	4/30/2017	9/1/2017	11/1/2017
		13	$420,000	49.53: Replace aged cast iron pipe	1900	3.8	5	11/10/15	29/25	2/28/2017	4/30/2017	10/1/2017	12/31/2017
		14	$350,000	52.32: Replace aged cast iron pipe	1900	3.9	5	10/27/15	35/30	2/28/2017	4/30/2017	10/1/2017	12/31/2017
		15	$420,000	52.38: Replace aged cast iron pipe	1900	3.9	5	10/27/15	35/30	2/28/2017	4/30/2017	10/1/2017	12/31/2017
		Subtotal	$5,320,000										

Track and Structures Rehab Projects Priority List

					Condition of Asset								
Sub	Category	Priority	Cost	Scope	Year Built	Engineer's Assessment Rating	Inspector's Condition Rating	Inspection Date	Track Speed (Pass/Frt)	Advertise Contract	Award Contract	Begin Construction	End Construction
		Priority	Cost	Scope	Condition Notes				Speed	Timeline			
	Priority A Track	1	$500,000	2500 Ties between MP 46 - MP 48, MP 63 - MP 64	Over 30% of the wood ties in this segment need to be replaced.				49/35	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		2	$825,000	3000 Ties between MP 52 - MP 54	Approximately 25% of the wood ties in this segment need to be replaced.				40/30	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		3	$400,000	Lang Station Rd Crossing	Crossing and track structure need to be replaced.(Main Track and Siding)				39/30	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		4	$787,500	2950 Ties between MP 54 - MP 59	Up to 20% of the wood ties in this segment need to be replaced.				59/45	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		5	$500,000	Acton Spur Turnout	Spur was constructed in 1966. Speed in siding was just raised due to Acton Project. Turnout needs to be replaced.				49/35	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		Subtotal	$3,012,500										
	Priority B Track	1	$1,000,000	4000 Ties Between MP 9 - MP 11	Over 30% of the wood ties in this segment need to be replaced.				79/55	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		2	$1,000,000	4000 Ties Between MP 6 - MP 8	Approximately 25% of the wood ties in this segment need to be replaced.				79/55	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		Subtotal	$2,000,000										
	Priority A Bridges	1	$1,960,000	458.71: Replace Timber Trestle - major cracking	1925	3.0	4	3/8/16	79/40	8/1/2017	10/1/2017	11/1/2017	2/1/2018
		2	$840,000	452.1: Replace rail top	1916	3.3	5	3/14/16	70/40	8/1/2017	10/1/2017	11/1/2017	2/1/2018
		Subtotal	$2,800,000										
	Priority B Bridges	1	$655,200	436.96: Replace rail top	1939	3.9	5	4/1/16	79/60	8/1/2017	10/1/2017	8/1/2018	11/1/2018
		2	$655,200	434.12: Replace rail top	1901	3.9	5	4/4/16	73/60	8/1/2017	10/1/2017	8/1/2018	11/1/2018
		Subtotal	$1,310,400										
	Priority B Culverts	1	$150,000	436.46: Replace culvert - part rail top	1925	3.9	4	10/16/14	79/60	2/28/2017	4/30/2017	10/1/2017	12/31/2017
		Subtotal	$150,000										
		Priority	Cost	Scope	Condition Notes				Speed	Timeline			
		1	$675,000	2700 Ties between MP 447 - MP 450	Over 30% of the wood ties in this segment need to be replaced.				70/40	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		2	$325,000	1300 Ties between MP 444 - MP 446	Approximately 25% of the wood ties in this segment need to be replaced.				70/40	2/28/2017	4/30/2017	6/1/2017	12/31/2017

Track and Structures Rehab Projects Priority List

					Condition of Asset								
Sub	Category	Priority	Cost	Scope	Year Built	Engineer's Assessment Rating	Inspector's Condition Rating	Inspection Date	Track Speed (Pass/Frt)	Advertise Contract	Award Contract	Begin Construction	End Construction
Ventura	Priority A Track	3	$375,000	Turnout at MP 460	Turnout needs to be replaced.				79/40	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		4	$200,000	800 Ties Between MP 451 - MP 452	Up to 20% of the wood ties in this segment need to be replaced.				70/40	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		5	$900,000	3600 Ties Between MP 458 - MP 462	Approximately 15% of the wood ties in this segment need to be replaced.				79/40	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		6	$900,000	3600 Ties Between MP 454 - MP 458	Approximately 10% -15% of the wood ties in this segment need to be replaced.				79/40	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		Subtotal	$3,375,000										
	Priority B Track	1	$850,000	3400 Ties between MP 434 - MP 439	Over 30% of the wood ties in this segment need to be replaced.				79/60	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		2	$600,000	2400 Ties Between MP 430 - MP433	Approximately 25% of the wood ties in this segment need to be replaced.				73/60	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		3	$247,500	Rail Replacement - Curve 439.24 (1650')	Curve needs to be transposed from high side to low side, with new rail on the high side. Low Rail has already been transposed and was originally placed in 1966. High Rail is experiencing some gauge and head wear and still has some life in it. Head-Free rail to be replaced as well.				70/40	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		4	$300,000	1200 Ties Between MP 427 - MP 429	Approximately 20% of the wood ties in this segment need to be replaced.				70/40	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		5	$375,000	Turnout at CP Santa Susana	Turnout needs to be replaced.				70/40	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		6	$400,000	Katherine Rd Crossing	Crossing and track structure need to be replaced (Main Track and Siding)				70/40	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		7	$165,000	Rail Replacement - Curve 433.1 (1100')	Curve needs to be transposed.				73/60	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		8	$400,000	Hidden Ranch Drive Crossing	Crossing is 33 years old and needs to be rehabilitated.				70/40	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		9	$150,000	600 Ties Between MP 433 - MP 434	Approximately 15% of the wood ties in this segment need to be replaced.				73/60	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		Subtotal	$3,487,500	***Note: 1350' of rail on another project was removed from the list resulting in a reduction for the Subdivision of $150,000.***									
	Priority A Bridges	1	$1,400,000	40.12: Replace rail top - Under xing	1930	3.4	5	6/29/16	79/55	8/1/2017	10/1/2017	2/1/2018	5/1/2018
		Subtotal	$1,400,000										
		Priority	Cost	Scope	Condition Notes				Speed	Timeline			
		1	$875,000	3500 Ties between MP 34 - MP 38	Over 30% of the wood ties in this segment need to be replaced.				79/55	2/28/2017	4/30/2017	6/1/2017	12/31/2017

Track and Structures Rehab Projects Priority List

Sub	Category	Priority	Cost	Scope	Condition of Asset: Year Built	Engineer's Assessment Rating	Inspector's Condition Rating	Inspection Date	Track Speed (Pass/Frt)	Advertise Contract	Award Contract	Begin Construction	End Construction
San Gabriel	Priority A Track	2	$700,000	2800 Ties Between MP 47 - MP 51	Approximately 25% of the wood ties in this segment need to be replaced.				79/55	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		3	$300,000	1200 Ties Between MP 52 - MP 54	Approximately 20% of the wood ties in this segment need to be replaced.				79/55	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		4	$375,000	1500 Ties Between MP 42 - MP 45	Approximately 15% of the Wood Ties in this segment need to be replaced.				79/55	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		Subtotal	$2,250,000										
	Priority B Track	1	$400,000	Lark Ellen Crossing	Crossing needs rehabilitation.				60/30	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		Subtotal	$400,000										
River Sub		**Priority**	**Cost**	**Scope**	**Condition Notes**				**Speed**	**Timeline**			
	Priority A Track	1	$225,000	Replace Leads into Union Station	Leads into union station have curve wear and need new rail.				25/5	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		2	$1,325,000	Replace 5300 Ties on West Bank	Approximately 21% of the wood ties on the West Bank need to be replaced.				79/40	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		3	$550,000	Replace Turnouts at CP Taylor	2 Turnouts at CP Taylor already replaced, 2 more need to be replaced.				50/40	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		Subtotal	$2,100,000										
	Priority B Track	1	$5,210,000	Replace 3 miles of Rail and 25% Ties	MT2 several areas that are susceptible for rail defects due to the high density of train traffic, the amount of plugged rail through the years, and the age of the existing 133 lb rail which does not meet SCRRA standards. This project was initially proposed as rail and ties separately, and the agency only received funding for 2/3's of the ties needed and none of the rail. Ideally we would complete these projects together, along with the funding for FY15, where we are doing the same scope of work for MT1. Funding for this project is efficient use of member agency funds due to high UPRR contribution percentages. However, it does take longer to obtain funds from UPRR and plan the work due to their contributions and funding agreements.				70/30	2/28/2017	4/30/2017	6/1/2017	12/31/2017

Track and Structures Rehab Projects Priority List

					Condition of Asset								
Sub	Category	Priority	Cost	Scope	Year Built	Engineer's Assessment Rating	Inspector's Condition Rating	Inspection Date	Track Speed (Pass/Frt)	Advertise Contract	Award Contract	Begin Construction	End Construction
		2	$1,622,400	Replace 3 turn outs on East Bank	Turnouts on the East Bank are heavily used, and some are over 50 years, while others haven't been replaced since Metrolink began service. Ideally, funding for these would be lined up with the rail and ties, so projects can be completed concurrently.				70/30	2/28/2017	4/30/2017	6/1/2017	12/31/2017
		Subtotal	$6,832,400	***Note: 2 turnouts were removed from the list resulting in a reduction for the Subdivision of $1,000,000.***									

Bridge Condition Code
Condition 1: Failed, immediately stop trains, detailed inspection may be necessary.
Condition 2: Imminent failure, failure could occur at any time, take appropriate action to protect trains, detailed inspection is necessary.
Condition 3: Poor, condition is sound but with serious or advancing problems, take appropriate action to protect trains, detailed inspection may be necessary or note requirement for interim inspections.
Condition 4: Fair, defect is sound with minor problems, interim inspections may be necessary.
Condition 5: Satisfactory, minor exceptions or developing problem noted, monitor for next Periodic Maintenance (General) Inspection.
Condition 6: Good, no problems are detected.

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza,
Los Angeles, CA 90012-2952

Phillip A. Washington
Chief Executive Officer
213.922.7555 Tel
213.922.7447 Fax
washingtonp@metro.net

Metro

January 15, 2016

RECEIVED
JAN 19 2016
OFFICE OF THE CEO

Mr. Arthur Leahy
Chief Executive Officer
Metrolink
One Gateway Plaza, 12th Floor
Los Angeles, CA 90012

Dear Mr. Leahy:

I am writing as a follow-up to our meeting to recap the serious state of good repair issue at Union Station ("LAUS") that requires your attention. Under the terms of the easement agreement under which Metrolink operates the rail yard at Union Station, Metrolink is required to maintain improvements in the yard, including the platforms (attached). Over the last three years, Metro staff has brought to the attention of Metrolink staff the continuing deterioration of the canopies and surface area of the platforms. Metrolink staff, while not disputing Metrolink's obligation with respect to maintenance, has failed to budget for or make the needed improvements.

The canopies that shade the platforms are seriously deteriorated. In addition to the canopies being part of the historic designation of LAUS on the National Registry of Historic Places and thus require protection, the failure to maintain has created a potentially serious safety condition. The lead based paint has not been appropriately cared for and now is flaking and peeling. Rust of the canopies is in some areas so serious that sections of steel are in danger of failing and falling. One in particular is being held up by a "C" clamp. The canopies are designed with a drain system that runs through the center of the structures. The steel has rusted through and rain water is now entering the electrical light system. Water is draining out of energized light fixtures onto the center of the ramps raising concern of potential electrocution. This draining water has caused slip and fall incidents. Some of the eroded drains now deposit water on the platforms causing slick conditions. Concrete spalling on the platforms have created uneven surfaces and trip hazards.

With the looming prospect of El Niño, we agreed it is time for Metrolink to meet their obligations and correct these conditions. I respectfully request that you include in Metrolink's 2017 budget for consideration by the member agencies, sufficient capital funding for these needed improvements, including repairs to the canopies in accordance with Secretary of the Interior's Guidelines for listed properties. My staff is prepared to work with you to develop a work plan and scope such that the improvements can be implemented early in the coming fiscal year.

I appreciate your attention to these issues.

Sincerely,

Phillip A. Washington
Chief Executive Officer

Attachment: Easement

ATTACHMENT G

SCOPE OF WORK - LAUS Platforms 2 thru 6

(1) Remove loose paint from underside of canopies
(2) Repair damaged sheet metal and gutter, seal gutter
(3) Encapsulate lead paint on underside of canopies

	Quantity	Unit	Est Unit Cost	Total Est Cost
Protective enclosure (rented for one year)	1	ea	$ 200,000	$ 200,000
Enclosure installation/dismantle/relocation	50	ea	$ 15,000	$ 750,000
Lift rental (3 total)	6000	hr	$ 50	$ 300,000
Light plant	2	ea	$ 10,000	$ 20,000
Environmental equipment (decontamination trailer & supplies)	12	mo	$ 20,000	$ 240,000
Remove loose paint (assumed 33% of total sq ft)	50000	sf	$ 15	$ 750,000
Encapsulation	152000	sf	$ 5	$ 760,000
Sheet metal/gutter repair (assumed 20% of total sq ft)	30000	sf	$ 15	$ 450,000
Subtotal				$ 3,470,000
Contingency (15%)				$ 520,500
Permits and insurance	1	ls	$ 75,000	$ 75,000
Flagging	240	day	$ 1,500	$ 360,000
Safety & project management	240	day	$ 800	$ 192,000
Total				$ 4,617,500
			Approved in FY17 Capital Budget	$ 1,266,000
		Additional funding required		$ 3,351,500

****

Member Shares:

	TOTAL	LACMTA	OCTA	RCTC	SANBAG	VCTC	OTHER
$	3,351,500	$ 1,225,811	$ 510,970	$ 286,453	$ 371,614	$ 185,807	$ 770,845

ATTACHMENT H

TOTAL MEMBER AGENCY SHARES

REHABILITATION TO AVOID SLOW ORDERS

Subdivision		Location	TOTAL	METRO	OCTA	RCTC	SANBAG	VCTC	UPRR	AMTRAK
Valley	A	SCR to PMD	$17,492,500	$17,492,500						
Valley	B	GDL to BUR	$3,760,000	$3,760,000						
Ventura	A	CWT-BBA	$6,175,000	$6,175,000						
Ventura	B	MPK-SIM	$4,947,900					$4,947,900		
San Gabriel	A	MCL-RIA	$3,650,000	$2,190,000			$1,460,000			
San Gabriel	B	BWP-COV	$400,000	$240,000			$160,000			
River	A	LAUS	$2,100,000	$997,500	$415,800	$233,100	$302,400	$151,200		
River EB*	B	East Bank	$6,832,400	$1,009,316	$420,726	$235,861	$305,982	$152,991	$4,707,524	
Sub-Total (A)	A		$29,417,500	$26,855,000	$415,800	$233,100	$1,762,400	$151,200	$0	
Sub-Total (B)	B		$15,940,300	$5,009,316	$420,726	$235,861	$465,982	$5,100,891	$4,707,524	
REHABILITATION TO AVOID SLOW ORDERS TOTAL			**$45,357,800**	**$31,864,316**	**$836,526**	**$468,961**	**$2,228,382**	**$5,252,091**	**$4,707,524**	
Union Station Platform Rehabilitation			**$3,351,500**	**$1,225,811**	**$510,970**	**$286,453**	**$371,614**	**$185,807**		**$770,845**
Juniper- Sierra Crossing Rehabilitation			**$493,350**	**$296,010**			**$197,340**			
TOTAL			**$49,202,650**	**$33,386,137**	**$1,347,496**	**$755,414**	**$2,797,336**	**$5,437,898**	**$4,707,524**	**$770,845**

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

File #:2016-0891, **File Type:**Policy Agenda Number:39.

FINANCE, BUDGET & AUDIT COMMITTEE
NOVEMBER 16, 2016

SUBJECT: METROLINK REQUEST FOR ADDITIONAL FUNDING FOR TRACK AND STRUCTURE REHABILITATION WORK

ACTION: APPROVE LIMITED PRE-CONTRACT AWARD AUTHORITY TO METROLINK TO INITIATE PROCUREMENT ACTIVITIES

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to provide Metrolink with **"pre-contract award authority" to procure the contracts required for the urgent track and structure rehabilitation work reported by Metrolink** at its Board Meeting on September 23, 2016.

ISSUE

On September 23, 2016, Metrolink staff provided its Board of Directors with a report for track and structure rehabilitation funding that will be required in the next 18 months for track and within 36 months for bridges and culverts totaling approximately $46.5 million. Metrolink staff has indicated that if funding is not made available by the Member Agencies, Metrolink will need to develop a plan for operations with deferred rehabilitation that will likely result in "slow orders" and service disruptions on the impacted segments beginning June 2017 (Please See Attachment A). A slow order is generally initiated when the railroad agency believes that conditions on or about the Rights of Way (ROW) prevent trains from operating at normally designated speeds which could result in substantial delays to riders or a reduction in service. Metrolink has estimated that Metro's share of this appropriation is $32.0 million.

DISCUSSION

In October, Metrolink staff provided the Member Agencies with a report for track and structure rehabilitation funding that will be required in the next 18 months for track and within 36 months for bridges and culverts totaling approximately $46.5 million that were divided into two sets of priority groupings, A and B. Priority A is comprised of a total of $29.4 million and is regarded as a higher priority than Priority B projects totaling $17.1 million. However, Metrolink indicated that both A & B projects are necessary to prevent the imposition of slow orders and service disruptions on the impacted segments beginning as early as June 2017.

While staff agrees that some level of state of good repair is required on the ROW, the prudent

approach is to provide assurance to the Metro Board, prior to any multi-million dollar commitment of funding, that the highest priority rehabilitation projects are addressed in the most expeditious manner, particularly in the event of a risk to the operational safety of our passengers. Therefore, staff has requested Metrolink to provide a prioritized list that identifies the most critical track and structure rehabilitation projects along with a condition assessment rating and provide a detailed project delivery work plan and corresponding cash flow expenditure plan.

Simultaneously, in cooperation with Metrolink, Metro staff is also performing a due diligence review and intends to secure the services of a qualified professional railroad engineering firm from the Regional Rail engineering bench by December 2016 with specialized staffing in railroad track & structures engineering to assist in the verification of project requirements, priorities, current ROW conditions, and validate the estimated costs. However, in the meantime to ensure there is no delay in addressing these potential operational efficiencies or passenger safety issues, staff is proposing a "pre-contract award authority" action plan that authorizes Metrolink to proceed with the development of the necessary scope(s) of work, advertise the contract opportunities, and structure the procurements with a series of options to provide flexibility with respect to the amount of funding available. Metrolink's actual award of contracts would not be authorized until such time as Metro's Board approves an appropriation, which is anticipated to occur prior to April 30, 2017.

As reported to the Board previously, Metro continues to work with Metrolink staff to provide an accounting and reconciliation of previously appropriated funding of approximately $40 million for state of good repair projects dating back to FY11. Finally, in an effort to improve the communication and collaboration between the agencies, a Metrolink/Metro collaborative working group began in May 2016 meeting on a bi-weekly basis to discuss capital project status, agency agreements, risk management, community outreach, funding, operations, planning and performance.

DETERMINATION OF SAFETY IMPACT

The adoption of this recommendation has no safety impact.

FINANCIAL IMPACT

Staff anticipates that an appropriation request with a corresponding work plan could be brought to the Board by April 2017. Funding for the bench consultant is Measure R 3%. These funds are restricted for commuter rail related capital/rehabilitation projects.

ALTERNATIVES CONSIDERED

The Board could chose to not grant "pre-contract award authority" to Metrolink or not engage a consultant to analyze Metrolink's rehabilitation needs of Metro owned ROW. This is not recommended especially since passenger safety and operational efficiency are among the agency's highest priorities. The Board could also instruct staff to defer this request until the consideration of the FY18 Budget. This is not recommended as the process outlined above allows Metrolink to proceed with the procurement of the necessary scope(s) of work, advertise the contract opportunities, and

structure the procurements to lead a more efficient and informed FY18 budget development process.

NEXT STEPS

Upon approval of the Board, staff will:

1. Notify Metrolink of the Board's actions.
2. Continue to perform the due diligence review and secure specialized railroad engineering consultant services from the established Regional Rail bench by December 2016 to evaluate Metrolink's track and structure rehabilitation and SOGR projects.
3. Report back to the Board with an appropriate funding recommendation for track and structures rehabilitation work by April 2017 or sooner.

ATTACHMENTS

Attachment A- Metrolink Board Item #22 dated September 23, 2016

Prepared by: Yvette Reeves, Principal Transportation Planner (213) 922-4612
Drew Phillips, Director of Budget (213) 922-2109
Jeanet Owens, Sr. Executive Officer, Program Management
(213) 922-6877

Reviewed by: Nalini Ahuja, Chief Financial Officer (213) 922-3088
Rick Clark, Chief Program Management Officer (213) 922-7557

Phillip A. Washington
Chief Executive Officer

Los Angeles County
Metropolitan Transportation Authority

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Metro

March 24, 2017

ATTACHMENT C

SUBJECT: METROLINK ASSET INSPECTION SUMMARY: VALLEY, VENTURA & SAN GABRIEL LINES - SUMMARY FINDINGS

Metrolink is responsible for maintaining approximately 400 miles of track in a State of Good Repair. This includes among other assets, the maintenance of 1.1 million rail ties and fasteners, 261 bridges and 580 culverts. In September 2016, Metrolink informed the Board of their intent to implement slow orders predicated on a request for track and structure rehabilitation funding. At that time, Metrolink produced a list of the structures which they had evaluated were in need of immediate repair (Refer to Attachment A: "Priority List").

In response, Metro Engineering staff was directed to inspect as many ties, bridges and culverts to as possible to corroborate and validate the Metrolink Priority List. It was not possible for Metro staff to visit and inspect each asset listed on the Priority List produced by Metrolink due to the urgent nature of the request. Instead, between November 23, 2016 and February 28, 2017 Metro staff inspected twenty nine (29) "Priority A" bridges or culverts from the Metrolink provided Valley, Ventura and San Gabriel Subdivision Line Lists as well as rail ties within the locations visited. In addition to this summary, staff produced individual inspection & observation reports for each of these twenty nine assets inspected.

The following two tables present Metro's independently derived Condition Ratings and Recommendations for each of the inspected assets. Table 1 below, presents the list of inspected structures which Metro Engineering staff have rated as being in 'Poor' structural condition. These ten (10) structures have been identified by Metro staff as requiring replacement within the next 3 years and should be programmed for replacement in the next fiscal cycle. Table 2 below, provides the assessed structural conditions of the remaining 19 structures which were inspected. The structures listed in Table 2 were determined, at the time of inspection, to be in fair to satisfactory condition. (*Individual inspection reports for these 29 structures are available separately upon request*):

Table 1: Subdivision Structures – Identified for Replacement within 3 years:

Line:	Mile Point:	Name:	Age:	Metro Condition Rating:	Metro Recommendation:
Valley	47.45	Bridge 5	79 yrs.	3 (POOR)	Replace.
Valley	50.46	Bridge 6	108 yrs.	3 (POOR)	Replace.
Valley	50.51	Bridge 2	107 yrs.	3 (POOR)	Replace.
Valley	50.64	Bridge 1	107 yrs.	3 (POOR)	Replace.
Valley	50.77	Bridge 4	107 yrs.	3 (POOR)	Replace.

Valley	53.84	Culvert 2	113 yrs.	3 (POOR)	Replace.
Valley	54.13	Culvert 8	95 yrs.	3 (POOR)	Replace.
Valley	55.91	Culvert 1	94 yrs.	3 (POOR)	Replace.
Valley	66.78	Culvert 10	96 yrs.	3 (POOR)	Replace.
Ventura	458.71	Bridge 1	91 yrs.	3 (POOR)	Replace.

Table 2: Subdivision Structures – Which do not Require Immediate Replacement:

Line:	Mile Point:	Name:	Age:	Metro Condition Rating:	Metro Recommendation:
Valley	44.16	Culvert 4	78 yrs.	4 (FAIR)	Replace or reinforce timber ballast & headwalls. Recondition downstream channel.
Valley	44.38	Bridge 8	73 yrs.	5 (SATISFACTORY)	Recondition ballast over bridge due to excessive fine soils deposited.
Valley	46.91	Bridge 3	79 yrs.	4 (FAIR)	Continue monitoring. Consider replacement within ten years.
Valley	47.03	Bridge 10	79 yrs.	4 (FAIR)	Continue monitoring. Consider replacement within ten years.
Valley	47.33	Bridge 11	79 yrs.	4 (FAIR)	Continue monitoring. Consider replacement within ten years.
Valley	48.08	Bridge 12	79 yrs.	5 (SATISFACTORY)	Maintain bridge approach and channel.
Valley	49.53	Culvert 13	117 yrs.	4 (FAIR)	Maintain north bridge approach.
Valley	49.69	Culvert 12	29 yrs.	4 (FAIR)	Maintain bridge approach and channel.
Valley	*49.99*	*Culvert 3*	*95 yrs.*	*N/A*	*Could not inspect – culvert buried.*
Valley	50.57	Culvert 5	66 yrs.	4 (FAIR)	No specific recommendation.
Valley	52.32	Culvert 14	117 yrs.	5 (SATISFACTORY)	No specific recommendation.
Valley	52.38	Culvert 15	117 yrs.	4 (FAIR)	Remove downstream excessive vegetation.
Valley	52.66	Bridge 7	86 yrs.	4 (FAIR)	Maintain approach channel.
Valley	52.99	Culvert 11	117 yrs.	5 (SATISFACTORY)	No specific recommendation.
Valley	54.05	Bridge 13	71 yrs.	4 (FAIR)	Maintain bridge approach and channel.
Valley	55.19	Bridge 9	72 yrs.	5 (SATISFACTORY)	No specific recommendation.
Valley	55.42	Culvert 9	95 yrs.	4 (FAIR)	Clear culvert debris within 1 year.
Valley	55.75	Culvert 6	90 yrs.	4 (FAIR)	No specific recommendation.
Ventura	452.1	Bridge 2	100 yrs.	4 (FAIR)	Clear debris within channel and approach.

ANALYSIS: BRIDGES & CULVERTS

For the twenty-nine (29) 'Priority A' assets inspected, Metro believes that ten (10) of these structures (Table 1) are candidates for near term replacement (within 3 years). The remaining 19 structures (Table 2) were, in Metro's opinion of "fair to satisfactory" condition and do not require immediate replacement within the next three years. Appropriate recommendations for the structures in Table 2 are presented in the right hand column.

Of the ten (10) structures identified for replacement in Table 1, six (6) of these structures are bridges and four (4) are culverts. Metro Cost Estimating Staff has contributed their experience in developing a Rough Order of Magnitude (ROM) cost estimate required to replace these ten assets. Once Design,

Construction and Administrative (Soft) Costs are factored in, Metro's cost estimate did not significantly differ from the amounts requested by Metrolink on a per asset basis. Therefore, Metro agrees with the estimated Life of Project costs for replacement of these 10 structures which are presented in Table 3 below.

Table 3: Estimated Replacement Cost for Structures Identified for Near Term Replacement:

Line:	Mile Point:	Name:	Metrolink's Total: (Dollars)
Valley	47.45	Bridge 5	$ 500,000
Valley	50.46	Bridge 6	$ 840,000
Valley	50.51	Bridge 2	$ 840,000
Valley	50.64	Bridge 1	$ 840,000
Valley	50.77	Bridge 4	$ 840,000
Valley	53.84	Culvert 2	$ 350,000
Valley	54.13	Culvert 8	$ 280,000
Valley	55.91	Culvert 1	$ 350,000
Valley	66.78	Culvert 10	$ 420,000
Ventura	458.71	Bridge 1	$ 1,960,000
		Total:	**$ 7,220,000**

ANALYSIS: RAIL TIES, RAIL, RAIL TURNOUTS, CROSSINGS & COMPONENTS

Metro's Director of Track Work Engineering, Zoric Sheynman, observed the condition of the ties along the Valley Subdivision and agrees that the ties within the zones indicated by Metrolink in *Attachment A*, do require replacement. This would include the 8,450 'Group A' ties and 8,000 Group B Ties identified. The ties are spaced at approximately 20 inches on center; therefore this would result in a total of 5 miles of replacement on the Valley Subdivision. Replacement of these ties would be in compliance with FRA Track Safety Standards Compliance Manual. Therefore, Metro agrees with the estimated costs for replacement of the rail ties for Priority A projects as shown in Attachment A. Staff will work with Metrolink as part of the second phase due diligence review for rail ties on Priority B projects. Elements not inspected by Metro staff during the site visits include track turnouts, crossings, rail tie replacement. Metro staff did not generate independent cost estimates for these components or for the requested new rail spikes, tie plugs, anchors, surfacing and stabilizing procedures required during installation of the ties. These amounts are listed in the Metrolink report.

CONCLUSION:

In conclusion, Metro Engineering's Assessment of Metrolink's provided "Rehabilitation Project Priority List" of 'Priority A' structures (bridges and culverts) is in Metro's opinion, that approximately one-third (33%) of the structures inspected are in "poor" structural condition and should be programmed for replacement (*within 3 years*). However, it should be noted that despite the observed condition ratings, the majority of the inspected structures presented in both Tables 1 and 2 are approaching or exceeding a service life of 100 years and should be programed for replacement within the next ten years (10).

Metro does not intend the list of 10 structures (Table 1) recommended for replacement to be a binding requirement for Metrolink. Instead, this list is meant to provide guidance for programing of funds for the replacement of these assets. Metrolink shall provide an independent assessment to determine which structures should be replaced and in which order. Metro's Independent Cost Estimates (ICE) for these elements did not significantly vary with the estimates provided by Metrolink and Metro agrees with the amounts requested by Metrolink on an asset by asset basis.

Metro agrees that an investment is required to achieve a state of good repair for the areas inspected. As a first investment in a multiyear state of good repair program, Metro recommends the initial allocation of funds to replace the highest priority structures and rail ties requiring remediation. Additional funding can be allocated in future fiscal cycles as needed. The specific assets requiring replacement shall be determined and managed by Metrolink.

Metro has recently contacted (as of early March 2017) a Consultant (WSP/Parsons Brinkerhoff) who will provide a separate independent assessment to further validate the amount of requested structure rehabilitation funding. In the coming months, their effort will further refine the scope required for this SOGR issue.

Regards,

Craig Remley P.E.
Metro Senior Structural Engineer
(213) 922-3981
remleyc@metro.net

Attachments:

Attachment A:

Bridge & Rail Tie Rehabilitation Project Priority List (As Provided by Metrolink, November 2016).

Attachment B:

SCRRA: Bridge and Safety Management Condition and Priority Defect Rating System.

ATTACHMENT A:

Bridge & Culvert - Rehabilitation Project Priority List (As Provided by Metrolink, November 2016):

Bridge Rehab Projects Priority List															
Subdivis	Category	Priority	MP	Cost	Scope	Year Built	Engineer's Assessment Rating	Inspector's Condition Rating	Inspection Date	Begin Contract	Finalize Contract Pkg	Advertise Contract	Award Contract	Begin Construction	End Construction
Valley	Priority A Bridges	1	50.64	$840,000	Replace rail top	1909	3.2	5	7/14/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	11/1/2017	2/1/2018
		2	50.51	$840,000	Replace rail top	1909	3.3	5	7/14/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	11/1/2017	2/1/2018
		3	46.91	$840,000	Replace rail top	1938	3.3	5	7/22/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	11/1/2017	2/1/2018
		4	50.77	$840,000	Replace rail top	1909	3.4	5	7/13/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	2/1/2018	5/1/2018
		5	47.45	$500,000	Replace rail top	1938	3.4	5	7/20/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	2/1/2018	5/1/2018
		6	50.46	$840,000	Replace rail top	1909	3.5	5	7/15/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	2/1/2018	5/1/2018
		7	52.66	$500,000	Replace rail top	1930	3.5	5	7/12/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	2/1/2018	5/1/2018
		8	44.38	$500,000	Replace rail top	1944	3.5	5	8/4/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	5/1/2018	8/1/2018
		9	55.19	$500,000	Replace rail top	1944	3.5	5	7/11/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	5/1/2018	8/1/2018
		10	47.03	$840,000	Replace rail top	1938	3.6	5	7/21/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	5/1/2018	8/1/2018
		11	47.33	$1,120,000	Replace rail top	1938	3.6	5	7/21/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	5/1/2018	8/1/2018
		12	48.08	$500,000	Replace rail top	1938	3.6	4	7/19/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	5/1/2018	8/1/2018
		13	54.05	$500,000	Replace rail top	1946	3.6	5	7/12/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	5/1/2018	8/1/2018
			Subtotal	$9,160,000											
	Priority B Bridges	1	8.41	$500,000	Replace rail top	1906	3.9	5	9/20/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	8/1/2018	11/1/2018
		2	10.63	$1,260,000	Replace rail top	1906	3.9	5	9/19/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	8/1/2018	11/1/2018
			Subtotal	$1,760,000											
	Priority A Culverts	1	55.91	$350,000	Replace clay pipe - collapsed	1922	3.2	4	8/13/15	11/1/2016	1/31/2017	2/28/2017	4/30/2017	6/1/2017	8/1/2017
		2	53.84	$350,000	Replace timber box	1904	3.3	4	8/17/15	11/1/2016	1/31/2017	2/28/2017	4/30/2017	6/1/2017	8/1/2017
		3	49.99	$280,000	Replace timber box	1922	3.4	4	11/9/15	11/1/2016	1/31/2017	2/28/2017	4/30/2017	6/1/2017	8/1/2017
		4	44.16	$280,000	Replace timber box	1939	3.4	4	1/5/16	11/1/2016	1/31/2017	2/28/2017	4/30/2017	7/1/2017	9/1/2017
		5	50.57	$280,000	Replace timber box	1950	3.4	4	10/30/15	11/1/2016	1/31/2017	2/28/2017	4/30/2017	7/1/2017	9/1/2017
		6	55.75	$280,000	Replace timber box	1927	3.5	5	8/13/15	11/1/2016	1/31/2017	2/28/2017	4/30/2017	7/1/2017	9/1/2017
		7	48.74	$280,000	Replace clay pipe - joint displacement	1900	3.5	4	11/11/15	11/1/2016	1/31/2017	2/28/2017	4/30/2017	8/1/2017	10/1/2017
		8	54.13	$280,000	Replace clay pipe - crushing, displacement	1922	3.6	5	8/17/15	11/1/2016	1/31/2017	2/28/2017	4/30/2017	8/1/2017	10/1/2017
		9	55.42	$350,000	Replace cast iron pipe - cracking, displacement	1922	3.6	4	8/13/15	11/1/2016	1/31/2017	2/28/2017	4/30/2017	8/1/2017	10/1/2017
		10	66.78	$420,000	Replace RCP - separated joints	1921	3.7	4	8/4/15	11/1/2016	1/31/2017	2/28/2017	4/30/2017	9/1/2017	11/1/2017
		11	52.99	$700,000	Replace aged cast iron pipe	1900	3.7	3	10/26/15	11/1/2016	1/31/2017	2/28/2017	4/30/2017	9/1/2017	11/1/2017
		12	49.69	$280,000	Replace CMP - deflected; strut added	1988	3.8	4	11/9/15	11/1/2016	1/31/2017	2/28/2017	4/30/2017	9/1/2017	11/1/2017
		13	49.53	$420,000	Replace aged cast iron pipe	1900	3.8	5	11/10/15	11/1/2016	1/31/2017	2/28/2017	4/30/2017	10/1/2017	12/31/2017
		14	52.32	$350,000	Replace aged cast iron pipe	1900	3.9	5	10/27/15	11/1/2016	1/31/2017	2/28/2017	4/30/2017	10/1/2017	12/31/2017
		15	52.38	$420,000	Replace aged cast iron pipe	1900	3.9	5	10/27/15	11/1/2016	1/31/2017	2/28/2017	4/30/2017	10/1/2017	12/31/2017
			Subtotal	$5,320,000											
Ventura	Priority A Bridges	1	458.71	$1,960,000	Replace Timber Trestle - major cracking	1925	3.0	4	3/8/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	11/1/2017	2/1/2018
		2	452.1	$840,000	Replace rail top	1916	3.3	5	3/14/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	11/1/2017	2/1/2018
			Subtotal	$2,800,000											
	Priority B Bridges	1	436.96	$655,200	Replace rail top	1939	3.9	5	4/1/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	8/1/2018	11/1/2018
		2	434.12	$655,200	Replace rail top	1901	3.9	5	4/4/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	8/1/2018	11/1/2018
			Subtotal	$1,310,400											
	Priority B Culverts	1	436.46	$150,000	Replace culvert - part rail top	1925	3.9	4	10/16/14	11/1/2016	1/31/2017	2/28/2017	4/30/2017	10/1/2017	12/31/2017
			Subtotal	$150,000											
San Gabriel	Priority A Bridges	1	40.12	$1,400,000	Replace rail top - Under xing	1930	3.4	5	6/29/16	11/1/2016	7/1/2017	8/1/2017	10/1/2017	2/1/2018	5/1/2018
			Subtotal	$1,400,000											

Rail Tie - Rehabilitation Project Priority List (As Provided by Metrolink, November 2016):

Track Projects Priority List					
	Priority Designation	Priority A Projects	Value	Condition Notes	Timeline
Valley Subdivision	1	2500 Ties between MP 46 - MP 48, MP 63 - MP 64	$500,000	Over 30% of the wood ties in this segment need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	2	3000 Ties between MP 52 - MP 54	$825,000	Approximately 25% of the Wood Ties in this segment need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	3	Lang Station Rd Crossing	$400,000	Crossing and track structure need to be replaced (Main Track and Siding)	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	4	2950 Ties between MP 54 - MP 59	$787,500	Up to 20% of the wood ties in this segment need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	5	Acton Spur Turnout	$500,000	Spur was constructed in 1966. Speed in siding was just raised due to Acton Project. Turnout needs to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
		Total Priority A Track Projects:	$3,012,500		
		Priority B Projects			
	1	4000 Ties Between MP 9 - MP 11	$1,000,000	Over 30% of the wood ties in this segment need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	2	4000 Ties Between MP 6 - MP 8	$1,000,000	Approximately 25% of the Wood Ties in this segment need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
		Total Priority B Track Projects:	$2,000,000		

ATTACHMENT A

	Priority Designation	Priority A Projects	Value	Condition Notes	Timeline
Ventura Subdivision	1	2700 Ties between MP 447 - MP 450	$675,000	Over 30% of the wood ties in this segment need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	2	1300 Ties between MP 444 - MP 446	$325,000	Approximately 25% of the Wood Ties in this segment need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	3	Turnout at MP 460	$375,000	Turnout needs to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	4	800 Ties Between MP 451 - MP 452	$200,000	Up to 20% of the wood ties in this segment need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	5	3600 Ties Between MP 458 - MP 462	$900,000	Approximately 15% of the Wood Ties in this segment need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	6	3600 Ties Between MP 454 - MP 458	$900,000	Approximately 10% -15% of the Wood Ties in this segment need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
		Total Priority A Track Projects:	$3,375,000		
Ventura Subdivision	Priority Designation	Priority B Projects	Value	Condition Notes	Timeline
	1	3400 Ties between MP 434 - MP 439	$850,000	Over 30% of the wood ties in this segment need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	2	2400 Ties Between MP 430 - MP433	$600,000	Approximately 25% of the Wood Ties in this segment need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	3	Rail Replacement - Curve 439.24 (1650')	$247,500	Curve needs to be transposed from high side to low side, with new rail on the high side. Low Rail has already been transposed and was originally placed in 1966. High Rail is experiencing some gauge and head wear and still has some life in it. Head-Free rail to be replaced as well.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	4	1200 Ties Between MP 427 - MP 429	$300,000	Approximately 20% of the Wood Ties in this segment need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	5	Turnout at CP Santa Susana	$375,000	Turnout needs to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	6	Katherine Rd Crossing	$400,000	Crossing and track structure need to be replaced (Main Track and Siding)	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	7	Rail Replacement - Curve 433.1 (1100')	$165,000	Curve needs to be transposed.	
	8	Hidden Ranch Drive Crossing	$400,000	Crossing is 33 years old and needs to be rehabilitated.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	9	600 Ties Between MP 433 - MP 434	$150,000	Approximately 15% of the Wood Ties in this segment need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
		Total Priority B Track Projects:	$3,487,500		
				Note: 2350' of rail on another project was removed from the list resulting in a reduction for the Subdivision of $150,000.	

	Priority Designation	Priority A Projects	Value	Condition Notes	Timeline
San Gabriel Subdivision	1	3500 Ties between MP 34 - MP 38	$875,000	Over 30% of the wood ties in this segment need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	2	2800 Ties Between MP 47 - MP 51	$700,000	Approximately 25% of the Wood Ties in this segment need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	3	1200 Ties Between MP 52 - MP 54	$300,000	Approximately 20% of the Wood Ties in this segment need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	4	1500 Ties Between MP 42 - MP 45	$375,000	Approximately 15% of the Wood Ties in this segment need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
		Total Priority A Track Projects:	$2,250,000		
San Gabriel Subd.	Priority Designation	Priority B Projects	Value	Condition Notes	Timeline
	1	Lark Ellen Crossing	$400,000	Crossing needs rehabilitation.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
		Total Priority B Track Projects:	$400,000		

ATTACHMENT A

	Priority Designation	Priority A Projects	Value	Condition Notes	Timeline
River Sub	1	Replace Leads into Union Station	$225,000	Leads into union station have curve wear and need new rail.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	2	Replace 5300 Ties on West Bank	$1,325,000	Approximately 21% of the wood ties on the West Bank need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
	3	Replace Turnouts at CP Taylor	$550,000	2 Turnouts at CP Taylor already replaced, 2 more need to be replaced.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017
		Total Priority A Track Projects:	$2,100,000		
River Subdivision	Priority Designation	Priority B Projects	Value	Condition Notes	Timeline
	1	Replace 3 miles of Rail and 25% Ties	$5,210,000	MT2 several areas that are susceptible for rail defects due to the high density of train traffic, the amount of plugged rail through the years, and the age of the existing 133 lb rail which does not meet SCRRA standards. This project was initially proposed as rail and ties separately, and the agency only received funding for 2/3's of the ties needed and none of the rail. Ideally we would complete these projects together, along with the funding for FY15, where we are doing the same scope of work for MT1. Funding for this project is efficient use of member agency funds due to high UPRR contribution percentages. However, it does take	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017 If funding is not approved on this project it delays progress with UPRR for obtaining funds. It takes 1-2 years to get an agreement from UP for this rehabilitation work. Slow orders or weight restrictions will be implemented on MT2 by June 30, 2019 if project remains unfunded.
	2	Replace 5 turn outs on East Bank *	$1,622,400 $2,622,400	Turnouts on the East Bank are heavily used, and some are over 50 years, while others haven't been replaced since Metrolink began service. Ideally, funding for these would be lined up with the rail and ties, so * projects can be completed concurrently.	Advertise Contract - 2/2017; Award Contract/NTP - 4/2017; Begin Construction - 6/2017; End Construction - 12/2017 If funding is not approved on this project it delays progress with UPRR for obtaining funds. It takes 1-2 years to get an agreement from UP for this rehabilitation work. Slow orders or weight restrictions will be implemented on MT2 by June 30, 2019 if project remains unfunded.
		Total Priority B Track Projects:	$7,832,400		

ATTACHMENT B:

SCRRA: Bridge and Safety Management Policy 7.4.1 Condition and Priority Defect Rating System:

Condition Codes:

1	**Failed,** Stop Trains.
2	**Imminent Failure,** Take appropriate action. Provide detailed inspection.
3	**Poor,** Defects are sound with serious or advancing defects. Interim inspections warranted.
4	**Fair,** Defects are sound with minor problems. Interim inspections warranted.
5	**Satisfactory,** Minor defects or exceptions.
6	**Good,** No defects or exceptions noted.

Priority Codes:

Code:	Correction Period:	Description:
A	**15 days**	Imminent safety issue (non-redundant failure or failure of direct load path)
B	**1 year**	Early or Pre-failure (redundant systems or indirect load path)
C	**3 years**	Non-critical defects (not immediate safety concern).
D	**5 years**	Monitor Defects.

ATTACHMENT D

FUNDING REQUEST FOR METROLINK'S URGENT STRUCTURE & RAIL TIE REHAB (SLOW ORDER) WORK

	Priority Designation	Track Priority A Projects	Value	Condition Notes
VALLEY SUBDIVISION	1	2500 Ties between M 46-MP48, MP63-MP64	$ 500,000	Replace
	2	3000 Ties between MP52-MP54	$ 825,000	Replace
	4	2950 Ties between MP54-MP59	$ 787,500	Replace
	1	Bridge MP50.64	$ 840,000	Replace
	2	Bridge MP50.51	$ 840,000	Replace
	4	Bridge MP50.77	$ 840,000	Replace
	5	Bridge MP47.45	$ 500,000	Replace
	6	Bridge MP50.46	$ 840,000	Replace
	1	Culvert MP55.91	$ 350,000	Replace
	2	Culvert MP53.84	$ 350,000	Replace
	8	Culvert MP54.13	$ 280,000	Replace
	10	Culvert MP66.78	$ 420,000	Replace
		METRO SHARE SUBTOTAL	**$ 7,372,500**	

	Priority Designation	Track Priority A Projects	Value	Condition Notes
VENTURA SUBDIVISION	1	2700 Ties between M 447-MP450	$ 675,000	Replace
	2	1300 Ties between MP444-MP446	$ 325,000	Replace
	3	Turnout at MP460	$ 375,000	Replace
	4	800 Ties between MP451-MP452	$ 200,000	Replace
	5	3600 Ties between MP458-MP462	$ 900,000	Replace
	6	3600 Ties between MP454-MP458	$ 900,000	Replace
	1	Bridge MP458.71	$ 1,960,000	Replace
		METRO SHARE SUBTOTAL	**$ 5,335,000**	

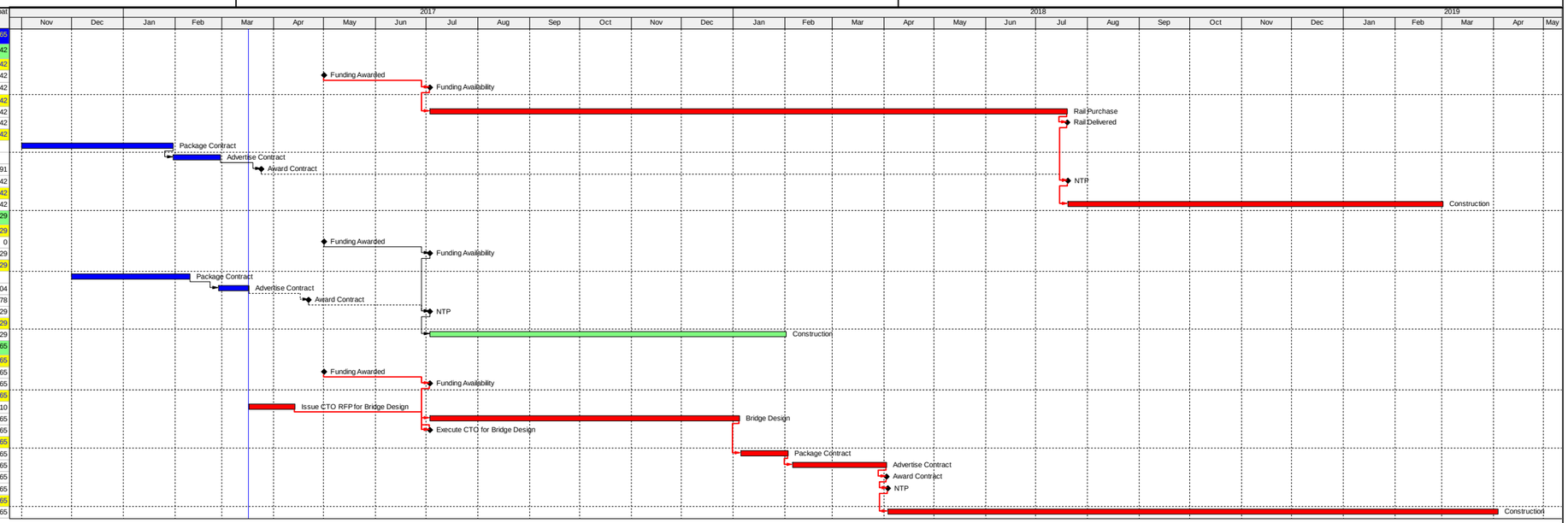
	Priority Designation	Track Priority A Projects	Value	Condition Notes
SAN GABRIEL SUBDIVISION	1	3500 Ties between M 34-MP38	$ 875,000	Replace
	2	2800 Ties between MP47-MP51	$ 700,000	Replace
	3	1200 Ties between MP52-MP54	$ 300,000	Replace
	4	1500 Ties between MP42-MP45	$ 375,000	Replace
	1	Bridge MP40.12 Rail top underxing	$ 1,400,000	Replace
		Juniper-Sierra Crossing Rehab	$ 493,350	
		SUBTOTAL	$ 4,143,350	
		METRO SHARE SUBTOTAL	**$ 2,486,010**	

	Priority Designation	Track Priority A & B Projects	Value	Condition Notes
RIVER SUBDIVISION	1	Replace leads into Union Station	$ 225,000	Replace
	2	5300 Ties on West Bank	$ 1,325,000	Replace
	3	Replace turnouts at CP Taylor	$ 550,000	Replace
	1	LAUS Canopy	$ 3,351,500	Replace
	1	East Bank-Priority B	$ 6,526,600	Replace
		SUBTOTAL	$ 11,978,100	
		METRO SHARE SUBTOTAL	**$ 3,187,515**	

GRAND TOTAL **$ 18,381,025**

Note: This list is meant to be used as a diagnostic tool for allocation of funds only. It is SCRRA's responsibility to provide an independent condition risk assessment to determine which structures should be replaced and in which order.

Activity ID	Activity Name	Original Duration	Remaining Duration	Schedule % Complete	Start	Finish	Total Float
Slow Order Rehab Program		521	516	0%	01-Nov-16 A	03-Apr-19	-65
Track (Purchase Order and JOC)		498	487	0%	01-Nov-16 A	01-Mar-19	-42
Funding		44	44	0%	01-May-17	03-Jul-17	-42
A1290	Funding Awarded	0	0	0%	01-May-17*		-42
A1000	Funding Availability	0	0	0%	03-Jul-17		-42
Procurement		264	264	0%	03-Jul-17	19-Jul-18	-42
A1010	Rail Purchase	264	264	0%	03-Jul-17	19-Jul-18	-42
A1020	Rail Delivered	0	0	0%		19-Jul-18	-42
JOC Packaging		344	333	0%	01-Nov-16 A	20-Jul-18	-42
A1030	Package Contract	5	0	100%	01-Nov-16 A	31-Jan-17 A	
A1050	Advertise Contract	5	0	100%	31-Jan-17 A	28-Feb-17 A	
A1060	Award Contract	0	0	0%		24-Mar-17*	291
A1240	NTP	0	0	0%	20-Jul-18		-42
Construction		154	154	0%	20-Jul-18	01-Mar-19	-42
A1070	Construction	154	154	0%	20-Jul-18	01-Mar-19	-42
Culverts (JOC)		227	222	0%	01-Dec-16 A	01-Feb-18	229
Funding		44	44	0%	01-May-17	03-Jul-17	229
A1300	Funding Awarded	0	0	0%	01-May-17*		0
A1090	Funding Availability	0	0	0%	03-Jul-17		229
JOC Packaging		80	75	0%	01-Dec-16 A	03-Jul-17	229
A1110	Package Contract	5	0	100%	01-Dec-16 A	10-Feb-17 A	
A1130	Advertise Contract	5	0	100%	27-Feb-17 A	17-Mar-17*	304
A1140	Award Contract	0	0	0%		21-Apr-17*	278
A1250	NTP	0	0	0%	03-Jul-17		229
Construction		147	147	0%	03-Jul-17	01-Feb-18	229
A1150	Construction	147	147	0%	03-Jul-17	01-Feb-18	229
Bridges (IFB)		516	516	0%	17-Mar-17	03-Apr-19	-65
Funding		44	44	0%	01-May-17	03-Jul-17	-65
A1310	Funding Awarded	0	0	0%	01-May-17*		-65
A1170	Funding Availability	0	0	0%	03-Jul-17		-65
Design		203	203	0%	17-Mar-17	04-Jan-18	-65
A1270	Issue CTO RFP for Bridge Design	20	20	0%	17-Mar-17	13-Apr-17	-10
A1180	Bridge Design	128	128	0%	03-Jul-17	04-Jan-18	-65
A1280	Execute CTO for Bridge Design	0	0	0%	03-Jul-17		-65
IFB Packaging		60	60	0%	05-Jan-18	03-Apr-18	-65
A1200	Package Contract	20	20	0%	05-Jan-18	02-Feb-18	-65
A1210	Advertise Contract	40	40	0%	05-Feb-18	02-Apr-18	-65
A1220	Award Contract	0	0	0%		02-Apr-18	-65
A1260	NTP	0	0	0%	03-Apr-18		-65
Construction		253	253	0%	03-Apr-18	03-Apr-19	-65
A1230	Construction	253	253	0%	03-Apr-18	03-Apr-19	-65



Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

TASK filter: All Activities

ATTACHMENT F

MTA / SCRRA JOINT REVIEW – VALLEY SUBDIVISION

Picture 1: One of two SCRRA Hy-Rail Vehicles used to complete the field visit with MTA.

As part of SCRRA's on-going efforts to secure Track and Structures rehabilitation funding SCRRA and MTA staff took part in a joint review of portions of the Valley Subdivision deemed to be at risk for potential speed reductions if rehabilitation work is delayed.

On November 23, 2016 6 staff from MTA and 5 from SCRRA conducted a Hy-Rail trip from approximately Milepost 58 (Aliso Canyon Road) to Milepost 48 (Burke Road Private Crossing). The purpose of the trip was for MTA staff to review proposed rehabilitation work locations, priorities, and provide context as to what projects MTA provided funding would address.

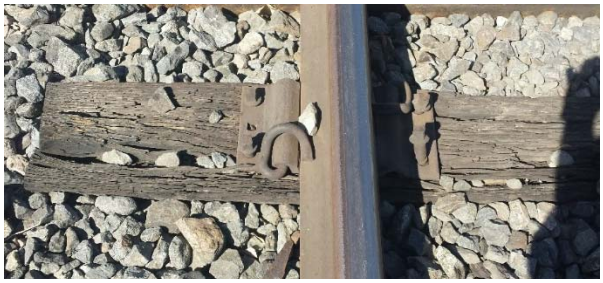
Picture 2: SCRRA Staff and MTA Staff Inspecting a Wood Box Culvert on the Valley Subdivision

The primary focus of the review was wood crosstie and structure condition but other aspects of railroad rehabilitation work such as rail, crossings, and embankments were reviewed, including potential mud slide conditions caused by the Sand brush fire in July.

In addition to reviewing general conditions from the Hy-Rail vehicles the group stopped several times to more carefully examine crosstie and structure conditions, particularly of the older bridges of the "Rail Top" design type.

Overall, it was the consensus of the MTA team that certain segments of the crosstie conditions visited, as reported by SCRRA, were approaching serious levels of deterioration, and while still meeting FRA Track Safety Standards it is reasonable that substantial crosstie replacement projects should begin as soon as possible.

Picture 3: Failed Tie Condition on the Valley Subdivision



Picture 4: Failed Tie with Raised Lags

Picture 5: The inside of one of the top 3 Priority "Rail-Top" Bridges on the Valley Subdivision

Similarly, it was agreed that 2 of the 5 of SCRRA's highest priority bridges visited for replacement were sufficiently justified for replacement as soon as possible. It was also determined that three of the lower priority bridges visited, likely could be further assessed and possibly deferred a number of years in order to concentrate available funding on the most urgent candidates.

The MTA and SCRRA representatives intend to conduct similar reviews of the Ventura, San Gabriel and River Subdivisions in order to more effectively prioritize and allocate rehabilitation funding.

Participants in this Hy-Rail Review were:

MTA:

Sam Mayman, Jeanet Owens, Androush Danielians, Zoric Sheynman, Craig Remley, Dan Mahgerefteh

SCRRA:

Darrell Maxey, Wayne Mauthe, Aaron Azevedo, Daniel Villagomez, Ivan Robles

Picture 6: SCRRA and MTA Staff inspecting a "Rail-Top" Bridge on the Valley Subdivision

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

File #: 2017-0049, **File Type:** Program **Agenda Number:** 20.

REVISED
PLANNING AND PROGRAMMING COMMITTEE
APRIL 19, 2017

SUBJECT: TRANSIT ORIENTED DEVELOPMENT PLANNING GRANT PROGRAM

ACTION: APPROVE RECOMMENDATIONS AND ROUND 5 PROGRAM GUIDELINES

RECOMMENDATION

CONSIDER:

A. APPROVING release of **Round 5 of the Transit Oriented Development (TOD) Planning Grant Program,** offering an amount not to exceed $3,100,000;

B. APPROVING the Round 5 TOD Planning Grant Program Guidelines (Attachment A), which include the Transit Supportive Planning Toolkit and the creation of the Transit Oriented Communities Tax Increment Financing Pilot Program; and

C. ADOPTING AND CERTIFYING the Strategic Growth Council Final Grant Report as accurate.

ISSUE

Staff is recommending a series of actions that will lead to release of the fifth round of the TOD Planning Grant Program (Program) in an amount not to exceed $3,100,000, the remainder of the funds programmed for this initiative. The Program supports Los Angeles County municipalities in the adoption of transit-supportive regulatory plans. Round 5 continues the funding of transformative land use regulations and proposes to include creation of the Transit Oriented Communities Tax Increment Financing Pilot (TOC TIF Pilot) Program, which will fund feasibility studies for eligible cities and/or the County to consider tax increment financing districts around transit stations.

DISCUSSION

Metro developed the TOD Planning Grant Program in 2011 to spur the adoption of regulatory planning documents that remove barriers to transit-supportive planning. Since then, Metro has funded 35 projects in 29 cities and the County of Los Angeles, totaling $21.6 million dollars.

Round 5
Funding for Round 5 would be available to the County of Los Angeles and all cities with land use

regulatory jurisdiction within a one-half mile of Metrolink, Metro Rail, or Metro Transitway/Bus Rapid Transit stations and adjacent transit corridors. The Program will fund two types of activities:

1. Using the newly created Transit Supportive Planning Toolkit (Toolkit) as the guiding framework, continue to fund the development of regulatory documents that result in the elimination of regulatory constraints to transit-supportive planning. These activities include, but are not limited to, new or amended specific plans, ordinances, overlay zones or general plan amendments; transit village development districts; and environmental studies required for adopting the new or amended regulatory documents.

2. Through the new TOC TIF Pilot Program, fund initial feasibility analyses for formation of tax increment financing (TIF) districts in areas around transit stations that have transit-supportive regulatory documents in place or under development.

The Program has $3.1 million remaining in funding; this remaining funding will be allocated to Round 5. The Program does not require local matching funds.

Round 5 Program Guidelines - Attachment A
Over the last six years, grantees in Rounds 1-4 have requested examples of good plans, best practices and parameters to support their efforts. In response to that need, Metro secured a grant from the Strategic Growth Council (SGC) and over the course of two years, Metro, supported by Global Green (as the strategic advisor) and IBI Group (lead consultant), developed the Toolkit.

The Toolkit is an online research-based resource rich with tools, best practices, and locally relevant case studies. The Toolkit is grounded in 10 characteristics of transit-supportive places that together create environments that lead to a reduction in vehicle miles travelled and increase in transit ridership. To support the development and adoption of holistic plans that meet Metro and State sustainability goals, the Guidelines have been revised to incorporate the Toolkit as a central tenet of transit-supportive planning work funded by the Program.

Staff also recommends an amendment to Section IX, Deobligation Process, to allow staff to informally approve administrative time extensions for a period of up to 6 months if a grantee can meet the conditions outlined in the Administrative Extensions section of the Program Guidelines. Informal administrative approval will be granted via a signed letter from the Metro Project Manager, with concurrence of the Senior Executive Officer.

Typically, time extensions are requested due to unforeseen community concerns that require grantees to undertake additional stakeholder engagement and/or additional studies. Allowing for administrative time extensions, with just cause, will allow for more efficient and expeditious project implementation. Time extension requests that extend beyond the 6-month period will require a formal amendment to the grant agreement.

Finally, staff recommends eliminating duplicative Lapsing Policy language, as the language is included in its entirety in the Program Guidelines and in the grant agreements that are executed with grantees.

TOC TIF Pilot Program

In support of Metro's effort to promote TOCs and expand the impacts of Metro's transit stations within a broader community context, the Round 5 Program Guidelines include creation of the TOC TIF Pilot Program. The TOC TIF Pilot offers funding for TIF feasibility studies for cities that have transit-supportive regulatory documents in place or under development. The focus of these feasibility studies are two recent tax increment programs adopted by the State: Enhanced Infrastructure Financing Districts (EIFD) and Community Revitalization and Investment Authority (CRIA) districts.

These districts offer the potential for financing projects that meet TOC goals, including affordable housing, transit and related infrastructure, public improvements (in particular first/last mile connections) and other community-serving uses. Metro will effectuate the TOC TIF Pilot in partnership with the Southern California Association of Governments (SCAG) and with support from the Los Angeles County Office of the Chief Executive Officer.

SCAG Partnership: SCAG has been at the forefront of convening experts and providing trainings on TIF district formation, specifically EIFDs and CRIAs. Through the Metro/SCAG Joint Work Program, Metro will leverage SCAG's institutional framework to offer trainings to interested grantees on eligibility for TIF districts as well as the components of a feasibility study. The Metro/SCAG partnership will be realized through the following activities:

1. Statement of Work. TIF districts (EIFDs and CRIAs) are a new undertaking for Los Angeles County municipalities. As such, Metro and SCAG partnered to develop a template Statement of Work (SOW) that can be used by successful grantees in soliciting Requests for Proposals for TIF feasibility studies.

2. Trainings. Metro and SCAG staff will hold up to three trainings on TIF districts. The trainings will include an overview on EIFDs and CRIAs, critical eligibility criteria, Metro's TOD Planning Grant Program, and the Round 5 application process.

3. Screening Tool. SCAG has created a screening tool that can be used to assess TIF district viability through a parcel-level database that gauges whether a particular area has the unemployment rate, household income, and crime rates required for CRIAs or the property tax capture rate and surrounding development capacities needed for EIFDs. Metro staff will use SCAG's screening tool as part of the Round 5 application process to vet eligibility and ensure that both Metro and municipalities are only expending effort and funding on evaluating TIF districts in areas that are legislatively and financially viable.

LA County CEO's Office (OCEO) Support: As the single largest recipient of property taxes eligible to participate in EIFDs and CRIAs, LA County is a critical participant in evaluating the feasibility of new TIF districts. Metro staff has consulted with the County OCEO to determine parameters for a successful rollout of the TOC TIF Pilot Program. The following summarizes the collaborative effort:

- Staff from the OCEO's office reviewed and provided comments on both the Round 5 Program Guidelines and the TIF study sample SOW.
- Staff from the OCEO's office attended meetings with SCAG to review the screening tool that will be used to determine TOC TIF Pilot funding eligibility.

- The OCEO plans to bring a set of criteria to the County Board of Supervisors for adoption that the County will consider when asked to contribute all or a portion of its share of tax increment to a new TIF district. This criteria is referenced in the Program Guidelines and will be attached to the Guidelines upon adoption by the County Board of Supervisors and prior to release of the grant application.
- The OCEO will support Round 5 grantees in need of up-to-date assessor's and audit-controller data to complete the TOC TIF feasibility studies.

Disadvantaged Communities: The TOC TIF Pilot Program will prioritize project areas that will serve the most Disadvantaged Communities as defined by CalEnviroScreen. According to the State Office of Environmental Health Hazard Assessment, CalEnviroScreen is an online mapping tool that uses environmental, health, and socioeconomic information to produce scores for every census tract in the state. An area with a higher score is reflective of a community that is more disadvantaged and facing higher burden of challenging environmental and socioeconomic factors. Projects with a higher CalEnviroScreen will be a factor in prioritizing applications.

SGC Final Grant Report

Metro secured a grant from the SGC in 2013 to develop the Transit Supportive Planning Toolkit. The SGC Grant is administered by the California Department of Conservation, Division of Land Resource Protection (the Department). The Grant Agreement between the SGC and Metro requires that Metro's Board of Directors adopt and verify as accurate the Final Plan Report prior to its submission to the Department. The Final Report (Attachment B) includes a project summary, summary of relevant local and regional plans and grantee assessment of how the project (in this case, the Toolkit) can measure a series of sustainability objectives and indicators over time.

Metro cannot measure a majority of the indicators outlined in the Final Report. Many of the indicators relate to land use authority and development actions, activities for which Metro has no authority. As appropriate, Metro has noted that we can track the number of Metro-funded transit supportive regulatory plans that are adopted by local jurisdictions that support the objectives and indicators outlined in the Final Report.

The SGC grant is a reimbursement-based grant and the administrative procedures required that the Department retain 15% of Metro's funds until Toolkit completion and Board adoption of the Final Report. A total of $ 134,000 has been retained by the SGC.

DETERMINATION OF SAFETY IMPACT

There is no negative impact to the safety of our employees and/or patrons. The transit oriented planning and development policies supported by the Program could improve safety around stations. The principles of transit-supportive planning include better pedestrian and bicycle access to stations as well as clearer access to stations which can reduce accidents. Further, transit-supportive planning tends to encourage walking and bicycling, both of which improve the health of patrons.

FINANCIAL IMPACT

There is no impact to the FY17 budget. Grants will be awarded in FY18 and funds will be requested

in that and future budget years. Since this is a multi-year project, the cost center manager and Chief Planning Officer, Countywide Planning and Development, will be accountable for budgeting the cost in future years.

Impact to Budget

The Program was identified in the Short Range Transportation Plan (SRTP). Source of funds are identified at the time of grant award. Funding for prior rounds included Measure R 2% System Improvement Funds, Measure R 3% Metrolink, and State Repayment of Capital Project Loans account. The $3.1 million recommended for Round 5 will exhaust the SRTP funds identified in the SRTP for the TOD Planning Grant Program.

ALTERNATIVES CONSIDERED

The Board may choose not to approve Round 5 and related actions as recommended.
We do not recommend this alternative. The Program as designed furthers the Board objectives with regard to land use policies that support increased ridership and systemwide improvements and creation of transit oriented communities, and funds for the Program are part of the 5-year SRTP.

The Board may also choose not to approve the revised Guidelines. We do not recommend this alternative. The revised Guidelines are focused on the research-based Toolkit, which is grounded in elements of transit-supportive places that have demonstrated positive impacts on increasing transit ridership and reducing vehicle miles travelled.

The Board may choose to not allow the informal time extensions. Staff does not recommend this alternative. Time extensions currently require a formal grant agreement amendment and can be very time consuming and labor intensive. Allowing for administrative time extensions (for up to 6 months) when a grantee has demonstrated compliance with the conditions identified in the Administrative Extensions section of the Guidelines, will allow grantees to focus efforts and resources on advancing the project and resolving any outstanding issues that triggered the request.

The Board may choose to not include the TOC TIF Pilot Program in the Program Guidelines. Staff does not recommend that alternative. With the loss of redevelopment, municipalities are grappling with viable funding streams to support community-serving projects, and TIF district creation offers a means to capture and reinvest the value created by Metro's investment in the transit system. This Program will fund the preliminary analysis needed by municipalities to explore TIF viability and is an innovative program that is in line with the TOC Demonstration Program.

Additionally, the Board may not choose to adopt and certify the SGC Final Report. Staff does not recommend this alternative as doing so would result in forfeiting Metro's $134,000 retention. The commitments that staff has made in the Final Report are specific to tracking Metro-funded regulatory plans that align with the Toolkit, which is something that staff will do as part of procedural grant administration.

NEXT STEPS

With Board approval, staff will reach out to eligible applicants throughout May and June. The call for

applications will be released in May and staff will host application workshops in June in order to strengthen participation and the quality of the applications. Applications will be due in late July with recommendations for grant awards being brought to the Board in fall 2017.

ATTACHMENTS

Attachment A - Round 5 TOD Planning Grant Program Guidelines
Attachment B - SGC Grant Final Report

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Phillip A. Washington
Chief Executive Officer

REVISED
ATTACHMENT A

Los Angeles County Metropolitan Transportation Authority

Transit Oriented Development Draft Planning Grant Program Guidelines

Round 5

REVISED
ATTACHMENT A

11/29/2016

I. BACKGROUND AND OBJECTIVES

TOD Planning Grant: Background

Los Angeles County is experiencing a transformational expansion of the public transit system that will dramatically change the options and opportunities that people travelling to, from, or through Los Angeles County will have to get around. The Los Angeles County Metropolitan Transportation Authority (Metro) has a vested interest in planning and investment efforts around transit stations that create an environment that promotes, encourages, and supports transit riders and the interface between public transportation and surrounding communities.

As a result, in 2011 Metro created the TOD Planning Grant Program (Program), a competitive grant program that funds local governments to develop and adopt transit supportive regulations that promote equitable, sustainable, transit-supportive planning.

Transit-supportive places are places where the presence of effective and predictable transit can be enhanced through appropriate patterns and types of development. This can be achieved through practices such as community-scaled density, diverse land use mix, reduced reliance upon private automobiles, and enhanced infrastructure for pedestrians, bicyclists and people of all ages and abilities.

Between 2011 and 2016, Metro released four (4) rounds of the TOD Planning Grant, and awarded $21.6 million in 35 grants, to 30 cities across LA County.

TOD Planning Grant: Round 5

Transit Supportive Planning Toolkit

In 2016, Metro released the Transit Supportive Planning Toolkit (Toolkit). Funded by a grant from the Strategic Growth Council, and as part of a broader study on Climate Change Adaption Strategies, the Toolkit is a comprehensive research-based resource that includes best practices, tools and case studies that local municipalities can use to advance Transit Supportive Planning in Los Angeles County. The Toolkit identifies 10 characteristics of transit supportive places that collectively are shown to reduce vehicle miles travelled and increase transit ridership (see Attachment A for brief overview). Round 5 of the TOD Planning Grant will require grantees to utilize the Toolkit as a resource and apply the 10 characteristics of transit supportive planning in grant funded efforts. The Toolkit is a web-based program that can be found on Metro's website at https://www.metro.net/projects/tod-toolkit/.

Transit Oriented Communities (TOC) Tax Increment Financing (TIF) Pilot Program

In 2011, the California State legislature abolished redevelopment and the state's only effective TIF vehicle. Since then, the legislature has created new enabling legislation to support tax increment financing (TIF). Unlike redevelopment, the new TIF programs (EIFDs & CRIAs) cannot include property taxes from education entities (approximately ½ of all property taxes). Property tax contributions from the other taxing entities are voluntary. TIF can be an important tool in the creation of transit supportive communities, as it can be used to finance infrastructure improvements as

well as affordable housing. With Round 5 of the TOD Planning Grant program, Metro is partnering with SCAG to offer funding to municipalities seeking to study the feasibility of forming TIF districts (either an Enhanced Infrastructure Financing District (EIFD) or a Community Revitalization and Investment Authority (CRIA)). Study funding may be available to examine areas around transit stations for municipalities that:

- Have adopted or are in progress with creating a transit supportive regulatory environment; and
- Measure favorably against the Southern California Association of Governments (SCAG) online Screening Criteria that can be found at http://scag.maps.arcgis.com/apps/webappviewer/index.html?id=70469a5af25540b78337a89d7adeb407.

As a partner in this effort, SCAG will provide training on the formation and study of the EIFD and CRIA districts as well as use of their TIF screening tool. The County of Los Angeles will provide support by providing updated and accurate tax assessment and collection information.

PROGRAM OBJECTIVES

- Support municipalities in implementing complimentary transit-supportive infrastructure projects and affordable housing.
- Increase transit ridership.
- Increase the number of comprehensive, community-driven transit supportive planning efforts around Metro light rail, Metrolink stations, and Metro Transitway/Bus Rapid Transit stations and adjacent transit corridors in Los Angeles County.
- Improve local and regional efforts that enhance an equitable integration of transportation and community planning.
- Improve the transit network and increase utilization of public transit by reducing the number of modes of transportation necessary to access regional and local transit lines;
- Further the reduction in greenhouse gases through encouraging in-fill development along transit corridors and transit use;
- Support and implement sustainable development principles.
- Increase opportunities to meaningfully engage diverse stakeholders, especially underserved and vulnerable communities, in advancing transit supportive planning efforts across the region.

III. ELIGIBLE APPLICANTS

Cities and the County of Los Angeles with land use regulatory authority:

- Within 1/2 mile of Metro Light Rail, Metrolink Stations and/or Transitway/Bus Rapid Transit stations and adjacent transit corridors in Los Angeles County
- Within 1/2 mile of the existing, funded, planned (priority will be given to station area planning efforts that are nearer-term) Metro rail or bus rapid transit stations and/or adjacent transit corridors. Grantees are not required to focus on a circular ½ mile radius around a transit facility. Adjacent transit corridors refer to proposed planning areas that are less circular and more corridor-based. Grantees must make the case for the corridor-level approach.

Applicants seeking funds along transit corridors MUST demonstrate the corridor's relevancy to the development of transit supportive planning around the station area. The corridor may, for example, connect the station area to significant activity centers, carry significant pedestrian traffic to and from the station area, and/or connect the station area to other areas with significant transit service.

IV. ELIGIBLE ACTIVITIES

Round 5 of the Program offers two categories of activities: (1) Transit supportive regulatory documents, which will result in the elimination of regulatory constraints and the development of regulatory documents that promote transit supportive planning that can be adopted by governing bodies; and (2) TIF Feasibility Studies, which will study the feasibility of pursuing either an EIFD or CRIA within 1/2 mile of Metro Light Rail, Metrolink Stations and/or Transitway/Bus Rapid Transit stations and adjacent transit corridors in Los Angeles County, create a vision/objectives for such a district, and determine the amount of TIF that could be generated under several scenarios. Applicants may apply to one or both of the categories; however the TIF feasibility study requires that transit supportive land use regulations are already in place or under development, so an applicant cannot apply for the regulatory change and TIF feasibility study in the same area at the same time. Robust and inclusive multilingual community engagement shall be an integral component of all Metro-funded planning efforts.

Transit Supportive Regulatory Documents

Regulatory documents must include a land use component (with corresponding zoning code updates). However, Applicants and Grantees are required to advance comprehensive plans that encompass the 10 Toolkit characteristics to ensure that the region is advancing holistic, transit supportive plans and which are consistent with Metro adjacent development requirements where applicable. Eligible Regulatory Documents include, but are not limited to:

- New or amended specific plans;
- New or amended ordinances;
- New or amended overlay zones;
- New or amended general plans;
- Transit Village Development Districts; and

- Environmental studies required to support the new or amended regulatory documents

TIF Feasibility Studies

- Through the TOC TIF Pilot, Round 5 of the Program will fund TIF Feasibility Studies. Grantees may explore the formation of an Enhanced Infrastructure Financing District (EIFD) or a Community Revitalization Investment Authority (CRIA), including engaging with stakeholders to determine vision and objectives for a TIF district. The Round 5 Grant application includes a sample scope of work for such studies to provide guidance on eligible activities.
- To be eligible, Grantees must (1) demonstrate that a transit supportive regulatory document is in place or under development; (2) show eligibility for one or both TIF districts (EIFD or CRIA) using the SCAG TIF Screening Criteria; (3) meet the criteria for TIF formation adopted by the County Board of Supervisors in spring 2017, included as Attachment B; and (4) Priority will be given to the most Disadvantaged Communities as defined by CalEnvironScreen.

V. EVALUATION CRITERIA

Proposals will be evaluated according to the following criteria. The first section applies to regulatory documents (Specific Plans, General Plan Amendments, Overlays, etc.), the second set of criteria apply to TIF Feasibility Studies. More detailed scoring criteria are provided in the grant application.

Transit Supportive Regulatory Documents Criteria

Section 1. Project Scope

a. *Project Area/Targeted Communities:*

- Concise and clear description of the project area, targeted communities, and specific transit stations and/or corridors the project will impact.
- Clear description of the prominent equity concerns in the community (such as lack of affordable housing, economic development, environmental justice, safety, active transportation needs, public health disparities, and so forth).
- Description of the station and/or corridor significance to the local community and larger region including importance for the transit network and ridership.
- Description of the most pressing barriers to public transportation usage and non-private vehicle multi-modalism (walking, rolling, biking).

b. *Regulatory Constraints:*

- Clear description of the specific regulatory constraints and/or general land use challenges/ barriers in the project area to advancing an equitable transit supportive planning effort. (Does current zoning support transit-supportive development patterns? Has the jurisdiction adopted a Complete Streets Policy?)
- Description of the regulatory barriers that preclude the jurisdiction from

addressing the equity issues identified in Section 1.a.

- Degree to which constraints and barriers are aligned with the Toolkit's 10 characteristics of Transit Supportive Places (i.e. outdated parking requirements, height or density restrictions, incompatible land uses, lack of bicycle and pedestrian access and utilization incentives, etc.).

c. *Proposed Regulatory Documents:*

- Clear description of the regulatory documents that will require revision and/or new regulatory documents. Documents may include a community's general plan, zoning ordinances, parking codes, specific plans, Transit Village District documents, etc. If General Plan land uses are proposed, a clear description of whether or not zoning code updates will be included should be noted.
- Extent to which regulatory documents promote Program objectives as identified in these Guidelines and the Toolkit and are consistent with Metro Adjacent Development requirements where applicable.

d. *Impact of Proposed Regulatory Changes:*

- Thoroughness in explaining how the regulatory changes directly mitigate the constraints previously identified; how they will improve community-specific equity concerns; how they will result in an increase in transit-ridership; and how they will improve the overall interface between the public transportation system and the surrounding community.

Section 2 - Public Participation

a. Outreach Plan:

- Clear identification of all impacted communities and stakeholders affected by the proposed regulatory changes, including description of key community organizations (advocacy groups, business groups, religious/social organizations, etc.) that will be engaged and the role that they will play in the process.
- Demonstration of a comprehensive and meaningful public participation and outreach program necessary to bring the regulatory changes forward.
- Clear description of how disadvantaged and/or underserved communities will be engaged in the process and the proactive activities that will be undertaken to engage these populations (translators, preparing materials in multiple languages, hosting meetings in the evenings and/or weekends, etc.).

b. Community and Policy Maker Support:

- Demonstration that community stakeholder and policy maker support for the types of regulatory changes being proposed exist. This could be evidenced by prior actions implementing similar changes elsewhere in the community, specific direction by elected officials, letters of support, etc.

Section 3 - Future Implementation

a. Opportunity Sites:

- Ability to link regulatory changes with the near term potential for implementing transit supportive projects through the availability of suitable opportunity sites, particularly if controlled by the applicant.

b. Next Steps:

- Demonstration of a well thought out long term plan for building a successful transit supportive area once grant funded regulatory changes are adopted.

Section 4 - Project Implementation Plan

a. Project Schedule, Tasks, and Budget:

- Schedule demonstrates the overall approach for project completion and that the project can be completed in 36 months.
- Principle tasks that will be undertaken to complete the project are identified, reasonable, and realistic.
- Overall expenditures (local and grant) as well as expenditures per task are both realistic and highly cost efficient, maximizing the impact of the funds requested.

b. Project Management:

- Clear description of team composition, including the roles and responsibilities of city/county staff and/or consultants.

c. Prior Grant Performance:

Demonstrated performance that does not include:

- Project delays to due unreasonable schedule proposals,
- Numerous untimely or incomplete quarterly reports and invoices.

TOC TIF Feasibility Studies Criteria

Applicants seeking funding for TIF Feasibility Studies must utilize SCAG's Screening Criteria available at (http://scag.maps.arcgis.com/apps/webappviewer/index.html?id=70469a5af25540b78337a89d7adeb407) to assess TIF District viability and grant program eligibility. SCAG will offer training on this tool as well as technical assistance to applicants. TIF Feasibility Study applications will require data collection from the City, SCAG, the County Assessor, the County Auditor-Controller, and as appropriate, the State Department of Finance.

A. Screening Criteria

Applicants are required to perform an initial screening of their proposed TIF district in order to ensure that the feasibility study is for an area that meets the State's legal requirements and also that has the capacity to generate enough investment and TIF to create the desired impacts. The TOC TIF grant application will include questions that closely align with the SCAG screening criteria. Interested parties will be required to advise on how their proposed project fares against the screening criteria. The SCAG Screening Criteria will be critical to

vetting applications and informing on potential project viability. The screening criteria will be discussed further in a pre-application workshop. An overview is provided below.

1: EIFD/CRIA Successor Agency Prerequisites

- Clear description of any former redevelopment project areas that overlap with the proposed TIF project boundaries.
- If overlap exists, a **Receipt of Finding of Completion** must be secured from the Department of Finance and submitted along with grant application.
- Provide detailed overview of current ROPS obligations (include most recent report submitted to the Department of Finance) and whether the City is producing residual revenues that could be applied toward the EIFD/CRIA. Lack of residual revenues post-dissolution could disqualify a proposed area for lack of property taxes if they are pledged to repay the debts of the former CRA in the foreseeable future.

Resource: City to obtain from the State Department of Finance and City Finance Department

2: Economic Development Potential

Demonstrated potential for economic development and therefore, a financially viable TIF district. This can be demonstrated by identifying underutilized and/or publicly owned parcels, planned projects, and looking at changes in parcel values over time:

- Identify underutilized and/or publicly held properties and planned projects within the study area.
- Clearly describe existing parcel values within the potential project area(s) and any significant changes over time (past 5-15 years).
- Clear demarcation and description (size, location, zoning, current use, obligation status) of publicly held properties within the potential TIF district that can be leveraged for economic development purposes.

Resource: SCAG GIS Land Use Data and Parcel Data (Screening Site\)

3: Current Zoning and Density in Project Area

- Clear description of the adopted or in-progress transit supportive regulatory document (Specific Plan, Overlay, etc.) with adoption date. Including:
    - The current <u>or proposed</u> zoning and General Plan principles and how they align with the 10 elements of the Transit Supportive Toolkit.

- The nexus with the transportation network,
- Clear description of regulatory principles that lend themselves to TIF district formation (infrastructure, economic development, sustainability, affordable housing, etc.).
- Whether an updated environmental clearance would be required.

Resource: City documents and SCAG GIS data (including General plan, Specific Plans, existing land uses).

4: Project Location and Infrastructure Needs

Proposals must demonstrate a strong and compelling nexus to public transportation and how project implementation will advance accessibility, integration, and usability of the public transportation system. This can be demonstrated by:

- Half-mile from a Metro Light Rail Station, Metrolink Station, and Metro Transitway/Bus Rapid Transit stations and adjacent transit corridors.
- Description the infrastructure needs such as bike and pedestrian improvements with map(s) that shows the project area, transit network, and 'infrastructure need' areas. Data should be gathered from the Metro Active Transportation Strategic Plan.
- Clear description of how a TIF district could improve infrastructure needs, improved connectivity to public transportation, district-scale sustainable infrastructure improvements, and encourage redevelopment of underutilized properties.

Resource: SCAG GIS data, HQTA/ TPP/ TPA maps, City documents

5: Potential Infrastructure Financing Solutions

- Using SCAG's Screening Criteria, Projects must demonstrate a Tax Increment Capture Rate of 15 cents (.15) for every dollar ($1) for the Project Area. Taxing entity proportional shares should be current (redevelopment era shares were pre-ERAF) and come from County Auditor-Controller.
- Clear demonstration of project area viability to secure grant funding to advance early implementation of TIF District activities, such as location in a disadvantaged community, other demographic data, safety statistics, etc.

Resource: SCAG Property Tax Data, GIS Data, TPA, Disadvantaged Community Maps

6: CRIA Eligibility

Clear description of the Project Area's eligibility to form a Community

Revitalization Investment Authority (CRIA):

- 80% of land (calculated by census tracts or block groups) must have median household income of less than 80% of statewide median
- Must exhibit at least three of the following conditions:
    1. Non-seasonal unemployment rate 3% higher than statewide median
    2. Crime rates 5% higher than statewide median
    3. Deteriorated or inadequate infrastructure
    4. Deteriorated commercial or residential structures
- Note: AB 2492 (NEW) to qualify under CalEPA designation as disadvantaged community (based on geographic, socioeconomic, public health, environmental factors).

Resource: SCAG Socioeconomic Data, GIS Data, including Disadvantaged Community Maps

B. <u>Project Description and Stakeholder Engagement</u>

Section 1: Project Description

- While a specific, defined boundary for the TIF district would be determined through the feasibility study, applicant must offer a clear, concise description of the targeted geographic area under consideration, the transit station(s) within the area, and the kinds of projects/programs that would be funded if a TIF district were in place
- The application must describe how it has positioned itself to advance a successful TIF district and transit supportive investments, through regulatory plan adoption <u>or proposed plan under development</u>, economic development efforts, early TIF exploration, and/or securing other funding sources to implement transit supportive projects.
- Describe how the proposed TIF district could support increased transit access and ridership. This can be based on anticipated public improvements, new development and community serving facilities, etc.

Section 2: Stakeholder Engagement

a. *Outreach Plan:*

- Clear identification of impacted communities and stakeholders affected by the proposed TIF district, including description of key community organizations (advocacy groups, business groups, religious/social organizations, etc.) that will be engaged and the role that they will play in the process
- Demonstration of a comprehensive and meaningful public

participation and outreach program necessary to identify support and create a vision/objectives for a TIF district.

- Clear description of how disadvantaged, underserved communities will be engaged in the process and the proactive activities that will be undertaken to engage these populations (translators, preparing materials in multiple languages, hosting meetings in the evenings and/or weekends, etc.).

A panel of LACMTA staff will evaluate all applications. TIF applications may include evaluators from SCAG. Applicants who do not receive award will have an opportunity to appeal to Metro's Technical Advisory Committee following Board of Directors' action on staff recommendations for award. Unsuccessful applicants will receive an email by LACMTA notifying them of the opportunity to appeal. Unsuccessful applicants interested in presenting their appeal should reply to LACMTA's project manager.

Disclaimer: *Please note that successful award does not imply County participation in future TIF District.*

VI. ELIGIBLE COSTS

Applicants will develop and submit a budget as part of the application. Funds awarded will not exceed the budget submitted and may be less if the key objectives can be achieved at lower costs. Any cost overruns shall be the responsibility of the applicant. The grant can fund:

a. Both third party consulting costs and internal staff costs for staff directly providing services with respect to the project will be eligible for funding. Such eligible costs shall not include overtime costs.

b. Costs associated with community outreach may include food, and non-cash incentives. Such proposed expenditures must be approved by Metro in advance of incurring costs.

VII. NON-ELIGIBLE COSTS

a. Third party consultants and contracted staff costs such as equipment, furniture, rental vehicles, mileage, food, office leases or space cost allocations.

b. Applicant staff overtime costs, mileage reimbursements, food and use of pool cars.

VIII. GENERAL AND ADMINISTRATIVE CONDITIONS

a. **Duration of Grant Projects.** Projects' schedules must demonstrate that the projects can be completed, including related actions by the governing body (if

any), within 36 months of award.

b. **Governing Body Authorization.** Completed TOD Planning Grant Program and TOC TIF Feasibility Study applications must include authorization and approval of the grant submittal and acceptance of award by the governing body, if required, within three months of notification of award.

c. **Grant Agreement.** Each awarded applicant must execute a Grant Agreement with Metro. The Agreement will include the statement of work, including planning objectives to be achieved, the financial plan reflecting grant amount and any local match, if applicable, as well as a schedule and deliverables. The schedule must demonstrate that the project will be completed within 36 months from the date of execution.

d. **Funding Disbursements.** The Program is reimbursement-based. Funding will be disbursed on a quarterly basis subject to satisfactory compliance with the expenditure plan and schedule
as demonstrated in a quarterly progress/expense report supported by a detailed invoice demonstrating the staff and hours charged to the project, any consultant hours, etc. An amount equal to 5% of each invoice will be retained until final completion of the project and audits. In addition, final scheduled payment will be withheld until the project is complete and approved by Metro and all audit requirements have been satisfied. All quarterly reports will be due on the last day of the months of October, January, April, and July. Project expenditures that reach 75% of grant budget will be put on suspension when they are behind in submitting a series of quarterly reports and deliverables. Grantees are responsible for submitting on-time completed quarterly reports and invoices. Reports that are delayed or incomplete will result in payments being suspended until the work is on schedule and deliverables are provided according to the Scope of Work and Attachment A.

e. **Audits.** All grant program funding is subject to Metro audit. The findings of the audit are final. At the Project Manager's discretion, informal audits will be administered by the project manager for grant awards under $750,000. Grant awards above the $750,000 threshold will be assigned a formal audit.

f. **Contract Management**. Program and contract grant management shall be administered by the City staff. City staff must clearly define roles of staff administration and management and may budget through the grant to hire contract staff to assist in managing the program. The contractor or consultant must be defined in the grant application and scope of work. Contractor or consultant staff shall not be associated with the hiring of consultants to perform the development of the regulatory documents.

g. **Design Guidelines**- Program outreach activities will adhere to Metro's logo and design requirements and standards by clicking on the following link: https://media.metro.net/projects_studies/tod/images/Metro Logo Guidelines.pdf

h. **Program Conditions**- Delivery of draft work products at significant milestones

and quarterly project briefings will be coordinated with Metro grant administrator.

- Grant recipients are required to share their proposed draft RFP, draft consultant contract and draft regulatory documents to Metro project staff prior to City approval.
- Quarterly briefings will be conducted with Metro staff throughout the project schedule at significant milestones, i.e., kick off meetings, draft documents, outreach events and committee approvals, etc.
- Grantee shall demonstrate that it can meet project milestones and stay within the budget identified in the Grant Agreement. If at the time Grantee has expended seventy-five percent (75%) of the Grant Funds and Grantee has not demonstrated that the work is sufficiently complete consistent with Grant Agreement, LACMTA's Project Manager will notify Grantee's Project Manager through written notice that payments will cease until a mutually agreed-to cost control plan is in place. In the case of insufficient Funds to complete the Project, no further payments will be made and Grantee will identify and secure additional funds to complete the project identified in Attachment A.

IX. **Deobligation of Funds**. Grantee must demonstrate timely use of the funds and effective implementation of project scope of work by:

i. Executing the Agreement within sixty (60) days of receiving formal transmittal of the Agreement from LACMTA.

ii. Meeting the Project milestone and deliverable due dates as stated in the Project Schedule and Budget, and Scope of Work.

iii. Timely submitting of the Quarterly Progress/Expense Reports as defined in Part II, Section 2 of the Agreement and the Reporting and Expenditure Guidelines; and

iv. Expending funds granted within thirty-six (36) months from the date the Grant Agreement is fully executed.

v. Procuring contract/consultant to complete grant Scope of Work within six (6) months of agreement execution with LACMTA.

vi. Notifying LACMTA as soon as grantee is aware of any changes and circumstances which alter the eligibility of the Board approved project.

In the event that timely use of funds and effective implementation of the project scope of work is not demonstrated, the Project will be reevaluated by LACMTA as part of its annual budget recertification of funds/TOD Planning Grant Program deobligation process and the Funds may be deobligated and reprogrammed to another project by the LACMTA Board of Directors. Prior to

LACMTA Board of Directors' action to deobligate funds, Grantees recommended for deobligation will have an opportunity to appeal to Metro's Technical Advisory Committee. Grantees will receive a letter by LACMTA notifying them of the opportunity to appeal. Grantees interested in presenting their appeal should reply to LACMTA's project manager.

Administrative extensions may be granted under the following conditions:

(i) Project delay due to an unforeseen and extraordinary circumstance beyond the control of the project sponsor (legal challenge, act of God, etc).
(ii) Project delay due to an action that results in a change in scope of work or project schedule that is mutually agreed upon by LACMTA and the project sponsor prior to the extension request.
(iii) Project fails to meet completion milestone, however public action on the proposed regulatory change(s) has been scheduled and noticed to occur within 60 days of the scheduled completion milestone.
(iv) Administrative time extensions longer than 6 months will require a formal written amendment of the grant agreement.

Informal administrative amendments may be granted under the following conditions:

(i) Project that requires a one-time 6-month time extension based on the Administrative extensions conditions noted above may be eligible for an informal administrative approval. Informal administrative approval will be provided via a signed letter from Metro Project Manager. The Metro Project Manager must secure concurrence from the Senior Executive Officer.

Upon full execution of agreement, Grantee has committed to having the staffing necessary to fulfill the scope of the project. Therefore, inadequate staffing shall not be considered a basis for administrative extensions or appeal of deobligation of funds.

If Grantee does not complete an element of the Project, as described in the Scope of Work, due to all or a portion of the Funds lapsing, the entire Project may be subject to deobligation at LACMTA's sole discretion. In the event that all the Funds are reprogrammed, the Project shall automatically terminate.

ATTACHMENT A

Transit Supportive Planning Toolkit

10 Transit Supportive Planning Elements			
 Compact Design	Higher density, especially within a quarter or half mile of a transit facility, can impact travel behavior by providing more opportunities to live in close proximity to transit.	 Complete Neighborhoods	Complete neighborhoods include a variety of housing options, retail and commercial services, and community services. Complete neighborhoods bring land uses and amenities closer together, reduce travel distances, and allow for more non-automobile trips.
 Street & Network Connectivity	Well-connected streets and non-automobile networks bring destinations closer together, reduce travel distances, and improve pedestrian and bicycle access to adjacent areas and uses.	 Site Layout, Parking Layout & Building Design	Placing building towards the edges of streets and public spaces help create walkable urban environments.
 Affordable Housing	Low-income residents often have some of highest rates of transit ridership. Adding new affordable housing near transit can improve access to employment, health care, and education opportunities and reduce commuting cost for low-income families.	 Commercial Stabilization, Business Retention & Expansion	Commercial stabilization measures can help protect and encourage existing small, local businesses that serve the needs of neighborhood residents.
 Transit Prioritization, Accessibility & Area Design	Prioritizing transit and active transportation as the first and highest priority of a circulation network may result in increased transit service, through better travel times and speeds, which can result in significant transit ridership	 Parking Management	Efficient parking management can reduce the parking supply needed, allowing an increase in land use intensity, mix of uses, wider sidewalks, and bike networks.

	improvements.		
 Transportation Demand Management	TDM strategies influence a variety of factors to encourage greater transportation system efficiency, including trip mode, trip timing, travel safety, and trip cost.	 Pedestrian & Bicycle Circulation	Adding pedestrian and bicycle amenities to station areas and connecting those facilities to the surrounding area can create a more accessible transit environment, encouraging new riders.

California Sustainable Communities Planning Grants and Incentives Program FINAL REPORT 2013

Department of Conservation/ Division of Land Resource Protection

Final Report for the reporting period: December 1, 2016 to January 31, 2017

Grantee: Los Angeles County Metropolitan Transportation Authority Grant No. 3012-568

Project Title: A Greater LA: The Framework for Regional Climate Action and Sustainability

Signature line:_____(authorized representative)

All Grant Recipients:

(a) Grant recipients from all three Focus Areas shall be capable of presenting an overview of their project to the COUNCIL at the conclusion of the Grant Agreement. The overview shall include discussion of successes, barriers, and lessons learned from both the grant process and the grant-funded project.

Metro was funded to develop the Transit Supportive Planning Toolkit (the Toolkit). The Toolkit will aid local jurisdictions in developing and adopting land use regulatory changes supportive of transit and more sustainable forms of developments. The Toolkit includes an assessment of best practices related to land use, density, diversity of uses, parking, bicycle/pedestrian amenities and linkages, public facilities and infrastructure, sustainable neighborhood design, and community outreach. In addition, it includes an analysis of tools for assessing the economic and environmental benefits of transit supportive development.

In April 2017 Metro staff is taking to the Board of Directors (Board) a recommendation that the Board adopt the Transit Supportive Planning Toolkit (Toolkit) as a component of Metro's TOD Planning Grant Program Guidelines (Guidelines). The Guidelines establish the parameters for Metro's TOD Planning Grant Program (Program) which funds cities across the County to develop and adopt transit supportive regulatory documents. These activities include, but are not limited to, new or amended specific plans, ordinances, overlay zones or general plan amendments; transit village development districts; and environmental studies required for adopting new or amended regulatory documents. The Toolkit is now live as of January 2017 and is available at our website metro.net/projects/tod-toolkit/. If the Board approves the April board action, future Metro grantees will be required to use the Toolkit which will make a substantial difference in creating sustainable communities across LA County (the County).

As we roll out Round 5 of the Program with the Toolkit, local municipalities will apply using the resources of the Toolkit as part of their TOD planning grant application to ensure all 10 characteristics of transit-supportive planning are addressed in a holistic manner. Staff will routinely hold technical

assistance workshops on the Toolkit and update it as a living document. These technical assistance workshops will disseminate the Toolkit's information and tools to local jurisdictions throughout the County. Adopting transit-supportive regulations will position jurisdictions to pursue funds for sustainable development that improve access to our public transit system and reduce the impact to our environment.

FOCUS AREA 3 – REGIONAL COLLABORATIVE

(a) What local plans within their region reflect the goals and sustainability objectives outlined in the applicable regional planning documents?

Applicable regional planning documents, several of which were discussed in the first and second annual report but continue to be relevant today, include: Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), Los Angeles County Metropolitan Transportation Authority (Metro) Countywide Sustainability Planning Policy, Metro Complete Streets Policy, Metro First Last Mile Strategic Plan, Metro Long Range Transportation Plan (LRTP), Metro Short Range Transportation Plan (SRTP), and the South Coast Air Quality Management District (SCAQMD) greenhouse gas emission reduction policies and regulations. In addition, new applicable regional planning documents are the Metro's Active Transportation Strategic Plan and the City of LA's pLAn.

Regional Planning Documents

SCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

For Los Angeles County, the Southern California Association of Governments (SCAG) is the regional planning organization responsible for creating a sustainable communities strategy. The **2016-2035 RTP/SCS** plan created by SCAG is expected to result in regional benefits to mobility, economy, health, and sustainability. It anticipates it will yield a reduction of per capita passenger vehicle emissions of 9% by 2020 and 18% by 2035. The SCS/RTP present a vision of projected job growth and housing growth in the region, along with projected land-use data from 2012 to 2035. The SCS specifically identifies active transportation and transit as critical components to living and working in more compact communities with fewer emissions.

Other anticipated outcomes from the 2012-2035 RTP/SCS include:

- Achieve overall attainment in the South Coast Air Basin for criteria pollutants (Ozone, PM10, $PM_{2.5}$, CO, and NO2).
- A two-thirds reduction of NOx emissions by 2023 and three-fourths by 2030.
- Reduction of VMT and congestion delays.
- Increase use of near-zero and zero-emission technologies for passenger vehicles.

The RTP/SCS includes actions and strategies that focus on four key areas:

- Land Use Actions and Strategies
- Transportation Network Actions and Strategies
- Transportation System Management Actions and Strategies
- Clean Vehicle Technology Actions and Strategies

All of Los Angeles County has opted to follow the SCAG 2016-2035 RTP/SCS except for the Gateway Cities Council of Governments (COG) (located in southeast Los Angeles County). The Gateway Cities COG elected to develop its own sub-regional sustainable communities strategy, with a memorandum of understanding to work with SCAG and meet the SCAG targets. The Gateway Cities COG SCS combines five bundles of strategies to meet estimated GHG reduction targets: transportation strategies, transportation demand management, land use strategies, regional transportation projects (through Metro), and interactive effects of land use and regional transit.

Metro and SCAG have entered into a Joint Work Program to implement the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). On April 4, 2012, the SCAG Regional Council unanimously adopted the 2012-2035 RTP and the region's first SCS. The adopted RTP/SCS includes land-use and transportation strategies that will support the region in meeting the established Greenhouse Gas (GHG) reduction targets of 8% per capita by 2020 and 13% per capita by 2035. While SCAG develops the RTP/SCS, the land-use and transportation changes within it are largely driven by the respective actions of local governments and County Transportation Commissions (Metro) that program the majority of transportation funds flowing into the region. Metro recognized the benefits of being engaged in the implementation of the Plan in order for its benefits to be realized, as well as, to ensure the region continues to make progress that can be reflected in the 2016 RTP/SCS.

The Metro Countywide Sustainability Planning Policy is a complement to Metro's efforts to improve air quality and increase transportation choices that have been underway for more than two decades. It is a tool for better defining the agency's long-term, desired sustainability outcomes in order to facilitate greater coordination and collaboration across transportation modes, planning disciplines (land-use, housing, environment, economic development, health, utilities), and government agencies.

For the last two decades, as part of its efforts to reduce local air pollution, SCAQMD has promoted a number of programs to combat climate change. For instance, SCAQMD has promoted energy conservation, low-carbon fuel technologies (natural gas vehicles; electric-hybrids, hydraulic hybrids, and battery-electric vehicles), renewable energy vehicle miles traveled (VMT) reduction programs, and market incentive programs.

SCAQMD's first formal action to fight greenhouse gasses (GHG) occurred in 1991, with the issuance of its Policy on Global Warming and Stratospheric Ozone Depletion, targeting a transition away from chlorofluorocarbons (CFCs) as an industrial refrigerant and propellant in aerosol cans. In the early 1990s, SCAQMD adopted several regulations regarding ozone depleting compounds which served as models for state and federal agencies.

SCAQMD has adopted Regulation XXVII – Climate Change to create The Greenhouse Gas Reduction Program for greenhouse gas emission reductions in the District. The District will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

SCAQMD has adopted the Air Quality-Related Energy Policy, which integrates air quality, energy, and climate change issues in a coordinated and consolidated manner. The policy document first presents an overall view of energy consumption within the Basin in 2008 and the related NOx, air toxics, and CO2 emissions contributed by energy type. Ten air quality-related energy policies to guide and coordinate SCAQMD efforts are presented, followed by ten actions to support the policies.

The Governor's Office of Planning and Research has prepared a list of plans and initiatives adopted by California Jurisdictions to address GHG emissions. These local plans include Climate Action Plans; General Plan policies; General Plan Implementation measures; GHG reduction Plans; Sustainability Plans; and, Ordinances. Of the 88 cities in LA County, 12 have adopted Climate Action Plans and another 18 are in progress; 10 have adopted General Plan policies, with another 17 in progress. 7 have adopted General Plan implementation measures, with another 9 in progress. 6 have adopted GHG Reduction Plans, with another 7 in progress; 12 have adopted Sustainability Plans, with another 6 in progress; and, 6 have adopted climate change related ordinances, with another 6 in progress. OPR's list was last updated in June 2014.

In addition to these regional efforts, two cities in Los Angeles County have demonstrated particular climate action leadership, Santa Monica and the City of Los Angeles. The respective climate action and sustainability plans of these cities inform The Framework.

Metro Countywide Sustainability Planning Policy

The Metro Countywide Sustainability Planning Policy, adopted in 2012, is a complement to Metro's efforts to improve air quality and increase transportation choices. It is a tool for better defining the agency's long-term, desired sustainability goals in order to facilitate greater coordination and collaboration across transportation modes, planning disciplines (land-use, housing, environment, economic development, health, utilities), and government agencies.

The following key concepts guide the policy framework:

- "Green Modes" or clean mobility options like active transportation, rideshare, transit, and clean-fueled vehicles.
- Integrated transportation and land use planning to increase opportunities for people to live and work in transit corridors and more compact communities.
- Multiple strategy approaches, or "bundling" complementary strategies together for maximum benefit, in order to derive the greatest return on major investments.
- Network Optimization, or technological improvements that increase connectivity.
- Regional and local focus on intermodal infrastructure investment to support long-term sustainable transportation demands.

The framework organizes policies according to location and accessibility, in terms of residential density and employment centrality, documenting the VMTs of individual trips. The framework guides the planning process, indicating the ways to achieve a more sustainable future such as a reduction in per capita VMTs through modal shifts, advancements in vehicle technology, improving traffic operations to smooth traffic and add auto capacity.

Metro Complete Streets Policy

Adopted in 2014, the Metro Complete Streets Policy advances the vision provided in Metro's Countywide Sustainability Planning Policy. The term "Complete Streets" describes a comprehensive, integrated transportation network with infrastructure and design that allows safe and convenient travel along and across streets for all users, including pedestrians, users and operators of public transit, bicyclists, persons with disabilities, seniors, children, motorists, users of green modes, and movers of commercial goods. A complete street may include: sidewalks, bike lanes, special bus lanes, frequent crossing opportunities, pedestrian signals, curb extensions, and narrower travel lanes. These infrastructure improvements are intended to reduce auto dependency and its negative environmental impacts by creating viable and safe alternatives to travel.

The Policy serves as a guidance tool for Metro to better coordinate within the various functions and departments of the agency and between partner organizations that have influence or jurisdiction over the public realm. It is intended to achieve the following goals:

- Maximize the benefits of transit service and improve access to public transit by making it convenient, safe, and attractive for users.
- Maximize multi-modal benefits and efficiencies.
- Improve safety for all users on the transportation network.
- Facilitate multi-jurisdictional coordination and leverage partnerships and incentive programs to achieve a "complete" and integrated transportation system that serves all users.

- Establish active transportation improvements as integral elements of the countywide transportation system.
- Foster healthy, equitable, and economically vibrant communities where all residents have greater mobility choices.

Metro First Last Mile Strategic Plan

Metro is developing a world-class rail system with stations that will be a short distance (three miles or less) from the homes of 7.8 million Los Angeles County residents. Over time, this number will continue to grow as cities modify their land-use plans to provide more housing and jobs near stations, consistent with market demand and regional goals for more sustainable communities. The Metro First Last Mile Strategic Plan, adopted in 2014, outlines a specific infrastructure improvement strategy designed to facilitate easy, safe, and efficient access to the Metro system. The toolbox within the plan identifies improvements for crossing enhancement/connections, signage/wayfinding, safety/comfort, allocation of street space, and plug-in components. The plan serves as a resource for Metro and the many public and private organizations throughout the region working to update programs, land-use plans, planning guidelines, business models, entitlement processes, and other tools that take advantage of LA County's significant investment in the public transportation network. The First Last Mile Strategic Plan goals include:

- Expand the reach of transit through infrastructure improvements.
- Maximize multi-modal benefits and efficiencies.
- Build on the RTP/SCS and Countywide Sustainable Planning Policy (multi-modal, green, equitable and smart).

By improving transit access and effectiveness, more people will likely opt into public transportation which in turn will reduce vehicle miles traveled (VMTs) and greenhouse gas emissions (GHGs), integrate physical activity into daily commute patterns, and improve economic vitality by connecting people to regional markets.

Metro Long Range Transportation Plan

Metro's LRTP was adopted in 2009 and lays out a 30-year strategy for improving mobility in Los Angeles County. This $300 billion LRTP and the projects within it are:

- Expanding and improving bus and rail service.
- Adding carpool lanes.
- Building freeway interchanges and carpool lane connectors.
- Funding arterial, signal synchronization, transportation demand management, bikeway, pedestrian, transit capital and transportation enhancements through the Call for Projects.

- Promoting rideshare and other Transportation Demand Management strategies that provide options to driving alone.

By 2040, the transit, bicycling, and carpool projects in the LRTP will reduce air pollution by an estimated six metric tons daily, daily VMT by three million, and daily GHG emissions by nearly 1,370 metric tons. Metro is currently working to update the LRTP and anticipates adopting the new LRTP in 2017.

Metro Short Range Transportation Plan

The 2014 SRTP is a ten-year action plan that guides Metro's programs and projects through 2024. The SRTP advances the long-term goals identified in the 2009 Long Range Transportation Plan, identifying those projects and programs that will be implemented over the next ten years in accordance with the project priorities and funding schedules of the LRTP. Approximately $88 billion has been committed over the next decade to implement these projects and programs which move Los Angeles County towards improved mobility, better air quality and increased transit access. Metro is investing most of these funds into projects that provide alternatives to the single-person car, thereby supporting the reduction of air pollution, VMT, and GHG emissions. Eighty-seven percent of the SRTP funds are for transportation alternatives including transit, carpool lanes, ridesharing programs, bikeways, and pedestrian linkages.

Metro Active Transportation Strategic Plan

The Active Transportation Strategic Plan (Plan) is Metro's countywide effort to identify strategies to increase walking, bicycling and transit use in Los Angeles County. The Plan's policy and infrastructure recommendations will require collaboration between Metro, local and regional agencies, and other stakeholders to ensure implementation. The Plan will focus on improving first and last mile access to transit and propose a regional network of active transportation facilities, including shared-use paths and on-street bikeways, and develop a funding strategy to get them built. Identify improvements that **increase access** to transit for people who walk and bike. The Active Transportation Strategic Plan was adopted by the Metro Board of Directors on May 26, 2016.

The objectives of the Active Transportation Strategic plan are to:

- Create a **regional active transportation network**.
- Develop **supporting programs and policies** related to education, encouragement, enforcement, and evaluation.
- Guide **future investments**.
- Develop a **funding strategy**

<u>Local Plans in Support of Regional Planning Documents</u>

The local plans described below were discussed in the previous annual report and continue to reflect the goals and sustainability objectives outlined in the regional planning documents discussed in both this

and last year's report, as well as the objectives of those new regional planning documents included in this report. When appropriate, the local plans descriptions have been updated.

Sustainable Community Strategies

As stated in the first annual report, all of Los Angeles County has opted to follow the SCAG 2012-2035 RTP/SCS except for the Gateway Cities Council of Governments (COG) (located in southeastern Los Angeles County). Although the Gateway Cities COG elected to develop its own sub-regional sustainable communities strategy, it agreed to work with SCAG to meet their targets. The Gateway Cities COG SCS focuses on five bundles of strategies for achieving GHG reduction targets: transportation strategies, transportation demand management strategies, land use, regional transportation projects (through Metro), and the interactive effects of land use and regional transit projects.

Climate Action and Sustainability Plans

Climate action plans take an inventory of emissions from building energy, land use and transportation, water consumption, and waste generation, etc. and set measures for reducing future emissions to achieve specific reduction targets. Of the 88 cities in Los Angeles County, 12 have adopted climate action plans and another 16 are in progress. These climate action plans vary in scope and intensity but are overall in support of the regional planning objectives. In addition to climate action plans, 12 cities have adopted sustainability plans, with 6 more in progress. Although less comprehensive then sustainability plans, several cities have adopted, or are working towards adopting, GHG reduction plans (6 adopted and 7 in progress). Furthermore, several local jurisdictions within the county have developed or are in the process of developing general plan policies (10 adopted and 17 in progress), general plan implementation measures (7 adopted and 9 in progress) and ordinances (6 adopted and 6 in progress) supportive of sustainability efforts consistent with all three regional policy documents.

Transit Supportive Planning

Several local jurisdictions are also developing transit supportive land use plans that reflect the goals and sustainability objectives outlined in the SCAG RTS/SCS, Metro Countywide Sustainability Planning Policy, Metro Complete Streets Policy, and Metro First Last Mile Strategic Plan, Metro LRTP, Metro SRTP and SCAQMD greenhouse gas emission reduction policies and regulations. Through Metro's TOD Planning Grant Program, 27 Los Angeles County local jurisdictions have or are amending and/or developing new transit-supportive specific plans, overlay zones, and/or general plan updates. These regulatory changes will reduce GHG emissions and per capita vehicle emissions, as well as increase transit ridership and energy efficiency by promoting compact development and non-automobile forms of transportation around transit stations. The regulatory changes will help focus future housing and job growth within high-quality transit areas.

Complete Streets

Of the 88 cities in Los Angeles County, 39 cities have adopted complete streets guidelines into their General Plan and 4 cities have adopted a complete streets policy. These policies support all regional planning documents by promoting clean mobility options such as active transportation and infrastructure investment that support long-term sustainable transportation demands. By promoting alternative methods of transportation to the car, complete streets reduce GHG emissions and VMT, therefore improving the region's air quality.

Active Transportation Strategic Plans

When it was adopted, the Board of Directors also passed a motion to implement first/last mile utilizing the data collected and analyzed in the ATSP. Metro is in the process of carrying out the implementation of the ATSP and the first/last mile implementation actions directed by the Board.

(b) What local plans do not yet reflect the regional planning objectives?

Of the 88 cities in LA County, 43 have not yet adopted, nor are in the process of drafting, policies and/or programs to address climate change and/or to reduce GHG emissions from their community and municipal activities.

(c) What are the issues/barriers that may have arisen to make it difficult to implement the sustainability goals at the local level? Indicate a plan to overcome those issues/barriers.

NOTE: There has not been any change to the issues and barriers in implementing sustainability goals at the local level for the Los Angeles region. Therefore, the following text remains significantly the same as in Annual Report #2.

Local practitioners and decision-makers continue to face the same barriers discussed in last year's annual report. These barriers include lack of staff technical expertise in the subject matter and capacity, as well as funds.

Most jurisdictions in the region lack staff capacity to research relevant information on climate change, resiliency planning, and implementation measures. Jurisdictions don't have the necessary human resource to create climate action policies and programs, therefore impeding the adoption of these plans by decision makers. This hampers local resiliency planning efforts and leaves potential program implementation funds untapped.

Lack of capacity and funds also make it difficult for local jurisdictions to implement sustainability goals with respect to land use and transportation. As previously stated, many jurisdictions have outdated land

use regulatory documents which promote a car-oriented environment. The recent recession and dissolution of community redevelopment agencies left local jurisdictions understaffed and pressed for funds to plan for more sustainable land use patterns and transportation options. Local jurisdictions lack the resources to update and/or create new regulatory documents that promote a mix of uses, higher density, lower parking requirements, use of transit, pedestrian-friendly design standards, and a more sustainable future.

The Transit Supportive Planning Toolkit will aid local jurisdictions in adopting land use regulatory changes supportive of transit and more sustainable forms of developments. Contingent on Metro Board approval, the Toolkit will become a resource to utilize with Metro's TOD Planning Grant Program which provides funds to local jurisdictions (including funds for staff labor) to develop and adopt transit supportive land use regulations.

(d) The progress to date on the goals measured by the indicators outlined in the grant application. The indicators can include process goals, such as numbers of meetings or the extent of outreach efforts, as well as specific metrics such as reduced VMT or additional miles of bike lanes. Any indicators that cannot be measured at the time the annual report is due (because the project has not matured to the point that the indicator is meaningful), should include a statement as to why a particular indicator is not yet measurable.

Task 1: Grant Administration

No indicators identified in the grant agreement.

Task 4: Local Implementation Measures/ TOD Model Ordinance

1) Number of literature, policies and best practices reviewed-

The consultant team reviewed an extensive amount of policies, plans, and reports to develop the draft Transit Supportive Planning Toolkit. With the number of tools and case studies that have been incorporated into the draft toolkit, well over 200 different policies, plans, and reports were reviewed. This research and review process led to the development of the 10 Characteristics of Transit Supportive Places identified in the toolkit, as well as the 37 planning and policies tools and 108 case studies.

2) Number of categories created for Matrix –

The Best Practices Matrix developed as part of Task 3.1 includes 10 characteristics that are commonly found in successful transit supportive places and planning documents. These 10 characteristics include:

- Compact Design: Compact design, or density, refers to the number of people, homes, or jobs per unit of area. Density, especially within a quarter or half -mile of a transit facility, can impact

travel behavior by reducing travel distances for daily activities, improving mobility options, and create environments for people to rely on non-automobile modes.

- Complete Neighborhoods: Complete neighborhoods refer to places where people have safe and convenient access to goods and services. Complete neighborhoods include a variety of housing options, retail and commercial services, and community services.

- Street and Network Connectivity: Connections for pedestrians, cyclists, and vehicles improve accessibility to adjacent areas and uses.

- Site Layout, Parking Layout, and Building Design: Placing building towards the edges of streets and public spaces help create walkable urban environments. Buildings placed near the edge of sidewalks help provide a sense of definition to streets and also emphasize the pedestrian access compared to locations where parking is located between the sidewalk and the building.

- Affordable Housing: Low-income residents, including seniors, often have some of the lowest rates of car ownership and highest rates of transit ridership. Adding new affordable housing near transit can improve access to employment, health care, and education opportunities and reduce commuting cost for low-income families while creating a more efficient transit system.

- Commercial Stabilization, Business Retention, and Expansion: Increasing property values near transit stations may increase cost pressures on existing businesses, attracting new retailers and jobs that compete with existing neighborhood businesses. Commercial stabilization measures can help protect and encourage existing small, local businesses that serve the needs of neighborhood residents.

- Transit Prioritization, Accessibility, and Area Design: Transit-first policies prioritize transit and other non-motorized transportation modes and can be used to support decision-making related to sustainable transportation.

- Parking Management: Parking management affects the relative supply, price, and regulation of parking facilities within an area. Efficient parking management can reduce the parking supply needed, allowing an increase in land use intensity, a mix of uses, wider sidewalks, and bike networks.

- Transportation Demand Management: Transportation Demand Management (TDM) refers to various strategies aimed at more efficient use of transportation systems.

- Pedestrian and Bicycle Circulation: Quality of pedestrian and bicycle circulation conditions affect travel activity including transit ridership.

3) Number of policies and strategies in Matrix –

The Transit Supportive Planning Toolkit includes 37 planning and policy tools, organized into the following categories:

- Land Use/Planning
- Transportation and Parking
- Urban Design
- Financing

4) Number of model ordinances, strategies offered –

The 37 Transit Supportive Planning and Policy Tools include 108 individual case studies that examine plans, programs, ordinances, and strategies adopted by other jurisdictions in Los Angeles County and throughout the United States. The case studies include direct links to the actual plan documents or ordinance language for review by local agency staff.

5) Number of manuals distributed/requested –

The Transit Supportive Planning Toolkit content has been published on Metro's website.

6) Number of training materials distributed/requested –

Metro staff held five workshops and provided training which included a presentation that provided an overview of the Transit Supportive Planning Toolkit, as well as a fact sheet handout that identified the primary components of the toolkit. The fact sheet was distributed to all attendees of the five workshops and the workshop presentation will be made available for download from the Toolkit website once the final version is live.

7) Number of workshops held –

Five training workshops were conducted on the following dates:

- Tuesday, July 26, 2016 – San Gabriel Valley
- Wednesday, July 27, 2016 – Gateway Cities
- Thursday, July 28, 2016 – Downtown Los Angeles
- Thursday, August 18, 2016 – Webinar
- Wednesday, August 24, 2016 – Downtown Los Angeles

8) Number of attendees at workshops –

The number of attendees at each workshop was:

- Tuesday, July 26, 2016 – San Gabriel Valley – 16 attendees
- Wednesday, July 27, 2016 – Gateway Cities – 20 attendees

- Thursday, July 28, 2016 – Downtown Los Angeles – 14 attendees
- Thursday, August 18, 2016 – Webinar – 27 attendees
- Wednesday, August 24, 2016 – Downtown Los Angeles – 12 attendees

The following indicators are not measurable as Metro does not have the ability to implement land use actions. Metro developed a resource that has been made available to cities in Los Angeles County to advance their planning work. Each metric description includes anticipated method(s) of measure (if feasible) that parties could establish if they have the capacity to implement as part of their grant funded regulatory planning document.

Increase Affordable Housing

- Adoption of model ordinance elements by municipalities – Metro does not have land use control. However, the Toolkit identifies Affordable Housing as one of the 10 characteristics of transit supportive places. As such, contingent on Board approval, Metro TOD Planning Grant Program grantees would be encouraged to consider affordable housing in their planning efforts.
- Metro could track the number of Metro-funded plans that incorporate affordable housing policies.
- Increase in affordable housing developments and density bonus recipients (where ordinance allows such bonus for the inclusion of affordable units) – This is beyond the scope of Metro Transit Supportive Planning Toolkit.
- Increase in affordable units in mixed-use and infill developments – Similar to the item above. Cities would need to track and provide data to Metro for compilation of county-wide data.

Promote Infill and Compact Development

- Municipalities participating in the development of the planning tools and Model Ordinance elements – Staff from the County and 32 different cities attended the Technical Assistance Workshops and participated in a review of the Transit Supportive Planning Toolkit. All attendees were asked to provide comments and feedback regarding the toolkit elements, including the tools, case studies, and other information.
- Adoption of Model Ordinance elements and related policies that encourage compact and mixed-use development –Metro may be able to track this metric through the number of Metro-funded plans that align with the Toolkit.
- Increase in the number of transit-oriented districts within the County that provide incentives for appropriate development – Metro would need to define what is a “transit-oriented district.” If a single definition is agreed to, this metric could be tracked.
- Decrease in the number of inappropriate or automobile-oriented uses within a ½ mile radius of major transit hubs – This metric may be difficult to track and would require defining inappropriate or automobile-oriented uses. This definition could change from city to city.

- Increase in the number of walkable public services, such as parks and community centers - This metric may be difficult to track. This definition could change from city to city.
- Increase in housing units within a predetermined distance of transit and professional centers – Metro can track the number of Metro-funded plans that increase potential housing units within the boundaries of Metro-funded plans.

Revitalize Urban and Community Centers

- Increase in the number of redeveloped lots within transit-oriented districts and other community centers – This is difficult to track. Metro does not have land use authority and funds local cities to develop regulatory documents, but not to implement parcel redevelopment.
- Increase in funds allocated toward infill and rehabilitation development as compared to Greenfield development – Not recommended for tracking as this metric may be difficult to isolate the proportion of impact resulting from transit supportive policies. It may also be difficult to obtain accurate information regarding project costs and fund allocation.
- Increase in the number of community uses of existing public buildings - Not recommended for tracking as this metric may be difficult to isolate the proportion of impact resulting from transit supportive policies.
- Increase in number of permits issued for redevelopment and rehabilitation projects – Metro does not have land use or permit authority in Los Angeles County, this is subject to local control- therefore this is not something Metro can track nor can we obligate local cities to track.
- Increase in the number of walkable public services, such as parks and community centers - This metric can be tracked by accounting for the number of Metro-funded plans that advance policies that create improved regulatory environments around increasing walkable public services.

Reduce Automobile Usage and Fuel Consumption

- Increase in transit ridership – Metro can track transit boardings at stations before and after the adoption of transit supportive plans and policies.
- Decreased per capita VMT – Metro cannot take on the responsibility of tracking this. This metric can be tracked on a regional basis and can be documented on a project-by-project basis once full adoption of SB 743 CEQA standards is completed. However, Metro can account for the number of Metro-funded plans that include the transit supportive planning principles.
- Decrease in congestion on local freeways – This metric may be difficult to isolate the proportion of impact resulting from transit supportive policies, when compared to other factors such as the economy, VMT, etc.
- Increased number of pedestrian and bicycle corridors – Can be tracked by monitoring the number of miles of new bicycle and pedestrian infrastructure. However, this metric may be

difficult to isolate the proportion of impact resulting from transit supportive policies and is not something that Metro has control over or can track.

- Increased number of alternative and efficient cars and trucks – Not recommended for tracking as this metric may be difficult to isolate the proportion of impact resulting from transit supportive policies.
- Reduction in the consumption of fossil fuels – Not recommended for tracking as this metric may be difficult to isolate the proportion of impact resulting from transit supportive policies.

Improve Infrastructure Systems

- Increase, in miles, of public transit ways (rail or dedicated bus) and bikeways – Metro can track public transit ways but cannot track local bikeways as Metro does not have any control over those infrastructure improvements and is not notified when they occur.
- Increase in retrofit plans and studies for sea walls, flood control, and fire protection in anticipation of climate impacts- This is beyond the scope of Metro Transit Supportive Planning Toolkit
- Increase in the number of retrofitted buildings for energy efficiency- This is beyond the scope of Metro Transit Supportive Planning Toolkit
- Increase in park acreage per capita countywide LA County- This is beyond the scope of Metro Transit Supportive Planning Toolkit

Promote Equity

- Adoption of model ordinances and strategies that are targeted to cities with median income levels less than the countywide average – Metro staff is recommending that the Board adopt amendment Guidelines for the Planning Grant Program. The amended Guidelines include equity considerations. Contingent on Board approval, Metro can track the number of plans that are advanced.
- Increase in public transportation availability in cities with median income levels less than the countywide average – Metro can track through awards of project funding and completion of projects through TOD Planning Grant Program.
- Decrease in energy and water costs/consumption rates- Utility companies already have such programs in place.

Strengthen the Economy

- Increase in green job training programs and curriculums in the local community colleges and universities- This is beyond the scope of Metro Transit Supportive Planning Toolkit

- Increase in number of green jobs - This is beyond the scope of Metro Transit Supportive Planning Toolkit
- Increase in number of public transit-oriented jobs- This is beyond the scope of Metro Transit Supportive Planning Toolkit
- Increase in revenue from public transportation sector – Metro can track transit farebox amounts.

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

Metro

Board Report

File #: 2017-0144, **File Type:** Agreement **Agenda Number:** 37

REGULAR BOARD MEETING
MAY 25, 2017

SUBJECT: NORTH HOLLYWOOD JOINT DEVELOPMENT PROJECT

ACTION: AUTHORIZE EXECUTION OF EXCLUSIVE NEGOTIATIONS AND PLANNING AGREEMENT FOR NORTH HOLLYWOOD JOINT DEVELOPMENT PROJECT

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to execute an Exclusive Negotiations and Planning Agreement (ENA) with Trammell Crow Company and Greenland USA (Developer) for the **properties at North Hollywood Station** (Site), for 24 months with the option to extend up to 30 months.

ISSUE

On June 24, 2016, Metro and the Developer entered into a 6-month Short Term ENA for the North Hollywood Joint Development Project (Project). Both parties executed a 3-month administrative extension of the Short Term ENA on December 24, 2016, and the Metro Board of Directors authorized an additional 3-month extension on February 23, 2017. These extensions were made to allow additional time for Metro and the Developer to 1) confirm feasibility of transit infrastructure requirements for project shaping; 2) ensure that the proposed development does not physically preclude relevant transit projects funded by the approval of Measure M; and 3) conduct further public outreach to share the results of these feasibility studies and site programming and gather further community feedback.

In the Short Term ENA period, the Developer worked in good faith with Metro staff and performed pursuant to the requirements of the agreement. Staff is now in a position to recommend entering into an ENA, which will enable more advanced negotiations around development of the Site and will allow processing the required entitlements including environmental approvals.

DISCUSSION

The North Hollywood Station is a regional, multi-modal transportation hub that includes the termini of the Metro Red and Orange Lines, a local bus layover facility, and a Metro park-and-ride lot. The Site is comprised of four parcels, one easterly and three westerly of Lankershim Boulevard, with potential transit connections available via underground access panels. The Site has arterial and freeway access and extensive public transportation access. Attachment A includes a map of the Metro properties for joint development and their approximate acreages. In total, the Site comprises 15.6

acres situated at the heart of North Hollywood Arts District, and is part of Metro's Transit Oriented Communities (TOC) Demonstration Program.

Proposed Development Program and Design

In the fall of 2015, Metro conducted a robust community outreach process to create a Guide for Development for the Site. Input from this process included the community's desire for a high-density, iconic development that is balanced with well-designed open space and celebrates the eclectic, artistic character of the North Hollywood Arts District. The Board approved the Guide for Development in December 2015.

The Developer's site plan and development program, provided in Attachment B, meet the vision laid out in the community-driven Guide for Development. The proposed 1.9 million square foot development includes two high-rise residential towers, four podium residential buildings, of which two are affordable housing, a 300,000 square foot mid-rise office building, a varied 140,000 square foot retail program that potentially includes specialty grocery uses, neighborhood-serving restaurants and retail goods and services; low-rise office space; common area amenities; and pedestrian improvements. In addition to providing these amenities, the proposed development features strong urban design characteristics that will engage the activity generated by the Metro station and activate the streets and open spaces surrounding the new buildings.

A key component of the project is the consolidation of transit facilities at a new multi-modal transit center that will integrate local bus service and Metro Orange Line service on the west side of Lankershim. The consolidated facility will make transfers from Red and Orange Line to local buses more convenient and comfortable. The proposed transit center also includes a dedicated, underground garage, replacing the existing transit parking spaces. Additional parking for transit patrons will be shared with other uses on the Site.

Potential Use of Adjacent Metro-owned Property

Metro owns a 1.15 acre parcel immediately west of the Site. This parcel could provide the opportunity to provide either up to 200 additional parking spaces or up to 225 additional affordable housing units. This parcel will need to be studied further to determine the final parking or affordable housing that could be added. The 200 parking stalls could increase the overall parking count to provide additional parking if actual parking demand exceeds Metro's estimate. Transit parking demand will be reassessed with the implementation of Metro's Parking Management Pilot Program, which will be in place by summer 2017, as well as the Parking Guidance System. The parking management system will both charge for daily parking and affirmatively restrict parking to transit riders. Determination of the most appropriate use for this parcel will be further explored to incorporate feedback from the community as well as data from the new parking demand management systems.

Coordination with Metro Departments/Transit Facility Configuration

Throughout the Short Term ENA phase, Metro Joint Development staff coordinated with Bus and Rail Operations, Systemwide Planning, Program Management, and Parking Management to ensure that the conceptual Project will meet Metro's broader needs. The resulting concept will:

1. accommodate continuous transit operations at the Site during construction;
2. be constructed without damaging Metro infrastructure;
3. replace all required transit infrastructure currently at the Site;

4. provide sufficient parking to meet the Station's transit parking demand; and,
5. allow future construction and operation of transit infrastructure at and around the Site including electrification of the Orange Line, conversion of the Orange Line to light rail, and incorporation of the North Hollywood to Pasadena BRT.

If the ENA is executed, Joint Development staff will continue internal coordination to vet the project with all affected departments and divisions within Metro to ensure that the project does not limit Metro's current or future infrastructure or operational needs.

Financial Feasibility

Metro retained Maxima Group, an experienced financial consultant (Consultant), to review the materials received during the Short Term ENA period. The Consultant found that the Developer has laid out a Program that appears to be financially feasible in its conceptual form. The Consultant observed that the proposed development program and site plan demonstrate that the key objectives laid out in the Guide for Development can be met, and that, taken as a whole, the Developer's preliminary assumptions about development costs and potential income are achievable. The ENA period will allow further market research and review of financial assumptions to inform ground lease negotiations and to further refine infrastructure costs and funding.

DETERMINATION OF SAFETY IMPACT

Approval of this item will have no impact on safety. Metro's operations staff will continue to review and comment on the proposed development to ensure that the proposals have no adverse impact on the station, portal and public areas on Metro's property.

FINANCIAL IMPACT

Funding for joint development activities related to the ENA and the proposed project is included in the FY18 budget in Cost Center 2210, Project 401011. In addition, the ENA will require a non-refundable fee of $50,000 as well as a $50,000 deposit to cover third-party expenses during the negotiation.

Impact to Budget

Metro project planning activities and related costs will be funded from General Fund local right-of-way lease revenues and any deposits secured from the Developers, as appropriate. Local right-of-way lease revenues are eligible for bus/rail operating and capital expenses. Execution of the ENA will not impact ongoing bus and rail operating and capital budget, Proposition A and C and TDA administration budget or Measure R administration budget.

ALTERNATIVES CONSIDERED

The Board could choose not to proceed with the recommended action and could direct staff to (a) not enter into an ENA with the Developer, (b) continue communications regarding refinement of the project with the Developer within the existing Short Term ENA, or (c) not proceed with the proposed project and seek new development options via a new competitive process.

Staff does not recommend proceeding with these alternatives because the recommended action will ensure additional input from the community and other public sector stakeholders and appropriately builds upon the significant community input and procurement process that has transpired thus far. A new RFP process would delay the development of the Site and Metro may fail to take advantage of currently favorable conditions in the real estate market. Further, if the outcome of the discussion during the ENA period does not create a project proposal suitable to the community or the Board, other options could still be considered.

NEXT STEPS

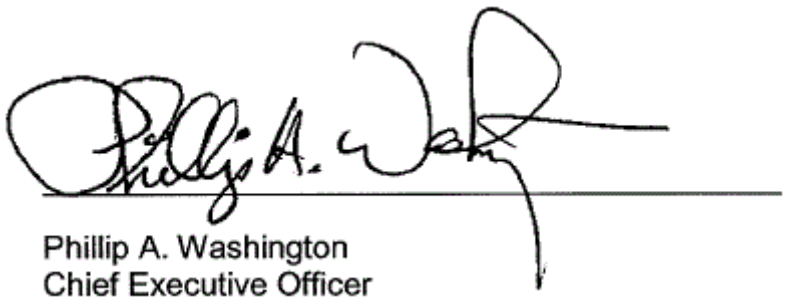
Upon approval of the recommended action, Metro will enter into an ENA with Trammell Crow Company/Greenland USA. The Developer team, together with the joint development staff, will refine transit facility requirements and the overall project concept, explore options for funding, and continue the outreach and community engagement process. The Developer will further design and begin the environmental clearance process. After the initial 18 months of the ENA process, staff will update the Board on the status of the project.

ATTACHMENTS

Attachment A - North Hollywood Joint Development Site
Attachment B - Proposed North Hollywood Site Plan and Program Summary

Prepared by: Wells Lawson, Senior Director, Countywide Planning & Development, (213) 922-2563
Jenna Hornstock, Deputy Executive Officer, Countywide Planning & Development (213) 922-7437
Cal Hollis, Senior Executive Officer, Countywide Planning & Development (213) 922-7319

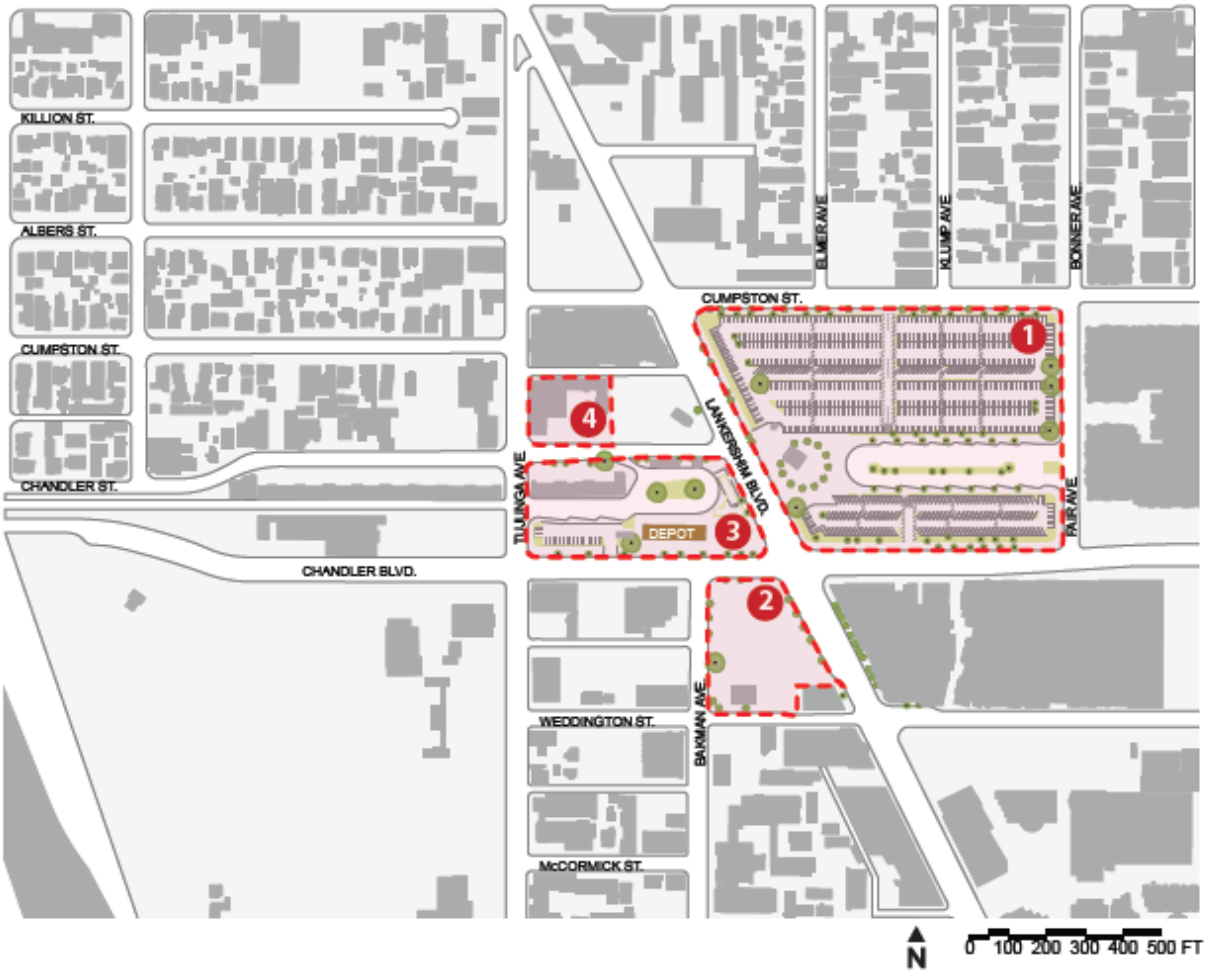
Reviewed by: Therese W. McMillan, Chief Planning Officer, (213) 922-7077



Phillip A. Washington
Chief Executive Officer

ATTACHMENT A

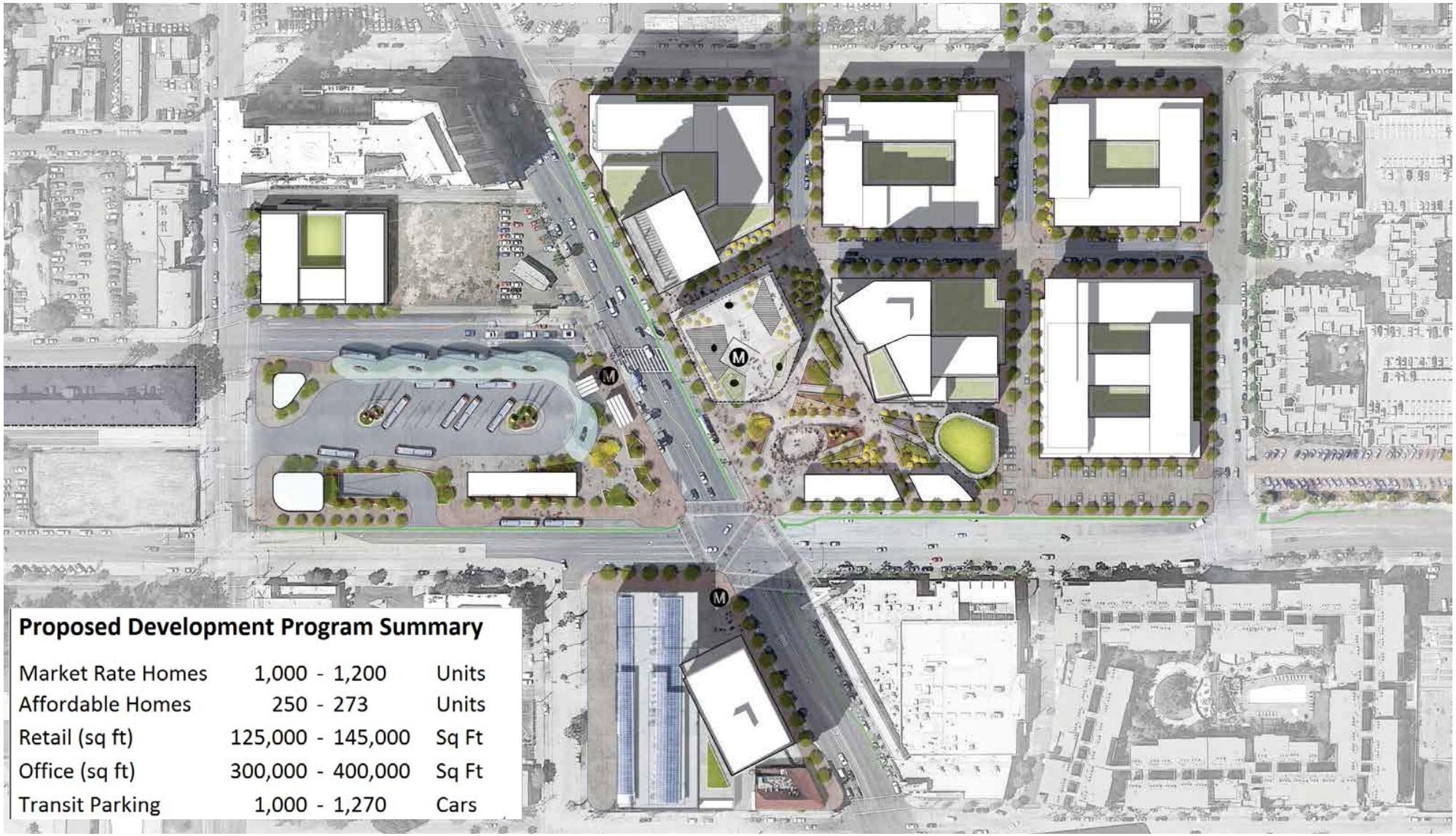
North Hollywood Joint Development Site



1. Station | Parking | Bus Layover Area (10.5 Acres)
2. Weddington Property (1.8 Acres)
3. Metro Orange Line Terminus (2.6 Acres) Excludes Historic Train Depot
4. Currently Short-term Leased to Costume Shop And Plumbing Supply Store (.66 Acres)

ATTACHMENT B

Proposed North Hollywood Development Site Plan and Program Summary



Development Illustrative Plan

Trammell Crow Company · GREENLAND USA · MELÉNDREZ · Gensler

NORTH HOLLYWOOD JOINT DEVELOPMENT

Planning and Programming Committee Meeting: April 2017

Metro

SITE OVERVIEW

JOINT DEVELOPMENT PROCESS

Metro Joint Development Process

STAGE	Initial Community Outreach	Developer Solicitation/ Selection***	Project Refinement, Joint Development Agreement Ground Lease Negotiations	Permitting and Construction
ACTIONS	>Community meetings >Creation of Development Guidelines*	>Issue Request for Information and Qualifications (RFIQ) and/or Request for Proposals (RFP) >Evaluate proposals >Community update	>Developers progress architectural design >Community outreach and input - several iterations >Entitlements and CEQA process*** >Negotiation of financial terms	>City engineering >Construction documents >City building permits >Seek concurrence from FTA (for properties with federal interest) >City-related approvals >On-site construction >Occupancy
RESULT	Metro Board approves Development Guidelines	Metro Board authorizes Exclusive Negotiation Agreement (ENA) with recommended developer(s)	Metro Board approves Joint Development Agreement and Ground Lease Agreement	Completed project

WE ARE HERE

Metro

OUTREACH PROCESS

> 3 focus group meetings with community organizations, residents, and businesses, totaling ~45 participants

> Community Workshop with ~65 participants

> Open House with ~50 participants

> Received comments both online and via email

Metro

WHAT WE HEARD

> Preserve artistic, historic, eclectic character of NoHo Arts District

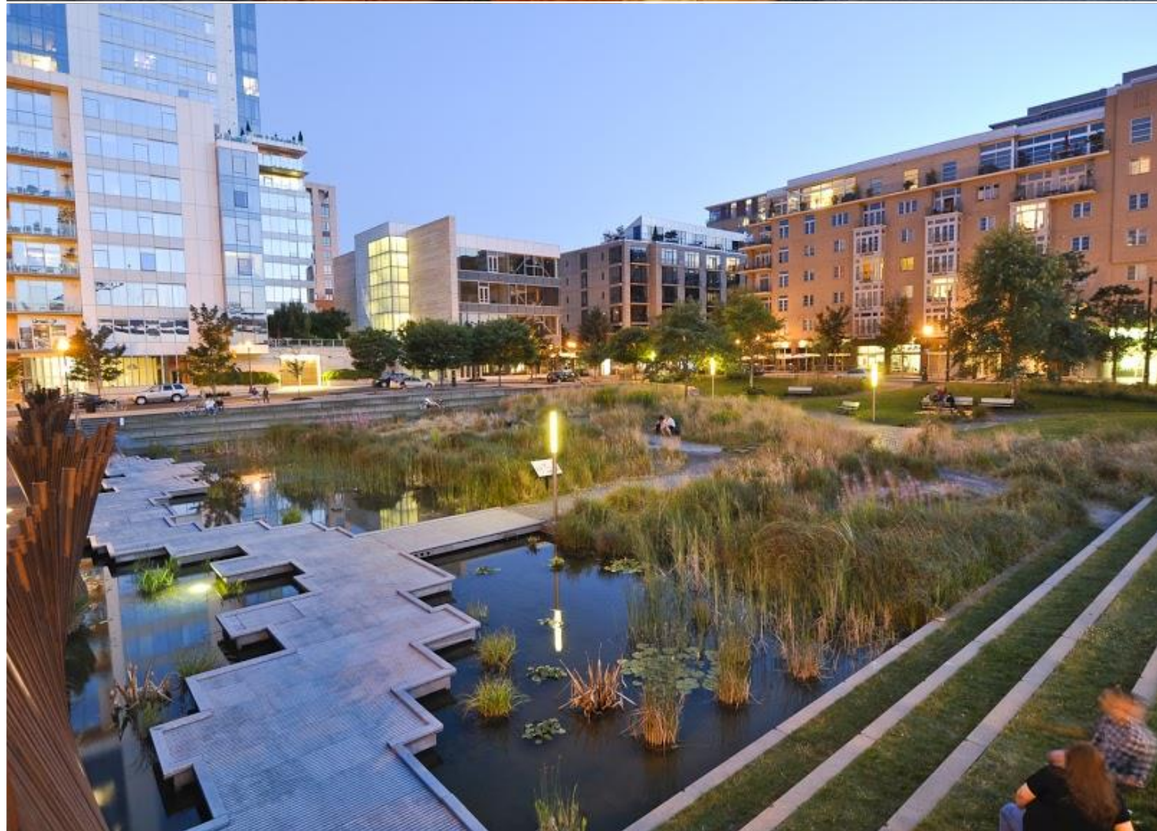
> Balance density and height with a comfortable human-scaled environment

> Bring pedestrian activity further north on Lankershim

> Include quality central open space near the Station that encourages activity, gathering, and street life

> Prioritize safety for a family-friendly environment and promote safety through design

Metro



DEVELOPER SELECTION

Trammell Crow Company

GREENLAND USA

Cesar Chavez Foundation

Gensler

RELM

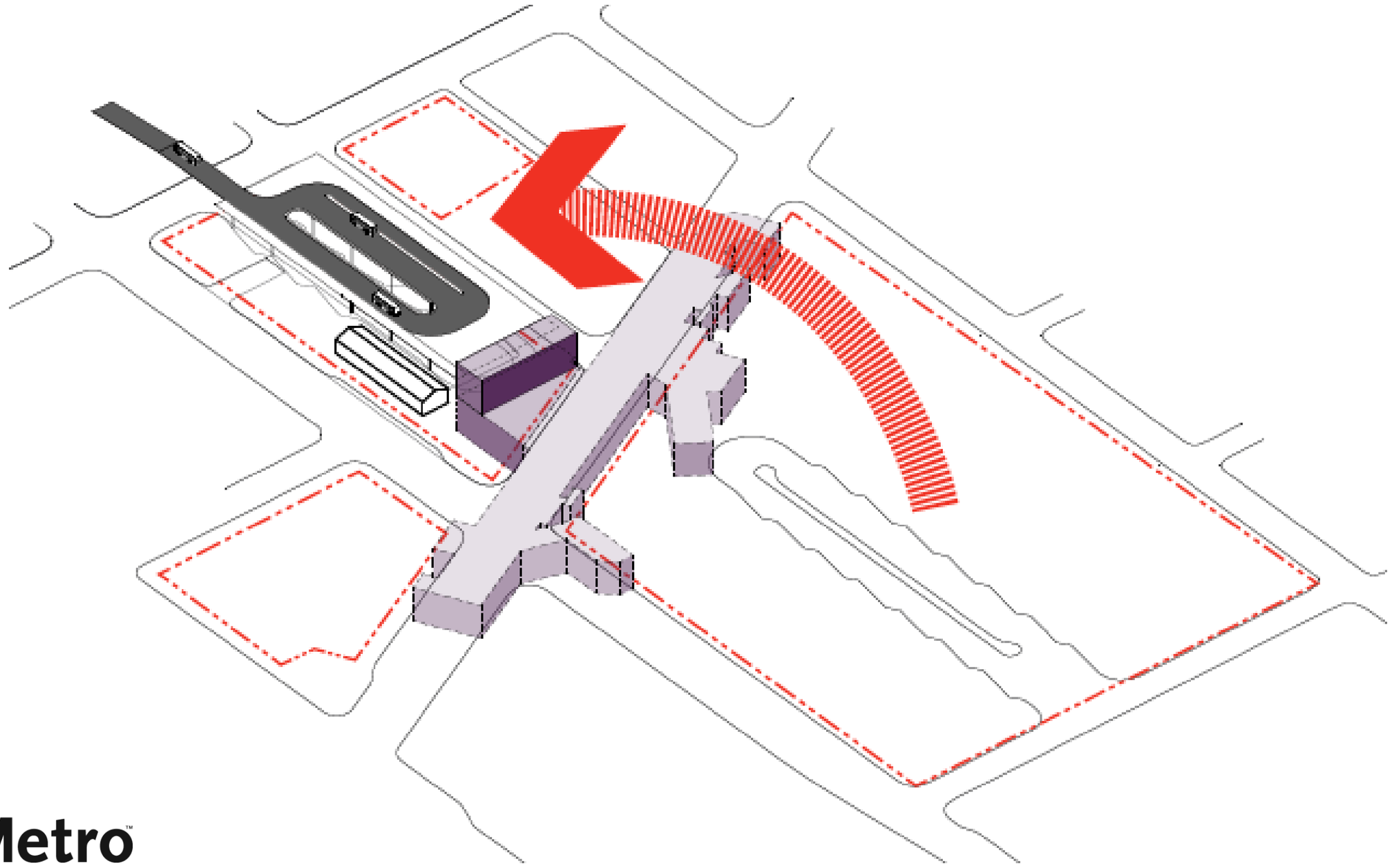
Metro

SHORT TERM ENA

- ✓ Preliminary Site Planning
- ✓ Optimized Transit Facility
- ✓ Parking Evaluation
- ✓ Outreach – 80 open house attendees

Metro™

PROPOSED TRANSIT FACILITY

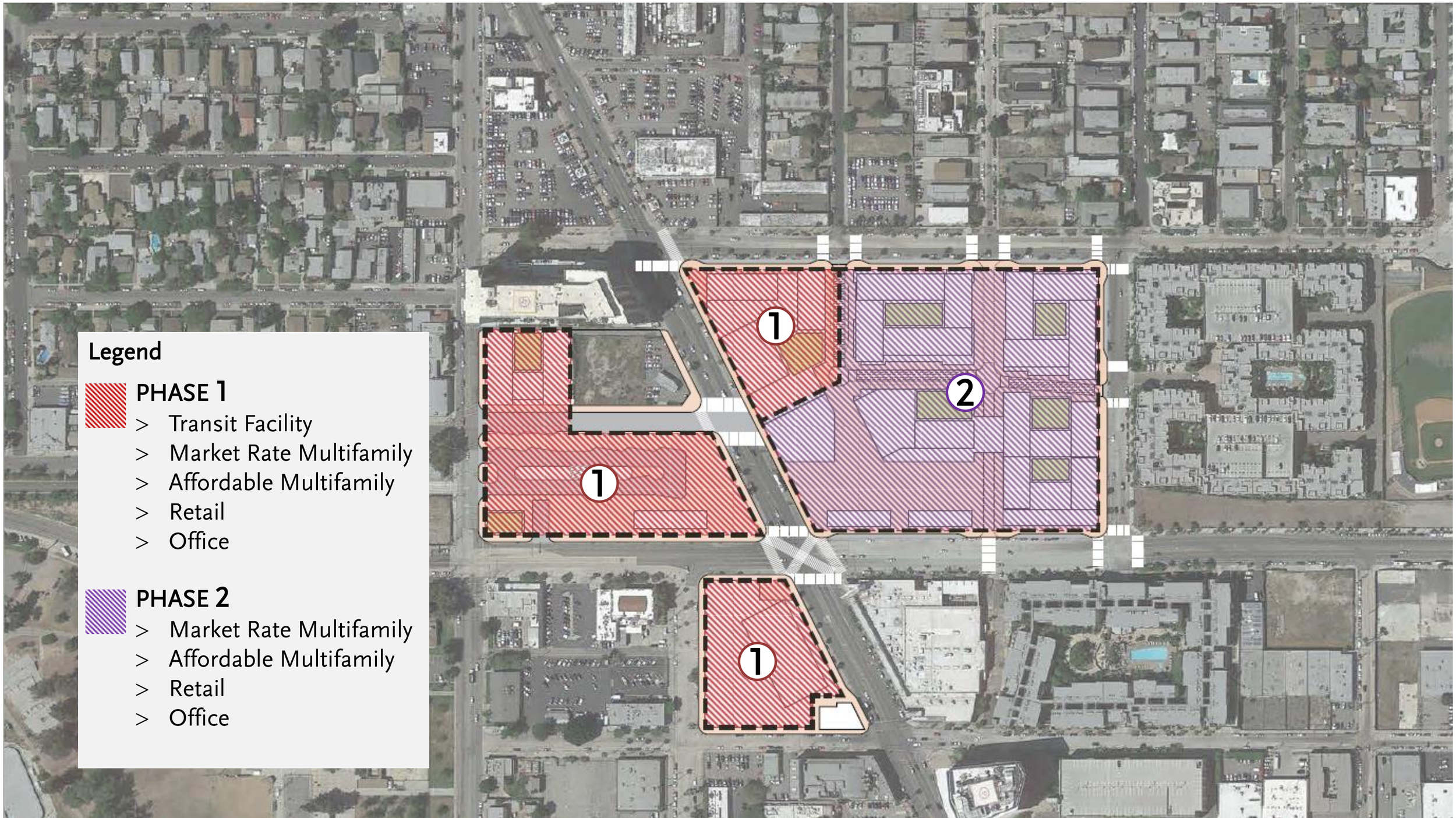


WHAT WE'VE BEEN UP TO

CONCEPTUAL SITE PLAN

WHAT WE'VE BEEN UP TO

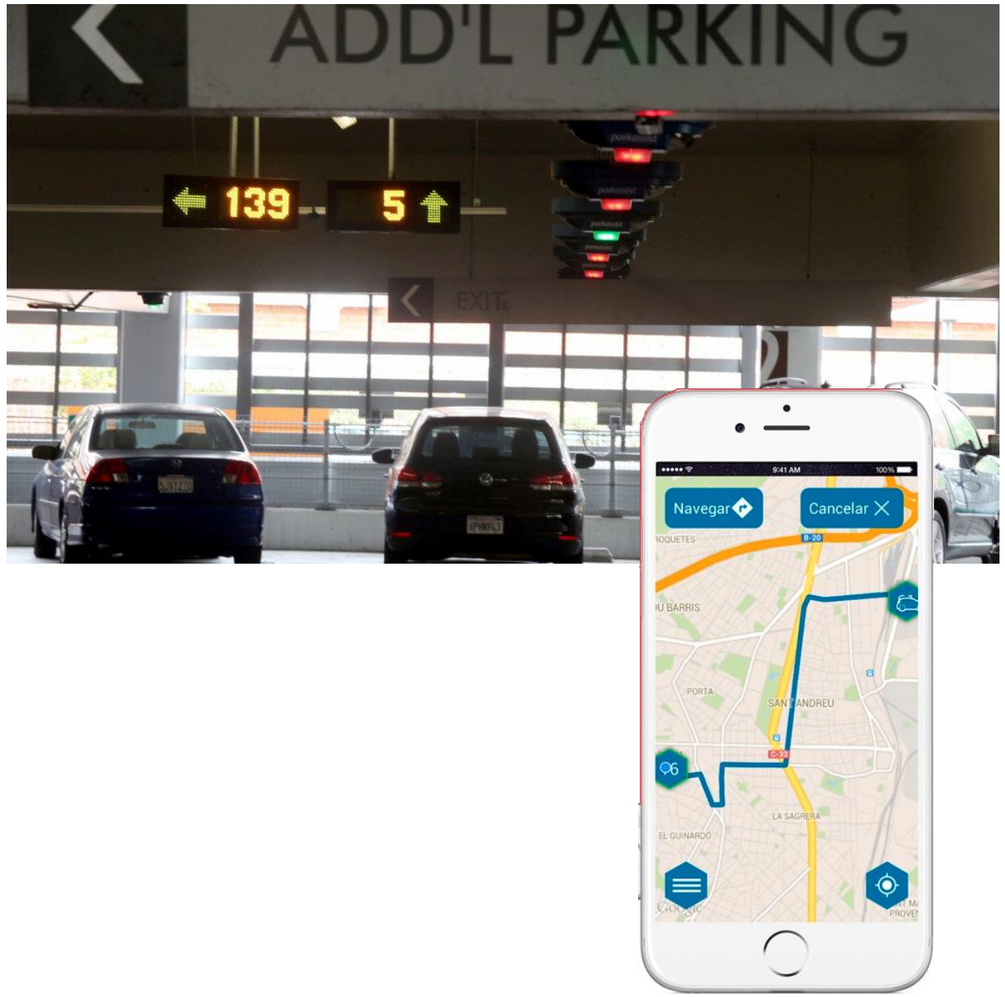
PHASING PLAN



WHAT WE'VE BEEN UP TO:

PARKING MANAGEMENT

- Systemwide parking evaluation
- Implementing:
  - Parking Guidance System
  - Paid parking in high demand locations
- Results will shape parking design at NoHo
- Additional Study
  - Industry trends
  - Evolving parking and driving technology
  - Shared parking opportunities
  - Policy implications



WHERE WE'VE BEEN:

NEXT STEPS

Metro Joint Development Process

STAGE	Initial Community Outreach	Developer Solicitation/ Selection***	Project Refinement, Joint Development Agreement Ground Lease Negotiations	Permitting and Construction
ACTIONS				
	>Community meetings >Creation of Development Guidelines*	>Issue Request for Information and Qualifications (RFIQ) and/or Request for Proposals (RFP) >Evaluate proposals >Community update	>Developers progress architectural design >Community outreach and input - several iterations >Entitlements and CEQA process*** >Negotiation of financial terms	>City engineering >Construction documents >City building permits >Seek concurrence from FTA (for properties with federal interest) >City-related approvals >On-site construction >Occupancy
RESULT	Metro Board approves Development Guidelines	Metro Board authorizes Exclusive Negotiation Agreement (ENA) with recommended developer(s)	Metro Board approves Joint Development Agreement and Ground Lease Agreement	Completed project

WE ARE HERE

Metro

CONCEPTUAL PROJECT RENDERING

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

File #: 2017-0152, **File Type:** Project **Agenda Number:** 23.

PLANNING AND PROGRAMMING COMMITTEE
APRIL 19, 2017

SUBJECT: WEST SANTA ANA BRANCH TRANSIT CORRIDOR

ACTION: INITIATE DRAFT ENVIRONMENTAL PROCESS

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to:

A. APPROVE Project Definition for Environmental Scoping including four Northern Alignment Options; and

B. RECEIVE AND FILE the **West Santa Ana Branch (WSAB) Transit Corridor Northern Alignment Options Screening Report**.

ISSUE

In February 2013, the Southern California Association of Governments (SCAG) approved the WSAB Alternative Analysis (AA) Study for the 34-mile corridor from the Los Angeles Union Station (LAUS) to the City of Santa Ana in Orange County. The Los Angeles County portion of the corridor extends 20 miles from the LAUS to the City of Artesia. The AA Study recommended Light Rail Transit (LRT) alignment as the preferred transit mode. The AA Study also recommended two northern alignment alternatives for further consideration: 1) West Bank 3 along the west bank of the Los Angeles (LA) River, and 2) East Bank along east bank of the LA River.

Based upon the West Bank 3 alternative, four new northern alignment options were identified as part of the Technical Refinement Study (TRS) that was completed and received by the Metro Board in September 2015. Prior to initiation of the Environmental Scoping, a screening evaluation was conducted to further refine the recommendations from the TRS and recommended four highest performing northern alignment options be carried into Environmental Scoping. Subsequently, the Northern Alignment Options Screening Report has been finalized. Attachment A contains the Executive Summary. The full report can be accessed at www.metro.net/wsab <http://www.metro.net/wsab>.

In addition to the four northern alignment options, the TRS also focused on the following key challenges identified by the SCAG AA Study: 1) Southern Terminus, 2) New Green Line Station; 3) Huntington Park Alignment & Stations; and 4) Access into LAUS. Since the TRS was only based

upon a 5% level of design, the findings from the TRS will form the basis of the Project Definition to be further analyzed and carried forward into Environmental Scoping. Based on public comments received during Scoping, additional options may also be included for further evaluation in the environmental study. Attachment B contains the WSAB Transit Corridor Project Definition map proposed for use in upcoming Scoping meetings.

DISCUSSION

Background

The WSAB Transit Corridor Study Area traverses densely populated, low-income and heavily transit dependent communities. The Study Area is approximately 98 square miles and covers 20 individual cities as well as portions of unincorporated Los Angeles County.

In September 2016, the Board awarded professional services contracts to complete the environmental clearance study for the WSAB Transit Corridor. The base contract is to complete the Draft Environmental Impact Report (EIR) pursuant to California Environmental Quality Act (CEQA) requirements. With the passage of Measure M, Metro is working to secure FTA approval to complete the Draft Environmental Impact Statement (EIS) pursuant to National Environmental Policy Act (NEPA) requirements concurrently with the EIR.

Project Definition

The WSAB Transit Corridor stretches 20 miles from LAUS to the City of Artesia. A single alignment has been identified south of the City of Huntington Park which follows the San Pedro Subdivision Branch (owned by Port of Los Angeles and Long Beach), to the eight-mile Metro owned abandoned Pacific Electric Right-of-Way (ROW) to the southern terminus in the City of Artesia. The Project Definition for Environmental Scoping includes the recommendations from the SCAG AA Study along with the refinement and findings described below from the TRS and further evaluation from the finalized Northern Alignment Options Screening Report, north of the City of Huntington Park.

New Southern Terminus Station in the City of Artesia
The SCAG AA Study originally included a station at Bloomfield Avenue in the City of Cerritos as the last station within Los Angeles County. At the City of Cerritos' request, SCAG removed this station from further consideration. The next station to the north was Pioneer Station in the City of Artesia which is accessed by way of traversing through the City of Cerritos. In the TRS, Pioneer Station was analyzed and deemed feasible as the new southern terminus.

In the event that the line should be extended to Orange County in the future, the environmental analysis will include evaluation of a potential station at Bloomfield for which the support of the City of Cerritos would be sought. Metro will continue to meet with staff from both the cities of Artesia and Cerritos regarding the terminus station in Artesia and future extension options.

New Metro Green Line Station
Analysis was conducted to determine the feasibility and challenges associated with a new Metro Green Line Station within the median of the I-105 Freeway east of the I-105/I-710 Interchange. This

station would provide a direct transfer to the WSAB project aerial station proposed immediately above it. Based on the conceptual plans, a new Metro Green Line station can feasibly be built within the existing I-105 Freeway and ROW. This station concept will be further advanced, including coordination with the ExpressLanes project and more detailed planning and design evaluations with Caltrans.

City of Huntington Park Station Locations
At the conclusion of the SCAG AA Study, the City of Huntington Park proposed alternate station locations to the ones proposed in the SCAG AA. The proposed alternate locations include a station on Randolph St. east of Pacific Blvd. and a station south of Florence Ave. in the center of Salt Lake Ave. Both alternate station locations were deemed feasible and can be carried forward to replace the previous locations identified in the SCAG AA study.

Northern Terminus at Los Angeles Union Station
Analysis was conducted to determine placement of a new light rail platform to serve as the northern terminus within LAUS. In coordination with other in-process projects such as the Union Station Master Plan, Link Union Station (Link US) and California High Speed Rail, the environmental analysis will evaluate station options above or adjacent to the existing Metro Gold Line station.

Northern Alignment Analysis
As part of the TRS, four new northern alignment options were developed and recommended for further analysis:

1) Pacific/Alameda
2) Pacific/Vignes
3) Alameda
4) Alameda/Vignes

The two Pacific Boulevard alignment options (1 & 2) use Pacific Boulevard in the Cities of Vernon and Huntington Park for the light rail tracks within the street, while the Alameda Street alignment options (3 &4) utilizes the existing Metro Blue Line ROW for separate light rail tracks. All four alignment options have a northern terminus at LAUS.

Northern Alignment Options Screening Report

A screening evaluation process was conducted to further refine the recommendations in the TRS. Specifically, the six northern alignment options were evaluated to determine how well these met the goals and objectives of the project. Specifically, the five project goals included:

- Goal 1: Provide Mobility Improvements
- Goal 2: Support Local and Regional Land Use Plans and Policies
- Goal 3: Minimize Environmental Impacts
- Goal 4: Ensure Cost Effectiveness and Financial Feasibility
- Goal 5: Ensure Equity

For each goal, a list of evaluation criteria was established. Each of the six northern alignment options was assessed and a score was given based on its potential performance in meeting the

criteria. An overall rating of “high”, “medium”, or “low” was assigned based on each alignment option’s ability to achieve the objectives and criteria of the goals.

Based on the results of the screening analysis, the four northern alignment options: 1) Pacific/Alameda, 2) Pacific/Vignes, 3) Alameda, and 4) Alameda/Vignes were the highest performing and recommended to be carried forward into environmental analysis. All four provide a direct connection into Union Station, the greatest overall mobility improvement benefits, compatibility with existing land uses, environmental benefits for disadvantaged communities, cost-effectiveness with the fewest engineering challenges and support community needs. The East Bank and West Bank 3 northern alignment options previously recommended by SCAG AA Study do not meet the purpose and need of the project as effectively as the other four northern alignment options and are not recommended for advancement.

Metro Board Blue Line Motion

On February 23, 2017, the Metro Board approved a Motion (Item #37) which called for the study of several Metro Blue Line and Metro Expo Line improvements. An Amendment to the Motion (Garcetti) specifically called for the WSAB (Eco-Rapid Transit Line) to incorporate a potential Metro Blue Line Express train concept that could ultimately run directly to Union Station. This concept could potentially be feasible if one of the WSAB Northern Alignment options (Alameda Alignment or Alameda/Vignes Alignment) is selected as the preferred alternative. The WSAB project will evaluate the feasibility of interlining Metro Blue Line trains with WSAB trains as a part of the environmental study going forward.

Outreach

Since the award of the environmental clearance contracts, the WSAB Project Team has conducted numerous briefings and presentations to Eco-Rapid Transit JPA, corridor cities, area elected officials and key stakeholders throughout the study area to provide project background information and updates, as well as receive valuable input for use in the environmental study process. The Project Team also initiated a Technical Advisory Committee in March, and conducted a Legislative Update meeting with state and federal elected officials’ staff along the corridor in April.

Scoping Process

To initiate the Draft EIR process, Metro will be conducting five Scoping meetings - one agency Scoping meeting and four community meetings within the project area. The Scoping meetings are expected to be held between May - June 2017.

Metro will also post the Notice of Preparation (NOP) with the State Clearinghouse. Metro Community Relations Manager is also working with the outreach contractor on updating the project webpage, fact sheet and other materials in preparation for the Scoping meetings. Pending approval from FTA of a concurrent EIR/EIS process, Metro may also initiate the Notice of Intent (NOI) with the Federal Register.

DETERMINATION OF SAFETY IMPACT

These actions will not have any impact on the safety of our customers and/or employees.

FINANCIAL IMPACT

The FY 2016-17 budget includes $1,000,000 in Cost Center 4370, Project 460201 (WSAB Transit Corridor). Since these are multi-year contracts, the Cost Center Manager and Chief Planning Officer will be responsible for budgeting in future years.

Impact to Budget
The funding for this project is from Measure R 35%. As these funds are earmarked for the WSAB Transit Corridor project, they are not eligible for Metro bus and rail capital and operating expenditures.

ALTERNATIVES CONSIDERED

The Board could consider deferring initiation of the Scoping period. This alternative is not recommended as this would impact the project schedule and would not be consistent with prior Board direction to advance completion of the project.

NEXT STEPS

Upon Board approval, staff will initiate the Scoping period in late spring which will include Agency and Public Scoping Meetings along the corridor to present project information and gather inputs. At the completion of the Scoping Period, we will return to the Board later this year with the Scoping Summary Report.

ATTACHMENTS

Attachment A - Northern Alignment Options Screening Report Executive Summary
Attachment B - West Santa Ana Branch Transit Corridor Project Definition Map

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ATTACHMENT A

Final
Northern Alignment Options Screening Report
Executive Summary

Los Angeles County
Metropolitan Transportation Authority

Metro

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ACRONYMS AND ABBREVIATIONS

AA	Alternatives Analysis
EJ	Environmental Justice
Environmental Study	West Santa Ana Branch Transit Corridor Environmental Study
LA County	Los Angeles County
LRT	light rail transit
Metro	Los Angeles County Metropolitan Transportation Authority
PEROW/WSAB	Pacific Electric Right-of-Way/West Santa Ana Branch
Project	West Santa Ana Branch Transit Corridor
ROW	right-of-way
SCAG	Southern California Association of Governments
Study Area	West Santa Ana Branch Transit Corridor Study Area
TOD	transit-oriented development
TRS	Technical Refinement Study
VMT	vehicle miles traveled
WSAB	West Santa Ana Branch

EXECUTIVE SUMMARY

The West Santa Ana Branch (WSAB) Transit Corridor (the Project) is a proposed light rail transit (LRT) line that would extend approximately 20 miles from downtown Los Angeles through southeast Los Angeles County (LA County), traversing densely populated, low-income, and heavily transit-dependent communities. The Project would provide reliable, fixed guideway transit service that would increase mobility and connectivity for historically underserved transit-dependent and environmental justice (EJ) communities; reduce travel times on local and regional transportation networks; and accommodate substantial future employment and population growth.

The Project is one of the many transit projects funded by Measure R (approved in November 2008) and Measure M (approved in November 2016). The Project is identified in the Los Angeles County Metropolitan Transportation Authority's (Metro) 2009 Long-Range Transportation Plan.

In March 2010, the Southern California Association of Governments (SCAG) initiated the Pacific Electric Right-of-Way (PEROW)/WSAB Alternatives Analysis (AA) Study in coordination with the relevant cities, the Orangeline Development Authority (now known as Eco-Rapid Transit), the Gateway Cities Council of Governments, Metro, the Orange County Transportation Authority, and the owners of the right-of-way (ROW). The AA Study evaluated a wide variety of transit connections and modes for the 34-mile corridor from Union Station in downtown Los Angeles to the City of Santa Ana in Orange County. In February 2013, SCAG completed the PEROW/WSAB AA Study and recommended LRT with two northern alternatives for further study: the East Bank and the West Bank Option 3 (West Bank 3).

In January 2014, following the completion of the AA Study, Metro initiated a Technical Refinement Study (TRS) of the WSAB Transit Corridor, focusing on five key issue areas along the 20-mile portion of the corridor within LA County:

- Access to Union Station
- Northern Alignment Options
- Huntington Park Alignment and Stations
- New Green Line Station
- Southern Terminus at Pioneer Station

In addition to the East Bank and West Bank 3 alignments recommended in the PEROW/WSAB AA Study, the TRS identified and recommended four variations of the West Bank 3 alignment between the City of Huntington Park and downtown Los Angeles: 1) the Pacific/Alameda and Pacific/Vignes alignment options that followed Pacific Boulevard through the cities of Huntington Park and Vernon, and 2) the Alameda and Alameda/Vignes alignment options that followed the existing Metro Blue Line ROW from Slauson Avenue to Washington Boulevard and headed north along Alameda Street (see Section ES.4 for Northern Alignment Option maps). The TRS concluded with the recommendation that the East Bank and West Bank 3 alternatives be dropped from further consideration and that the other four alignment options undergo additional study during the next phase of work.

In September 2016, Metro initiated the WSAB Transit Corridor Environmental Study (Environmental Study) with the goal of environmentally clearing the Project under the California Environmental Quality Act and the National Environmental Policy Act. The purpose of this Northern Alignment Options Screening Report is to screen the Project's northern alignment options that were analyzed in the TRS, which are defined as the alignment between downtown Los Angeles and the City of Huntington Park, and to identify the Project alternative(s) to be carried forward into scoping for the environmental process.

ES.1 WSAB Transit Corridor Study Area Overview

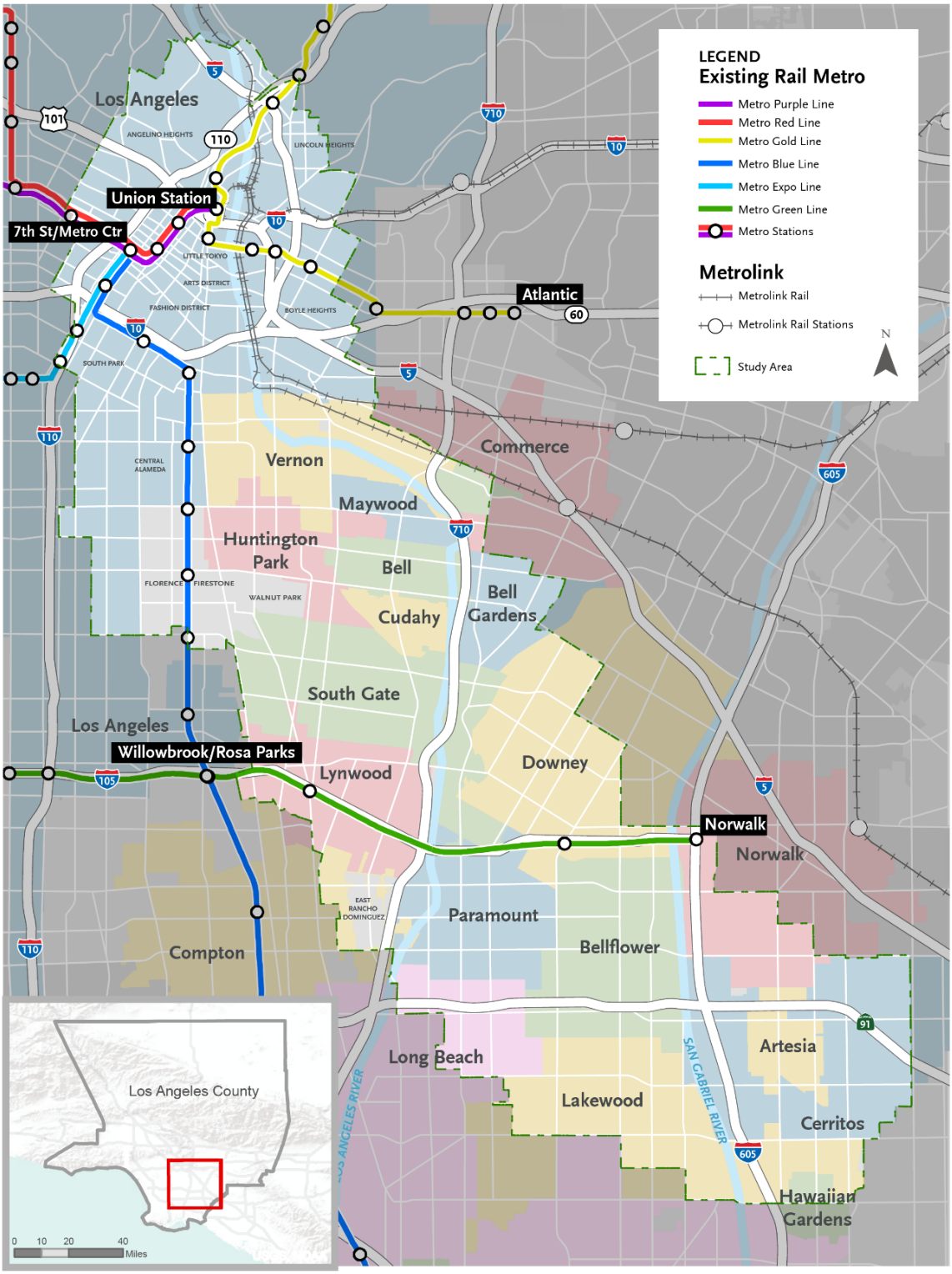
Stretching over 20 miles from Elysian Park on the north to the Los Angeles/Orange County line on the south, the WSAB Transit Corridor Study Area (Study Area) encompasses downtown Los Angeles, southeast Los Angeles, and much of the Gateway Cities subregion (Figure ES-1). The Study Area is approximately 98 square miles and incorporates 20 individual cities—the Cities of Los Angeles, Vernon, Maywood, Huntington Park, Commerce, Bell, Cudahy, Bell Gardens, South Gate, Lynwood, Compton, Downey, Paramount, Bellflower, Long Beach, Lakewood, Norwalk, Artesia, Cerritos and Hawaiian Gardens—as well as portions of unincorporated LA County. The Study Area traverses some of LA County's most densely developed and low-income residential neighborhoods and encompasses major regional employment centers, including the industrial and manufacturing backbone of the County.

The Study Area is currently home to 1.2 million residents and 584,000 jobs, which equates to 12 percent of the residents and 14 percent of the jobs in LA County. The Study Area's population and employment are both projected to increase by 2040—with population increasing by 25 percent to 1.5 million persons and employment increasing by 14 percent to 670,000 jobs. Many of the Study Area communities are characterized by heavily transit-dependent populations that currently lack access to a reliable transit network. The Study Area is also comprised of EJ communities. EJ communities are commonly identified as communities with a high combination of minority populations and/or low-income populations.

The Study Area is served by seven major freeways and a grid of north-south and east-west arterials. Much of this network is currently operating at level-of-service E or F during peak periods, indicating that the roadway network is already at or beyond capacity. Roadway congestion affects travel time and speed for all vehicles using the roadway, including buses. As a result of these reoccurring congestion levels, drivers encounter an increase in travel times associated with the low travel speeds. Exacerbating the issue is the low degree of travel time reliability, as travel speeds and travel times have significant daily variation.

Most of the transit service in the Study Area is provided by local and limited/express buses operating on the congested roadway network. While there are many bus routes serving the Study Area, most do not serve the predominant north-south direction of travel. In addition, traveling through the length of the Study Area requires several transfers between transit routes. Current regional commuter rail service is largely peripheral to the Study Area with Metrolink stations located at the edge of the Study Area (Union Station at the north end, Commerce to the east, and Norwalk to the south). Within the Study Area, there are six Metro Rail Lines (Red, Gold, Blue, Expo, Green, and Purple Lines); five of the six lines have stations in downtown Los Angeles (only the Green Line does not have a station downtown).

Figure ES-1. WSAB Transit Corridor Study Area



Source: WSP | Parsons Brinckerhoff (2016)

However, south of downtown Los Angeles, only two Metro Rail Lines (Blue and Green) have stations located within the communities that comprise the Study Area. The Metro Green Line service runs east-west through the Study Area, primarily along the I-105 freeway (from the Redondo Beach Station to the Norwalk Station). The Metro Blue Line service runs north-south through the Study Area along Flower Street, Washington Boulevard, and Long Beach Avenue (from Union Station to Long Beach Station). Although the Metro Green Line provides regional rail connections in the east-west direction and the Metro Blue Line in the north-south direction, both serve a limited portion of the Study Area.

The freeway, roadway, and rail network within the Study Area is also instrumental in supporting goods movement. The Study Area is home to the Alameda Corridor and intermodal rail yards, truck depots, warehouses, and distribution centers. Although these facilities that are used to move goods provide significant economic benefits within the Study Area, they also result in significant community and regional impacts from truck and train activity, such as historically poor air quality and congestion on arterials and freeways.

As population and employment continue to increase within the Study Area, daily travel also will increase. Under current (2012) conditions, the Study Area has 6.45 million daily person trips. Of these trips, 32 percent are within the Study Area; 31 percent are from the Study Area to destinations outside the Study Area; and 37 percent are into the Study Area from points outside the Study Area. By the year 2040, the Study Area's total daily person trips are projected to increase by 19 percent to approximately 7.67 million daily person trips. Of the 2040 daily person trips, 34 percent are trips within the Study Area; 30 percent are trips from the Study Area to destinations outside the Study Area; and 36 percent are trips into the Study Area from points outside the Study Area.

This increase of 1.22 million daily person trips between 2012 and 2040 in the Study Area will further burden the existing transportation network. Although auto travel is the predominant travel mode (with 78 percent of home-based work trips made by automobile), there is significant transit demand given the high proportion of transit-dependent populations. Overall, around 12 percent of the home-based work trips made by Study Area residents are currently made by transit, which is twice as high as the transit mode share of LA County as a whole.

ES.2 Purpose and Need Statement

As population and employment in the WSAB Transit Corridor Study Area continues to grow, the already congested roadway network will become even more congested. This congestion effects not only automobiles but also the travel time, speeds, and reliability of the buses that operate in mixed-flow traffic. As the Study Area is home to communities that are heavily reliant on transit as their primary mode of travel to access jobs and other key destinations, this increasingly unreliable bus network will be insufficient to meet their mobility needs. Rail transit that operates in a dedicated ROW provides greater reliability and faster travel times during peak periods than buses because this service is not as affected by roadway congestion. However, the existing rail network only provides service along the periphery of the Study Area, thereby requiring transfers to reach the rail stations.

The purpose of the Project is to provide reliable transit service to meet the future mobility needs of residents, employees, and visitors who travel within the Study Area, which includes downtown Los Angeles, parts of southeast Los Angeles, and portions of the Gateway Cities

subregion. This new transit service will increase mobility and connectivity for historically underserved transit-dependent and EJ communities; reduce travel times on local and regional transportation networks; and accommodate substantial future employment and population growth.

More specifically, the Project's purpose is as follows:

- Establish a reliable transit service that will enhance the connectivity of the existing transit network and reduce transit travel times to local and regional destinations
- Accommodate future travel demand, including the high number of transit trips made by Study Area residents
- Improve access for the densely populated neighborhoods, major employment centers, and other key regional destinations where future growth is forecasted to occur within the Study Area
- Address mobility and access constraints faced by transit-dependent communities, thereby improving transit equity

ES.3 Goals, Objectives, and Evaluation Criteria

Based on the purpose and need statement, a set of goals and objectives were established to guide development of the Project. During the development of the AA Study, goals and objectives were identified through a 24-month period of public meetings and work sessions with elected officials, stakeholders, advisory committee members, and communities. In 2015, as part of the TRS Report, goals of the project were further confirmed through technical meetings with key stakeholders, including Eco-Rapid Transit, corridor cities, and the California Department of Transportation.

The development and evaluation of the Project alternatives generally followed a six-step process. Figure ES-2 presents a flow chart of the evaluation process for the Project. Table ES-1 provides a list of the evaluation criteria established for each goal and set of objectives.

Figure ES-2. Evaluation Process

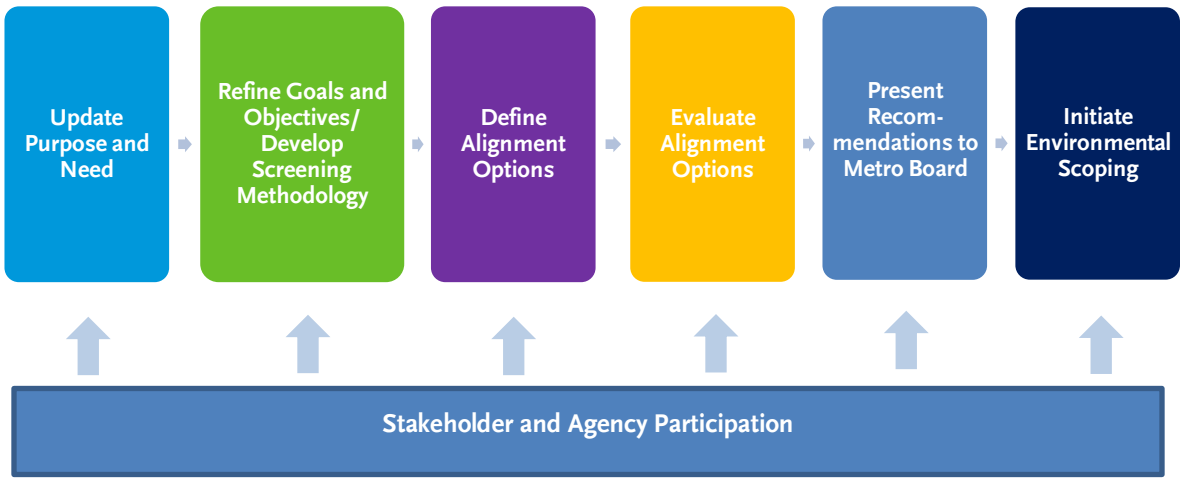


Table ES-1. Goals, Objectives, and Evaluation Criteria

#	Goals	Objectives	Evaluation Criteria
1	Provide Mobility Improvements	▪ Improves travel speeds and reduces travel times	▪ Daily hours of user benefits
		▪ Relieves high use (overcrowded) transit systems along the corridor	▪ Decrease in boardings on North-South Line (current Metro Blue Line)
		▪ Connects with the transit network	▪ Number of connections to other Metro Rail Lines ▪ Provides direct access to regional rail
		▪ Provides an alternative to a congested freeway and arterial network. Serves local and regional trips	▪ Number of daily boardings ▪ Number of new transit trips
		▪ Supports active transportation and first/last mile connections	▪ Number of connections to bicycle facilities
2	Support Local and Regional Land Use Plans and Policies	▪ Serves major employment centers and high-density residential neighborhoods	▪ 2040 population density within ½ mile of stations ▪ 2040 employment density within ½ mile of stations
		▪ Supports local economic development, projects, plans, and jobs	▪ Plans and policies supporting Transit-Oriented Development around stations
		▪ Serves affordable housing developments	▪ Number of existing affordable housing units within ½ mile of stations
		▪ Supports and is consistent with local plans	▪ Supported by existing local plans and programs
3	Minimize Environmental Impacts	▪ Minimizes environmental and community impacts	▪ Reduction in regional vehicle miles traveled
		▪ Minimizes impacts to the transportation network	▪ Impacts to roadway lanes, parking, and truck movement ▪ Minimal disruption to existing rail ROW
4	Ensure Cost Effectiveness and Financial Feasibility	▪ Costs are financially feasible	▪ Rough order of magnitude capital costs
		▪ Provides cost-effective project	▪ Cost/benefit (capital costs/boarding)
		▪ Minimizes risk of cost increase	▪ Engineering challenges ▪ Number of property acquisitions
5	Ensure Equity	▪ Provides benefits to transit-dependent and minority populations	▪ Percentage of transit-dependent persons within ½ mile of stations ▪ Percentage of station areas that qualify as EJ communities ▪ Provision of new reliable fixed service to underserved communities

Source: WSP | Parsons Brinckerhoff/TransLink Consulting. 2017

ES.4 Northern Alignment Options

The Project would provide light rail service for approximately 20 miles from downtown Los Angeles to the City of Artesia (Figure ES-3). The Project would be primarily at-grade with grade-separated (i.e., aerial or underground) portions in areas of constraint. Six alignment options for the northern portion of the Project (Union Station to the Florence/Salt Lake Station[1]) were identified through the initial alternative development documented in the AA Study and further studied in the TRS. These six northern alignment options are summarized in Table ES-2 and described as follows:

- **East Bank**: Extends approximately 7.7 miles between Union Station and the Florence/Salt Lake Station along the east side of the LA River (Figure ES-4). This alignment option would provide three stations north of Florence/Salt Lake: Union Station, Soto, and Leonis/District. The East Bank alignment option was originally developed as part of the AA Study.
- **West Bank 3**: Extends approximately 6.9 miles between the Little Tokyo Station and the Florence/Salt Lake Station along the west side of the LA River (Figure ES-5). This alignment option would provide four stations north of Florence/Salt Lake: Little Tokyo, 7th/Alameda, Pacific/Vernon, and Pacific/Randolph. The West Bank 3 alignment option was originally developed as part of the AA Study.
- **Pacific/Alameda:** Extends approximately 7.4 miles between Union Station and Florence/Salt Lake Station (Figure ES-6). This alignment option uses Alameda Street, Santa Fe Avenue, and Pacific Boulevard and would provide five stations north of Florence/Salt Lake: Union Station, Little Tokyo, Arts District, Pacific/Vernon, and Pacific/Randolph. The Pacific/Alameda alignment option was developed during the TRS as a variation of the West Bank 3 alignment option but with a direct connection to Union Station on the north.
- **Pacific/Vignes**: Extends approximately 7.2 miles between Union Station and the Florence/Salt Lake Station (Figure ES-7). This alignment option uses Vignes Street, Santa Fe Avenue, and Pacific Boulevard and would provide four stations north of Florence/Salt Lake: Union Station, Arts District, Pacific/Vernon, and Pacific/Randolph. The Pacific/Vignes alignment option was developed during the TRS as a variation of the West Bank 3 alignment option but with a direct connection to Union Station on the north.
- **Alameda**: Extends approximately 8.0 miles between Union Station and the Florence/Salt Lake Station along Alameda Street and the Metro Blue Line ROW (Figure ES-8). This alignment option would provide seven stations north of Florence/Salt Lake: Union Station, Little Tokyo, 7th/Alameda, Washington, Vernon, Slauson, and Pacific/Randolph. This alignment option was developed during the TRS.
- **Alameda/Vignes**: Extends approximately 8.1 miles between Union Station and the Florence/Salt Lake Station along Vignes Street, Alameda Street, and Metro Blue Line ROW (Figure ES-9). This alignment option would provide seven stations north of the Florence/Salt Lake Station: Union Station, Arts District, 7th/Alameda, Washington, Vernon, Slauson, and Pacific/Randolph. This alignment option was developed during the TRS.

South of the Florence/Salt Lake Station, all six northern alignment options converge and follow a single alternative 11 miles from the City of Huntington Park to the City of Artesia (Figure ES-3). The alternative would use the San Pedro Subdivision Branch, owned by the Ports of Long Beach and Los

[1] The TRS recommended shifting the Florence/Gage Station identified in the SCAG AA Study south to the Florence/Salt Lake intersection.

Angeles. Along this portion, three stations are proposed at Firestone Boulevard, Gardendale Street, and I-105/Metro Green Line. The I-105/Metro Green Line Station would provide transfers and connections between the Project and the Metro Green Line[2]. South of the I-105/Metro Green Line Station, the alternative would transition to the Metro owned PEROW. Along this southern portion, four stations are proposed at Paramount/Rosecrans, Bellflower, Gridley/183rd, and Pioneer[3].

Table ES-2. Characteristics of the Northern Alignment Options

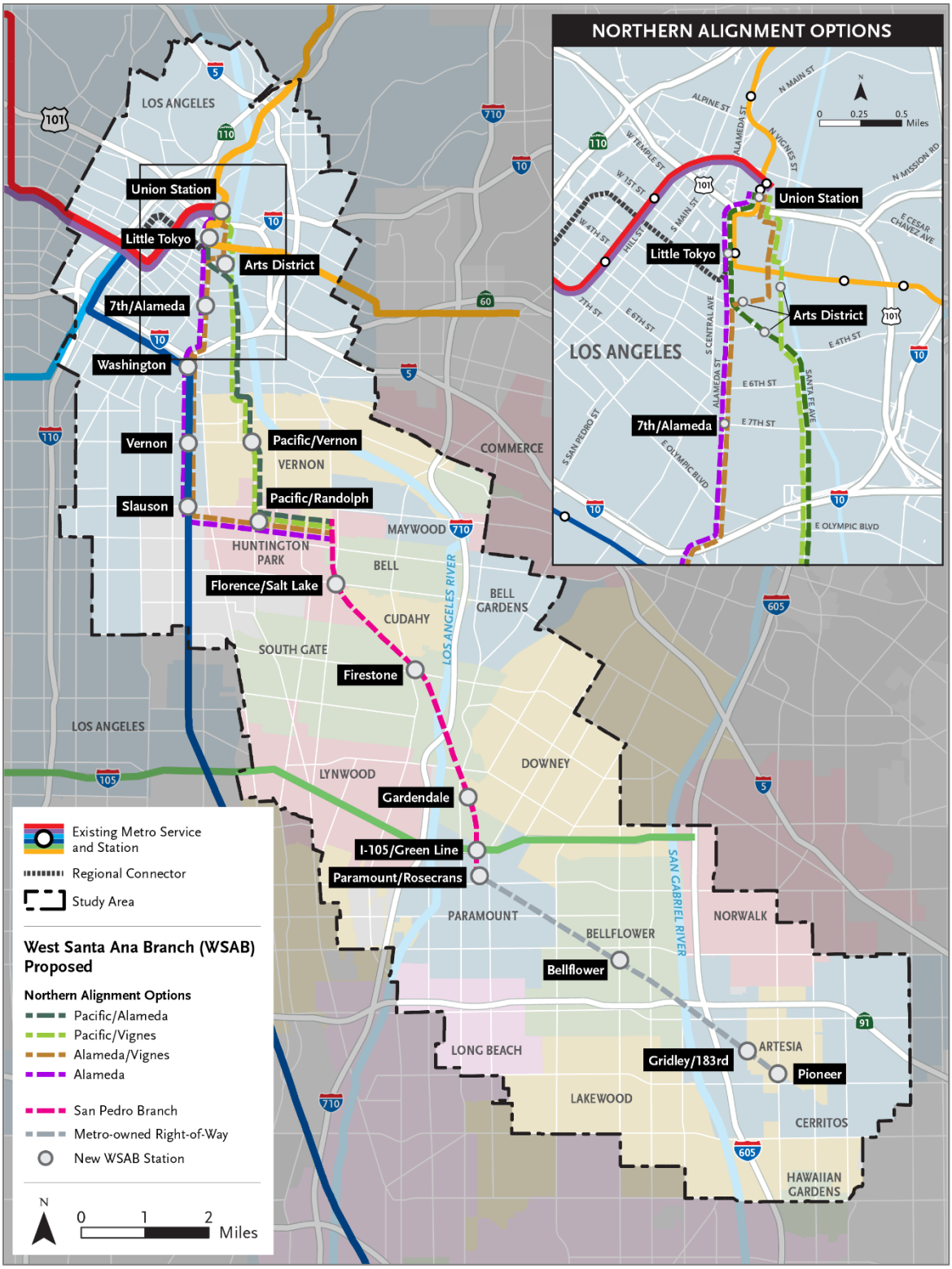
Alignment Option	Length (Northern Terminus to Florence/Salt Lake Station)	Preliminary Proposed Configuration (Northern Terminus to Florence/Salt Lake Station)	# of Proposed Stations (Northern Terminus to Florence/Salt Lake Station)
East Bank	7.7 miles	3.7 miles aerial; 4.0 miles at-grade	3
West Bank 3	6.9 miles	1.9 miles aerial; 3.3 miles at-grade; 1.7 miles underground	4
Pacific/Alameda	7.4 miles	2.7 miles aerial; 3.3 miles at-grade; 1.4 miles underground	5
Pacific/Vignes	7.2 miles	2.4 miles aerial; 3.2 miles at-grade; 1.6 miles underground	4
Alameda	8.0 miles	6.0 miles aerial; 2.0 miles at-grade	7
Alameda/Vignes	8.1 miles	5.5 miles aerial; 1.9 miles at-grade; 0.7 miles underground	7

Source: TRS Report, 2015

[2] Building from the SCAG AA Study, the feasibility of the I-105/Metro Green Line Station was assessed during the TRS, which concluded that siting a station in the I-105 median was feasible and recommended.

[3] The TRS analyzed the potential new terminus at the Pioneer Station in the City of Artesia in lieu of the Bloomfield Station in the City of Cerritos, which was part of the SCAG AA Study. The TRS concluded that the Pioneer Station terminus is feasible and recommended.

Figure ES-3. WSAB Transit Corridor



Source: West Santa Ana Branch Technical Refinement Study (Metro 2015)

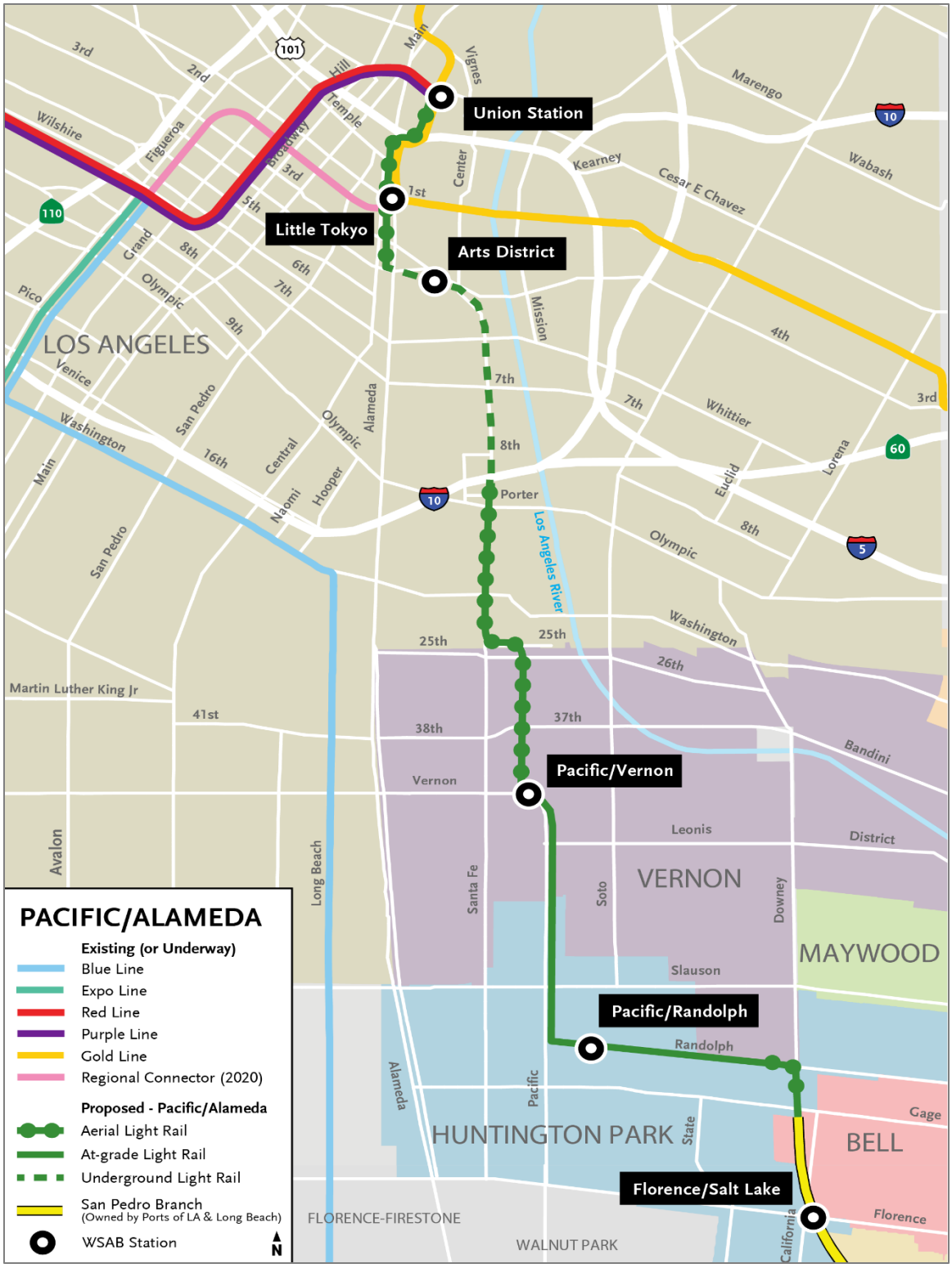
Figure ES-4. East Bank Alignment Option

Source: West Santa Ana Branch Technical Refinement Study (Metro 2015)

Figure ES-5. West Bank 3 Alignment Option

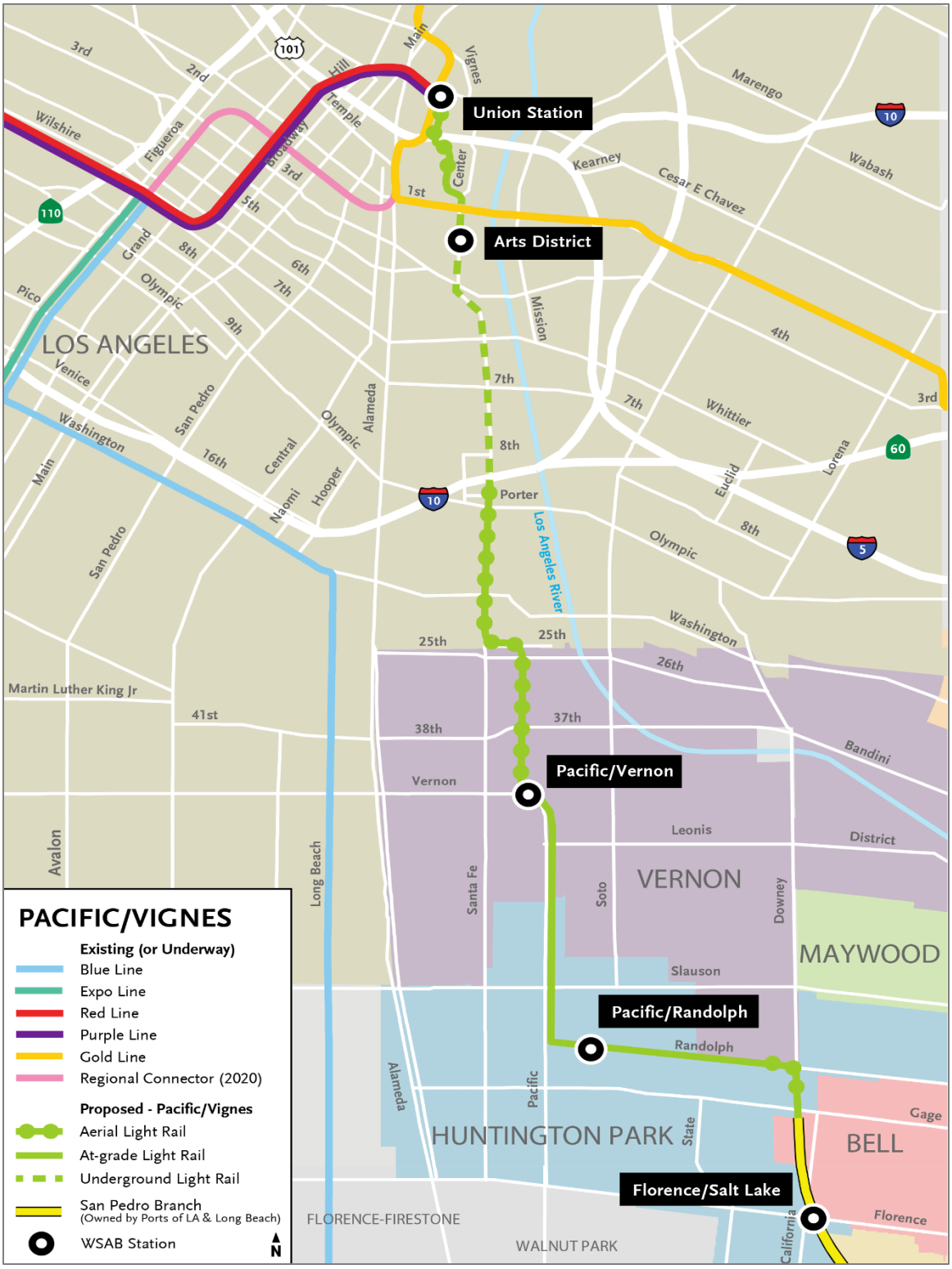
Source: West Santa Ana Branch Technical Refinement Study (Metro 2015)

Figure ES-6. Pacific/Alameda Alignment Option



Source: West Santa Ana Branch Technical Refinement Study (Metro 2015)

Figure ES-7. Pacific/Vignes Alignment Option



Source: West Santa Ana Branch Technical Refinement Study (Metro 2015)

Figure ES-8. Alameda Alignment Option

Source: West Santa Ana Branch Technical Refinement Study (Metro 2015)

Figure ES-9. Alameda/Vignes Alignment Option

Source: West Santa Ana Branch Technical Refinement Study (Metro 2015)

ES.5 Screening Evaluation

The screening evaluation was conducted to determine how well each of the six northern alignment options met the goals and objectives of the Project, as summarized in Table ES-1. The five project goals are as follows:

- Goal 1: Provide Mobility Improvements
- Goal 2: Support Local and Regional Land Use Plans and Policies
- Goal 3: Minimize Environmental Impacts
- Goal 4: Ensure Cost Effectiveness and Financial Feasibility
- Goal 5: Ensure Equity

For each goal, a set of criteria was evaluated and a score was given based on how well the alignment option meets the criteria. The northern alignment options were assessed against each evaluation criterion on their performance in qualitative and quantitative measures. A high, medium, or low rating was assigned based on the alignment option's ability to meet the stated objective. Table ES-3 presents the typical scoring methodology for each criterion.

Table ES-3. Scoring Methodology

Score		Description
●	High	A high score indicates the alternative highly supports and satisfies the criterion, or has a low potential for negative impacts.
◑	Medium	A medium score indicates the alternative moderately supports the criterion, or has a moderate potential for negative impacts.
○	Low	Low scores indicates that an alternative does not support or conflicts with the criterion, or has a high potential for negative impacts.

The comparison of northern alignment options presented in the following sections demonstrates the performance of the northern alignment options based on the goals and objectives of the Project. It also highlights the trade-offs among the northern alignment options to develop a recommendation of which alignment option(s) to carry forward into scoping for the environmental analysis.

Goal 1: Provide Mobility Improvements

Based on the criterion analyzed, the Pacific/Alameda, Pacific/Vignes, and Alameda alignment options would provide the greatest overall mobility improvement benefits (Table ES-4). These northern alignment options connect directly to Union Station and serve high-density residential and employment corridors, resulting in greater user benefits (overall time savings to the passenger) and higher daily boardings (each time a passenger boards a transit vehicle) than the other northern alignment options. These northern alignment options also directly serve numerous existing and planned Metro rail lines and bicycle facilities, which enhances the connectivity of the transit network. Furthermore, the Pacific/Alameda and Pacific/Vignes alignment options provide the greatest relief to overcrowded conditions on the North-South Line (current Metro Blue Line).

The East Bank and Alameda/Vignes alignment options provide overall average mobility improvements. The West Bank 3 alignment option would provide the fewest mobility improvement benefits primarily because this alignment option does not have a direct connection to the regional mobility hub of Union Station. By terminating at Little Tokyo instead of Union Station, this alignment option provides little relief to the overcrowded North-South Line and results in the least amount of user benefits and daily boardings.

Table ES-4. Goal 1: Provide Mobility Improvements

Evaluation Criteria	Northern Alignment Options					
	East Bank	West Bank 3	Pacific/ Alameda	Pacific/ Vignes	Alameda	Alameda/ Vignes
Estimated daily hours of user benefits	● 17,240 hours	○ 14,320 hours	● 18,580 hours	● 17,000 hours	◑ 15,380 hours	○ 14,770 hours
Decrease in boardings on North-South Line (current Metro Blue Line)	◑ 5% to 9% relief	○ Less than 5% relief	● Higher than 10% relief	● Higher than 10% relief	◑ 5% to 9% relief	◑ 5% to 9% relief
Number of connections to other Metro Rail Lines	◑ 3 connections	◑ 2 connections	● 4 connections	◑ 3 connections	● 4 connections	● 4 connections
Provides direct access to regional rail	● Yes	○ No	● Yes	● Yes	● Yes	● Yes
Number of daily boardings	◑ 50,760 daily boardings	○ 43,390 daily boardings	◑ 59,660 daily boardings	◑ 52,550 daily boardings	● 75,310 daily boardings	◑ 61,770 daily boardings
Number of new transit trips	● 16,560 new trips	○ 13,450 new trips	● 17,480 new trips	● 16,150 new trips	◑ 14,640 new trips	◑ 14,250 new trips
Number of connections to bicycle facilities	○ 5 connections	○ 3 connections	◑ 6 connections	○ 3 connections	● 10 connections	◑ 7 connections
Overall Rankings and Scores	**Medium 4.5**	**Low 0.5**	**High 6.0**	**High 5.0**	**High 5.5**	**Medium 4.0**

Goal 2: Support Local and Regional Land Use Plans and Policies

Overall, the Pacific/Alameda, Pacific/Vignes, Alameda, and Alameda/Vignes alignment options provide the greatest compatibility with existing and planned land uses (Table ES-5). The West Bank 3, Pacific/Alameda, and Pacific/Vignes alignment options serve a corridor with high employment density through the City of Vernon, while the Alameda and Alameda/Vignes alignment options would operate along a densely populated corridor bordering southeast Los Angeles. The northern alignment options with stations that serve the core of downtown Los Angeles (Union Station and Little Tokyo) have higher average population and employment densities than the northern alignment options that do not.

These downtown station areas, along with the Arts District Station, are also areas primed for future transit-oriented development (TOD) with policies already in place to encourage mixed-use, high-density development. The proposed stations along the Alameda and Alameda/Vignes alignment options overlap with the existing Metro Blue Line stations, which also have TOD plans and policies already in place to encourage transit-friendly development. The northern alignment options along Pacific Boulevard provide little opportunity for future TOD due to the industrial nature of the corridor. Likewise, the East Bank alignment option passes through primarily industrial areas with limited TOD plans and policies in place. While the West Bank 3 alignment option is similar to the Pacific/Alameda alignment option, it does not connect to Union Station, which is a major planned TOD center. Most of the existing affordable housing units are concentrated along the Alameda and Alameda/Vignes alignment options, as well as in downtown Los Angeles, with an especially high number within a half-mile of the Little Tokyo Station. The northern alignment options that serve more industrial areas have fewer affordable housing units around the station areas.

All of the northern alignment options meet the goals and objectives set forth in adopted plans and polices of the local jurisdictions. However, due to the lack of connection into Union Station or the Metro Blue Line, West Bank 3 only meets the goals set forth in the City of Vernon General Plan.

Table ES-5. Goal 2: Support Local and Regional Land Use Plans and Policies

Evaluation Criteria	Northern Alignment Option					
	East Bank	West Bank 3	Pacific/ Alameda	Pacific/ Vignes	Alameda	Alameda/ Vignes
2040 population densities within ½ mile of stations	◑ 10,580 persons/ square mile	○ 8,880 persons/ square mile	● 13,570 persons/ square mile	◑ 12,310 persons/ square mile	● 14,140 persons/ square mile	● 13,400 persons/ square mile
2040 employment densities within ½ mile of stations	◑ 14,970 jobs/ square mile	◑ 14,830 jobs/ square mile	● 15,250 jobs/ square mile	● 15,370 jobs/ square mile	○ 13,800 jobs/ square mile	○ 13,280 jobs/ square mile
Plans and policies supporting TOD around stations	○ Stations located in primarily industrial station areas	◑ One downtown LA station, and stations in commercial and industrial areas	● Three downtown LA stations, and stations in commercial and industrial areas	● Two downtown LA stations, and stations in commercial and industrial areas	● Three downtown LA stations and adopted TOD station areas along the Metro Blue Line	● Three downtown LA stations and adopted TOD station areas along the Metro Blue Line
Number of existing affordable housing units within ½ mile of stations	○ 954 affordable housing units	◑ 1,713 affordable housing units	● 2,107 affordable housing units	◑ 1,659 affordable housing units	● 2,825 affordable housing units	● 2,798 affordable housing units
Supported by existing local plans and programs	● Effectively meets local plans	◑ Moderately meets local plans	● Effectively meets local plans	● Effectively meets local plans	● Effectively meets local plans	● Effectively meets local plans
Overall Rankings and Scores	**Low 2.0**	**Low 2.0**	**High 5.0**	**High 4.0**	**High 4.0**	**High 4.0**

Goal 3: Minimize Environmental Impacts

The Pacific/Alameda alignment option provides the greatest overall potential to minimize environmental impacts during both construction and operations (Table ES-6). The Pacific/Alameda, Pacific/Vignes, and East Bank alignment options result in the largest reduction in vehicle miles traveled during operation, resulting in improved air quality and other associated health and environmental benefits. With the exception of the East Bank alignment option, all northern alignment options may result in some impacts to the roadway network by either requiring the removal of parking or traffic lanes. These impacts are most likely to occur where the alignment is aerial or transitioning from aerial to underground. While the East Bank alignment option would not affect the roadway network, over a third of the alignment would overlap with active freight routes, which would potentially disrupt service.

Table ES-6. Goal 3: Minimize Environmental Impacts during Construction and Operation

Evaluation Criteria	Northern Alignment Options					
	East Bank	West Bank 3	Pacific/ Alameda	Pacific/ Vignes	Alameda	Alameda/ Vignes
Reduction in vehicle miles traveled (VMT)	● 289,960 VMT reduced	○ 162,510 VMT reduced	● 312,150 VMT reduced	● 283,710 VMT reduced	◑ 214,930 VMT reduced	◑ 216,820 VMT reduced
Impacts to roadway lanes, parking, and truck movement	● No removal of parking or traffic lanes and minimal impacts to truck movement	◑ Minimal removal of parking or traffic lanes and minimal impacts to truck movement	◑ Minimal removal of parking or traffic lanes and minimal impacts to truck movement	○ Moderate removal of parking or traffic lanes and minimal impacts to truck movement	◑ Minimal removal of parking or traffic lanes and minimal impacts to truck movement	◑ Minimal removal of parking or traffic lanes and minimal impacts to truck movement
Minimal disruption to existing rail ROW (% of miles overlap with existing rail ROW)	○ 38%	● 11%	● 11%	● 11%	◑ 25%	◑ 25%
Overall Rankings and Scores	**Medium 2.0**	**Low 1.5**	**High 2.5**	**Medium 2.0**	**Low 1.5**	**Low 1.5**

Goal 4: Ensure Cost Effectiveness and Financial Feasibility

Overall, the Alameda alignment option would be the most cost-effective and poses the smallest risk to cost with the fewest engineering challenges (Table ES-7). In part, this is due to the aerial and at-grade configurations, which reduce costs when compared to the costs for an underground alignment. The East Bank alignment option presents the greatest engineering challenges with the need to address crossing existing LA River bridges, ROW constraints from adjacent established properties and utilities, and securing third-party agreements with Union Pacific Railroad and Metrolink to share the ROW. These engineering challenges result in significant risks, which could decrease the cost-effectiveness of this alignment option even further. In addition, when comparing the northern alignment options that require tunneling, the West Bank 3 alignment option has the highest risk due to the longest length of tunneling required.

Table ES-7. Goal 4: Ensure Cost Effectiveness and Financial Feasibility

Evaluation Criteria	Northern Alignment Option					
	East Bank	West Bank 3	Pacific/ Alameda	Pacific/ Vignes	Alameda	Alameda/ Vignes
Capital cost (rough order of magnitude in millions $2015)	◑ $3,796.3 [4]	◑ $4,315.5	◑ $4,420.5	◑ $4,416.2	◑ $4,309.4	○ $4,624.4
Cost/benefit (capital costs per boarding)	◑ $75	○ $99	◑ $74	◑ $84	● $59	◑ $75
Engineering challenges	○ Extensive potential conflicts with infrastructure and requires numerous third-party approvals	◑ Risk associated with tunneling	◑ Risk associated with tunneling	◑ Risk associated with tunneling	● Minimal risk as entirely aerial or at-grade	● Minimal risk associated with shortest tunneling segment
Number of property acquisitions (initial estimate)	○ Significant ROW constraints	● Sufficient ROW	◑ Limited ROW	◑ Limited ROW	● Sufficient ROW	● Sufficient ROW
Overall Rankings and Scores	**Low 1.0**	**Medium 2.0**	**Medium 2.0**	**Medium 2.0**	**High 3.5**	**Medium 2.5**

[4] ROW costs were not factored during the TRS Capital Cost estimates. The substantial length of the East Bank alignment requires obtaining easements or purchasing the ROW.

Goal 5: Ensure Equity

All of the northern alignment options meet the goal of ensuring equity in the provision of new transit service by serving highly transit-dependent and EJ communities. The proportion of transit-dependent households is slightly higher along the Alameda and Alameda/Vignes alignment options because of the corridor's proximity to southeast Los Angeles. However, these communities are already served by the Metro Blue Line; therefore, the Alameda and Alameda/Vignes alignment options would not provide new service to an underserved community. All station areas surpass the LA County averages of 17 percent of people living below poverty and 57 percent of the population being minorities and therefore would be considered EJ communities.

Table ES-8. Goal 5: Ensures Equity

Evaluation Criteria	Northern Alignment Options					
	East Bank	West Bank 3	Pacific/ Alameda	Pacific/ Vignes	Alameda	Alameda/ Vignes
Percentage of transit-dependent persons within ½ mile of stations	◑ 15% to 19%	◑ 15% to 19%	◑ 15% to 19%	◑ 15% to 19%	● Over 20%	● Over 20%
Percentage of station areas that qualify as EJ communities	● 100% of station areas	● 100% of station areas	● 100% of station areas	● 100% of station areas	● 100% of station areas	● 100% of station areas
Provision of new reliable fixed service to underserved communities	● New service	● New service	● New service	● New service	◑ Overlaps with existing Metro Blue Line and existing Metro Gold Line Little Tokyo Station	● Overlaps with existing Metro Blue Line and provides new Arts District Station
Overall Rankings and Scores	**High 2.5**	**High 2.5**	**High 2.5**	**High 2.5**	**High 2.5**	**High 3.0**

ES.6 Summary and Recommendations

Each of the northern alignment options provides a unique set of benefits that must be considered against the potential costs and challenges. Table ES-9 presents the results for each alignment option considered, and the following bullets summarize the key findings for each alignment option:

- **East Bank:** Because of its direct connection into Union Station, the East Bank alignment option provides substantial mobility benefits; however, the stations along this alignment serve predominantly industrial areas with lower population and employment densities and limited opportunities for future TOD. Most importantly, this alignment option presents significant engineering challenges because of the constrained ROW from adjacent established properties and utilities, conflicts with existing infrastructure (such as LA River bridges), and requires securing third-party agreements with rail agencies. Combined, these are likely to result in higher costs.
- **West Bank 3:** This alignment option provides limited mobility benefits because of its northern terminus in Little Tokyo instead of Union Station. The lack of connection to Union Station also limits TOD opportunities and connections to a major population and employment center. Furthermore, while the benefits of West Bank 3 are substantially lower than the other northern alignment options, the associated costs and engineering challenges are not significantly lower and thus do not offset the lack of connection into Union Station.
- **Pacific/Alameda**: By serving both an Arts District and a Little Tokyo Station, this alignment option provides significant mobility benefits, presents numerous TOD opportunities, and meets the needs of the local communities and stakeholders. By serving Pacific Boulevard, this alignment option introduces new transit service to a currently underserved area while also providing congestion relief along the Metro Blue Line (North-South Line). However, by serving Santa Fe Avenue and Pacific Boulevard, this alignment option provides service to a primarily industrial area rather than enhancing transit service along the Metro Blue Line, which is heavily residential and presents promising TOD opportunities in the future.
- **Pacific/Vignes:** The Pacific/Vignes alignment option provides many of the same benefits as the Pacific/Alameda alignment option. However, by not connecting to the Little Tokyo Station, this alignment option misses a key connection to the East-West Line (the future Regional Connector) thereby limiting mobility benefits and a heavily populated area with numerous TOD opportunities. Furthermore, the estimated capital cost is not significantly lower than the Pacific/Alameda alignment option, but the benefits are lower.
- **Alameda:** The Alameda alignment option provides connections to the Union Station, Little Tokyo, and Metro Blue Line (North-South Line), resulting in significant mobility benefits. By following the Metro Blue Line, this alignment option serves low-income and densely populated areas that would benefit from additional transit service and helps to address overcrowding on the Metro Blue Line. By avoiding tunneling, this alignment option is also estimated to be one of the lower cost options. However, this alignment option does not minimize environmental impacts as effectively as other alignment options because of a moderate reduction in VMT and an exclusively

aerial alignment, which could result in conflict with existing roadway or rail (Metro Blue Line) networks.

- **Alameda/Vignes:** As with the Alameda alignment option, this alignment option provides new transit service to a transit-dependent community along the Metro Blue Line (North-South Line) and results in substantial mobility benefits. While this alignment option does provide a station in the Arts District with significant potential for future growth, it does not include a station at Little Tokyo, limiting the connection to the East-West Line (the future Regional Connector). This alignment option is also estimated to be the most expensive because of the required tunneling.

Table ES-9. Summary of Results

Evaluation Criteria	Northern Alignment Options					
	East Bank	West Bank 3	Pacific/ Alameda	Pacific/ Vignes	Alameda	Alameda/ Vignes
Provide Mobility Improvements	Medium	Low	High	High	High	Medium
Support Local and Regional Land Use Compatibility	Low	Low	High	High	High	High
Minimize Environmental Impacts	Medium	Low	High	Medium	Low	Low
Ensure Cost Effectiveness and Financial Feasibility	Low	Medium	Medium	Medium	High	Medium
Ensure Equity	High	High	High	High	High	High
Overall Rankings	**Low**	**Low**	**High**	**High**	**High**	**Medium**

ES.7 Recommendations and Next Steps

Based on the results of the northern alignment options screening analysis, it is recommended that the East Bank and West Bank 3 alignment options be dropped from further consideration and the Pacific/Alameda, Pacific/Vignes, Alameda, and Alameda/Vignes alignment options be carried forward into scoping for the environmental analysis. The East Bank and West Bank 3 alignment options were developed during the SCAG AA phase and do not meet the purpose and need of the project as effectively as the Pacific/Alameda, Pacific/Vignes, Alameda, and Alameda/Vignes alignment options.

In particular, the East Bank alignment option serves a primarily industrial area with limited opportunities for future TOD and poses significant engineering challenges that present higher risk and cost. The West Bank 3 alignment option does not connect directly into Union Station, forcing passengers to transfer to reach this major transportation hub, thus limiting the mobility improvements. The Pacific/Alameda and Pacific/Vignes alignment options

follow the general alignment of the West Bank 3, but provide the valuable direct connection to Union Station.

By providing a direct connection into Union Station, the Pacific/Alameda, Pacific/Vignes, Alameda, and Alameda/Vignes alignment options provide a reliable transit service that connects southeastern LA County to the regional transportation network. The Pacific/ Alameda, Pacific/Vignes, Alameda, and Alameda/Vignes alignment options increase mobility and connectivity for historically underserved transit-dependent and EJ communities; reduce travel times on local and regional transportation networks; and accommodate substantial future population and employment growth. Therefore, it is recommended that the Pacific/ Alameda, Pacific/Vignes, Alameda, and Alameda/Vignes alignment options be carried into scoping for the environmental analysis.

ATTACHMENT B

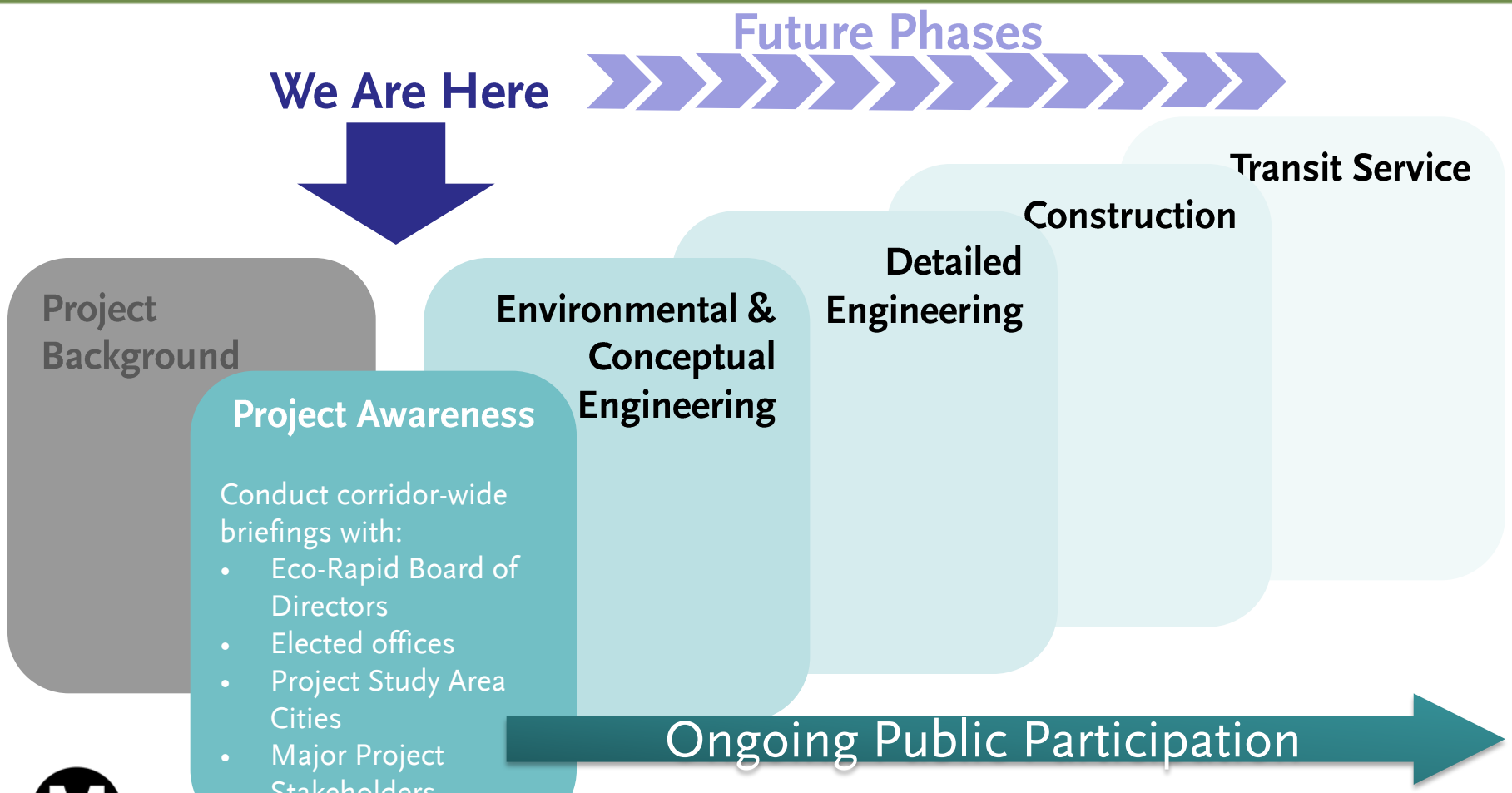
West Santa Ana Branch Transit Corridor Project Definition Map

Item #23

West Santa Ana Branch Transit Corridor

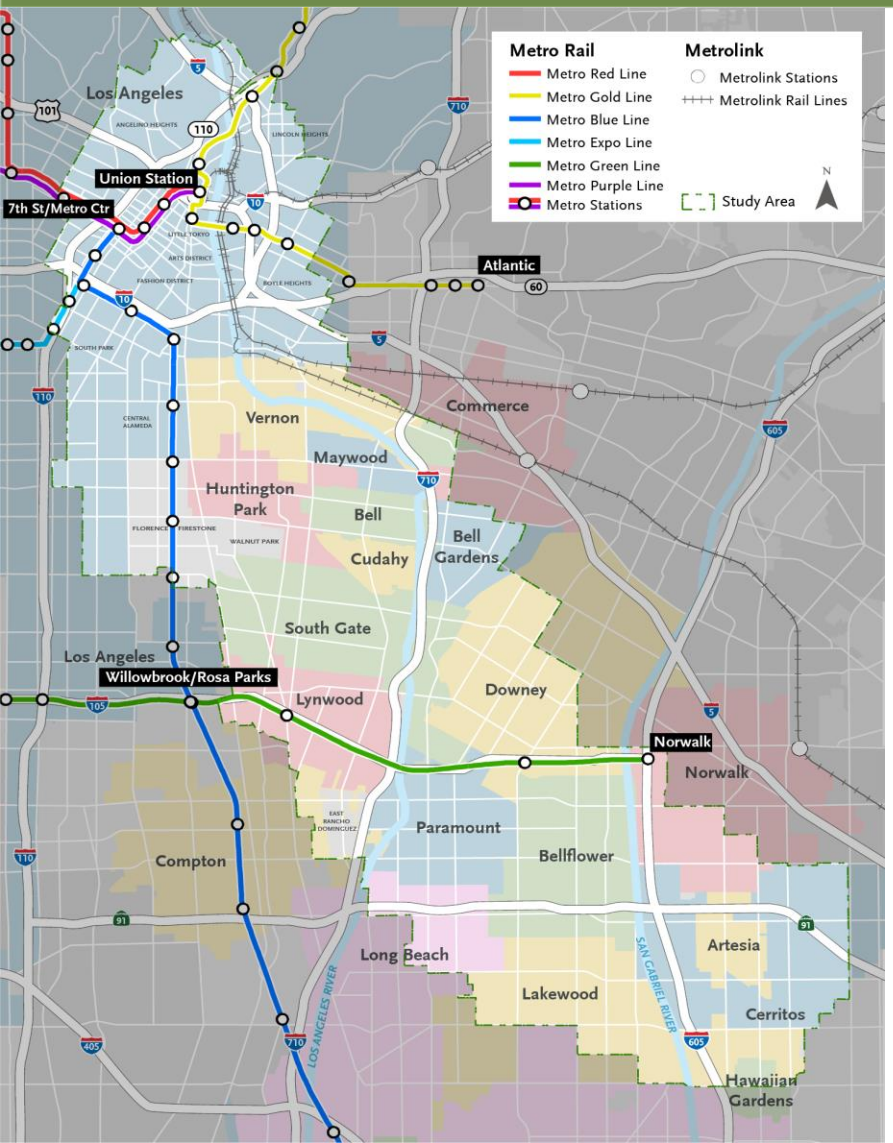
Planning and Programming Committee – April 19, 2017

Project Development Process



Metro

Project Study Area



- 98 square miles
- 20 individual cities plus unincorporated LA County
- 1.2 million people currently reside in the Study Area, with 1.5 million residents projected in 2040
- 584,000 jobs are currently located in the Study Area, 670,000 jobs projected in 2040
- Population and employment densities are five times higher than LA County

SCAG Alternatives Analysis Recommendations

- Light Rail Transit (LRT)
- Stations identified
- Two northern alternatives:
  - East Bank
  - West Bank 3

Technical Refinement Study (TRS) Overview

1. Southern Terminus
   - City of Artesia Pioneer Station as new terminus
2. New Green Line Station
   - Constructing station in active freeway and rail line
3. Huntington Park Alignment & Stations
   - Shift alignment from Pacific Blvd. to Santa Fe Ave.
   - Relocate SCAG AA station locations to:
     - Salt Lake Ave./Florence Ave.
     - Randolph St. east of Pacific Blvd.
4. Northern Alignment Options
5. Access to Union Station

TRS - Northern Alignment Options

- SCAG Alignments:
  - East Bank
  - West Bank 3
- Pacific Blvd. Corridor Options:
  - Pacific/Alameda
  - Pacific/Vignes
- Metro Blue Line/Alameda St. Corridor Options:
  - Alameda
  - Alameda/Vignes

TRS - Northern Alignment Options Key Findings

	East Bank	West Bank 3	Pacific Blvd Corridor		Metro Blue Line/ Alameda St Corridor	
			Pacific/ Alameda	Pacific/ Vignes	Alameda	Alameda/ Vignes
Number of Stations	11	12	13	12	15	15
Length (miles)	18.5	17.8	18.3	18.1	19	19.1
Travel Time (minutes)	34.4	32.4	33	33.2	33.2	34.3
Estimated Daily Boardings (2040)	50,760	43,390*	59,660	52,550	75,300	61,770
Preliminary Cost Estimate (in billions, 2015$)	$3.8	$4.3	$4.3	$4.3	$4.3	$4.6

* Forced Transfers

Higher Performing Alternatives

Metro

Project Definition - Four Northern Alignment Options

- Recommend to be carried into Environmental Scoping:
  - Pacific Blvd. Corridor Options:
    - Pacific/Alameda
    - Pacific/Vignes
  - Metro Blue Line/Alameda St. Corridor Options:
    - Alameda
    - Alameda/Vignes

Environmental Process Timeline

Ongoing Public Participation

Metro

Public Outreach

- **Public Scoping Comment Period & Meetings (with Live Webcast) - Spring 2017**

- Project Update Community Meetings (2 Rounds)
- City and Elected Briefings
- TAC Meetings
- Community Events / Pop-ups
- Extended Outreach

- **Draft EIR/Public Comment Period & Hearings (with Live Webcast)**

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Next Steps

- May/June 2017, Public Scoping Comment Period & Meetings (with Live Webcast)
- Technical meetings with corridor cities/agencies
- Continuing public outreach

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File #: 2017-0191, **File Type:** Project **Agenda Number:** 24.

REVISED
PLANNING AND PROGRAMMING COMMITTEE
APRIL 19, 2017

SUBJECT: WESTSIDE PURPLE LINE SECTION 3 MEASURE R COMMITMENT

ACTION: APPROVE COMMITMENT OF ACCELERATED MEASURE R FUNDS TO WSPLE 3

RECOMMENDATION

APPROVE the formal commitment of ~~$905~~ $899.9 million of accelerated **Measure R funds to Westside Purple Line Extension Section 3** (WSPLE3) to fulfill the Federal Transit Administration's financial rating requirements for Metro's New Starts project request of ~~$1.175~~ $1.3 billion.

ISSUE

This report includes the formal commitment of ~~$905~~ $899.9 million of accelerated Measure R funds to WSPLE 3 to fulfill the Federal Transit Administration (FTA) financial rating requirements for Metro's New Starts project request of ~~$1.175~~ $1.3 billion. To support the schedule outlined in the January 26, 2017 Board Report (File # 2016-0828) on WSPLE3 delivery, Metro is formally requesting FTA approval to enter engineering on this project. A commitment of the Measure R funds will greatly improve the likelihood of success in the financial capacity evaluation to be performed by FTA late this spring.

DISCUSSION

In February 2016, the Metro Board of Directors approved taking the necessary steps to advance the WSPLE3 project as part of a larger package including other Measure R projects. Coupled with that February 2016 action was a contract modification in the amount of $28 million for advanced preliminary engineering and other design and support services for the WSPLE 3 project. In June 2016, the Metro Board of Directors approved the Measure M Expenditure Plan which proposed that the voters accelerate the WSPLE3 project from FY 2036 to as early as FY 2024 (as the first year of a three-year range for the opening date). Measure M and its Expenditure Plan were approved by the voters in November 2016. In January 2017, the Metro Board of Directors approved the amendment of Measure M into the Regional Transportation Plan and further approved certain design-build and contracting delivery approaches for the WSPLE 3 project.

Consistent with the now accelerated schedule for WSPLE3 project, Metro is seeking to formally advance the project into the New Starts program's engineering phase, a key step in the acceleration

plan. As of this writing, Metro staff will be submitting a required Financial Plan in support of the entry into engineering request in mid-April 2017. Entry into engineering approval by FTA requires, in part, that the Financial Plan show that Metro can construct, operate, and maintain the project in the context of all its other regional transportation system commitments, including the construction, operation, and maintenance of all other projects in the Regional Transportation Plan.

Metro's pre-Measure M Strategic Financial Plan had scheduled the Measure R funds consistent with opening WSPLE3 in FY 2036. In order to deliver WSPLE3 as early as FY 2024, Metro needs to meet the federal process requirements and timelines for the New Starts funding process. FTA's New Starts process requires a viable Financial Plan to enter engineering and acceptance of Metro's Financial Plan assumptions, including the recommended formal action by the Metro Board of Directors to commit Measure R funds earlier than previously indicated. This Measure R commitment is consistent with the Measure R funding profile identified in the Measure R Expenditure Plan for the "Westside Subway Extension." As a result of this commitment, no other Measure R projects will be delayed.

WSPLE3 has a mix of federal and local funds in Metro's financial model, including a New Starts project request of ~~$1.175~~ $1.3 billion; $994 million of Measure M; and a Measure R commitment of ~~$905~~ $899.9 million. This report seeks to confirm the commitment of ~~$905~~ $899.9 million (including $120.6 million for bond interest) of accelerated Measure R funds to WSPLE3. A full summary of the projects cash flow plan, including sources and uses for WSPLE 3, can be found in Attachment A.

DETERMINATION OF SAFETY IMPACT

The recommended actions will have no impact on the safety of our customers or employees.

FINANCIAL IMPACT

The FY17 budget includes the $30.4 million commitment as outlined in Attachment A. Since this is a multiple year project, the project manager and the Chief Program Management Officer will be accountable for budgeting the required commitments in future years.

Impact to Budget
The source of accelerated funding is Measure R 35% which is not eligible for bus and rail operating expenditures.

ALTERNATIVES CONSIDERED

The Board could choose not to approve the commitment of Measure R funds for the WSPLE3 project. Staff does not recommend this alternative as the recommendation allows the project to be formally accepted into the engineering phase by FTA to meet its goal of opening to the public as early as 2024, in time for the potential 2024 Los Angeles Olympics. Any delay in approving this action results in further FTA application delays that would likely affect the construction timeline of this project and put the proposed opening date of 2024 in jeopardy.

NEXT STEPS

With Board approval, Planning staff will notify FTA of the Board's Measure R commitment for WSPLE3. Going forward, staff will complete work on the Financial Model in support of the LRTP update commencing in FY 2018, which will include this and other updates. Any future changes to FTA regulations or funding levels, including the New Starts budget affecting Metro projects, will be reported to the Board as information becomes available.

ATTACHMENTS

Attachment A - Financial plan for the WSPLE3 FTA submittal.

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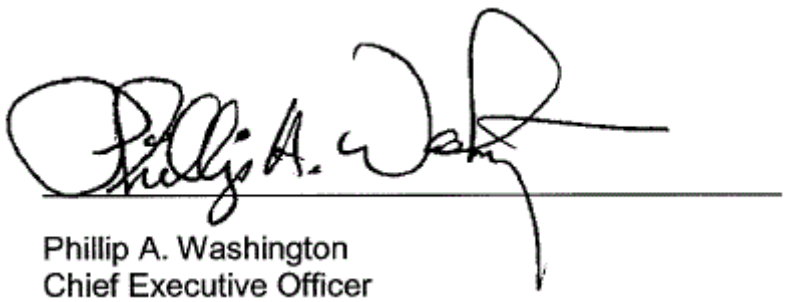

Phillip A. Washington
Chief Executive Officer

REVISED

ATTACHMENT A

Westside Purple Line Extension Section 3 Expenditure/Funding Plan (including bonding)

($ in millions)

Uses	**Total**	**Prior**	**FY 17**	**FY 18**	**FY 19**	**FY 20**	**FY 21**	**FY 22**	**FY 23**	**FY 24**	**FY 25**	**FY 26**	**FY 27**	**FY 28**	**FY 29**	**FY 30**	**FY 31**	**FY 32**	**FY 33**
Guideways	$ 539.4			$ 18.6	$ 45.1	$ 139.0	$ 123.5	$ 98.9	$ 69.3	$ 37.0	$ 6.5	$ 1.5							
Stations	$ 575.0				$ 18.4	$ 105.6	$ 55.8	$ 79.2	$ 99.6	$ 127.3	$ 87.8	$ 1.3							
Sitework/Special Conditions	$ 497.3		$ 1.0	$ 51.3	$ 82.4	$ 57.1	$ 59.1	$ 70.1	$ 72.5	$ 79.4	$ 24.5								
Systems	$ 130.1					$ 18.2			$ 8.9	$ 64.7	$ 38.3								
Right of Way	$ 368.4		$ 0.3	$ 120.6	$ 247.5														
Vehicles	$ 35.3							$ 35.3											
Professional Services	$ 494.4	$ 13.8	$ 27.4	$ 46.1	$ 58.9	$ 63.9	$ 57.2	$ 59.2	$ 47.4	$ 49.1	$ 37.0	$ 27.4	$ 7.1						
Unallocated Contingency	$ 273.1		$ 2.7	$ 5.0	$ 31.6	$ 32.7	$ 33.8	$ 35.0	$ 36.2	$ 37.5	$ 43.3	$ 7.5	$ 7.7						
Subtotal Project Cost	**$ 2,913.0**	**$ 13.8**	**$ 31.4**	**$ 241.6**	**$ 483.9**	**$ 416.6**	**$ 329.4**	**$ 377.7**	**$ 334.0**	**$ 394.9**	**$ 237.3**	**$ 37.7**	**$ 14.8**						
CGRRB Debt Service	$ 993.6							$ 25.6	$ 25.6	$ 42.4	$ 100.0	$100.0	$100.0	$100.0	$100.0	$100.0	$ 100.0	$ 100.0	$ 100.0
Measure R bond interest	$ 120.6					$ 3.7	$ 3.6	$ 3.4	$ 3.3	$ 3.9	$ 8.6	$ 13.5	$ 13.0	$ 12.6	$ 12.1	$ 11.6	$ 11.0	$ 10.5	$ 9.8
TOTAL USES	$ 4,027.2	$ 13.8	$ 31.4	$ 241.6	$ 483.9	$ 420.3	$ 332.9	$ 406.7	$ 362.9	$ 441.3	$ 345.9	$151.2	$127.8	$112.6	$112.1	$111.6	$ 111.0	$ 110.5	$ 109.8
Sources																			
Federal Revenue																			
Section 5309 New Starts	$ 1,300.0						$ 100.0	$ 100.0	$ 100.0	$ 100.0	$ 100.0	$100.0	$100.0	$100.0	$100.0	$100.0	$ 100.0	$ 100.0	$ 100.0
Local Revenue																			
Measure R 35% - Transit Cap	$ 779.3	$ 4.0	$ 31.4	$ 50.3	$ 218.3		$ 2.0	$ 71.8	$ 26.3	$ 132.4	$ 190.3	$ 37.7	$ 14.8						
Measure R 35% for bond interest	$ 120.6					$ 3.7	$ 3.6	$ 3.4	$ 3.3	$ 3.9	$ 8.6	$ 13.5	$ 13.0	$ 12.6	$ 12.1	$ 11.6	$ 11.0	$ 10.5	$ 9.8
Subtotal Measure R 35%	$ 899.9	$ 4.0	$ 31.4	$ 50.3	$ 218.3	$ 3.7	$ 5.6	$ 75.2	$ 29.6	$ 136.3	$ 198.9	$ 51.2	$ 27.8	$ 12.6	$ 12.1	$ 11.6	$ 11.0	$ 10.5	$ 9.8
Local Agency Contributions	$ 87.4									$ 87.4									
Repay Cap Proj Loans Fund	$ 9.8	$ 9.8																	
Measure M 35% -Transit	$ 994.3			$ 191.3	$ 265.6	$ 372.8				$ 117.6	$ 47.0								
Grant Receipt Rev Bonds (CGRRB)	$ 735.9					$ 43.8	$ 227.4	$ 231.5	$ 233.2										
TOTAL SOURCES	$ 4,027.2	$ 13.8	$ 31.4	$ 241.6	$ 483.9	$ 420.3	$ 332.9	$ 406.7	$ 362.9	$ 441.3	$ 345.9	$151.2	$127.8	$112.6	$112.1	$111.6	$ 111.0	$ 110.5	$ 109.8

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Los Angeles, CA

File #: 2017-0089, **File Type:** Project **Agenda Number:** 26.

PLANNING AND PROGRAMMING COMMITTEE
APRIL 19, 2017

SUBJECT: RAIL TO RAIL/RIVER ACTIVE TRANSPORTATION CORRIDOR PROJECT

ACTION: ADOPT THE RAIL TO RAIL/RIVER ACTIVE TRANSPORTATION CORRIDOR PROJECT RECOMMENDATIONS

RECOMMENDATIONS

CONSIDER:

A. ADOPTING the **Rail to Rail Active Transportation Corridor (ATC) Project** - Segment A Preliminary Design (Attachment A); the findings of the environmental analysis that the project qualifies for CEQA Categorical Exemption under Section 15307 (Class 4) Minor Alterations to Land; and file the Notice of Exemption (NOE) (Attachment B);

B. ADOPTING the Rail to River ATC - Segment B Locally Preferred Alternative, Randolph Street Alternative, as described in the Alternative Analysis (AA) (Attachment C) and advance into the Environmental Review/Clearance and Preliminary Design phase after more refined cost estimates for Segment A are developed from 30% design documents.

ISSUE

In June 2016, a twelve-month contract was awarded to Cityworks Design for the environmental review, clearance and 30% Preliminary Design for the Rail to Rail ATC - Segment A. The Project team completed Preliminary Design for the Rail to Rail ATC - Segment A which includes conceptual designs for the length of the corridor. In addition, an environmental analysis was completed in compliance with the California Environmental Quality Act (CEQA). Metro serves as the CEQA Lead Agency and has final approval of plans and environmental documents. Board adoption of Recommendation A for the Rail to Rail/River ATC Project - Segment A Preliminary Design, acceptance of the findings for the environmental analysis and authorization to file the NOE for Segment A is being requested.

In June 2016, a nine-month contract was awarded to Evan Brooks Associates for an AA to determine the preferred alternative route for Segment B. The AA was completed in March 2017 using evaluation criteria consistent with overall project goals and objectives. Board adoption of Recommendation B for the AA Rail to River - Segment B findings, which includes the identification of the Randolph Street Alternative as the Locally Preferred Alternative, is being requested.

DISCUSSION

BACKGROUND

In October 2014, upon Metro Board direction, the Rail to River Intermediate Active Transportation Corridor Feasibility Report was completed and it concluded that the corridor was feasible along the Metro-owned Harbor Subdivision. Two segments emerged from the Feasibility Study: Rail to Rail ATC - Segment A and Rail to River ATC - Segment B. Combined, the Rail to Rail/River ATC spans approximately 10 miles in length.

The Rail to Rail ATC - Segment A is an approximately 6-mile Class I bicycle and pedestrian path running along the Metro-owned Harbor Subdivision alignment connecting the future Metro Crenshaw/LAX Line (Fairview Heights Station) with the Metro Silver Line (Slauson Station) and the Metro Blue Line (Slauson Station). Environmental analysis was completed in March 2017 and 30% Preliminary Design is scheduled to be completed June 2017. The Rail to Rail ATC - Segment A primarily consists of Metro-owned 30' cross-section right-of-way (ROW) and includes a 12' bi-directional bicycle path, a 7' pedestrian path, landscape/safety buffers and drainage swales with bioinfiltration. There are also areas where the Metro-owned ROW exceeds 30' and are identified as opportunity sites designed to include open space, landscaping and active transportation infrastructure to enhance mobility and safety.

The Rail to River ATC - Segment B AA was conducted. An Alternatives Evaluation Methodology was developed and utilized as evaluation criteria to each of the four alternatives: Malabar Corridor (B-1), Utility Corridor (B-2), Slauson Avenue (B-3) and Randolph Street (B-4). The evaluation criteria were consistent with the overall goals and objectives of enhancing mobility/connectivity and access to major destinations, minimizing transportation impacts, improving cost effectiveness/ease of implementation and addressing local/regional communities. The Randolph Street Alternative (B-4) scored the highest overall when compared to the other three alternatives, but did score the lowest on the cost effectiveness/ease of implementation as it has a higher cost of implementation and would require an easement from Union Pacific and local jurisdiction cooperation. The Randolph Street Alternative (B-4) has the support from the local jurisdictions (Los Angeles County, Huntington Park, Vernon, Bell and Maywood).

Comprehensive outreach was conducted as part of the development of both Segment A and Segment B. Mailings were sent out to 58,000 households and 70,000 brochures distributed on 30 bus lines, 45 schools and 90 organizations to better inform the public. Social media awareness and live broadcasting of community meetings were conducted and contributed to greater participation at community meetings. The Technical Advisory Committees (TAC) for Segment A and Segment B have provided technical input from the various internal departments within Metro and external agencies (jurisdictions, bureaus/departments, LAPD, LAC Sheriff, LAC Fire Department, Caltrans D7). The Community Advisory Committee (CAC) was established as a combined Segment A and Segment B committee and is represented by various community-based organizations/ Los Angeles City Neighborhood Councils throughout the length of the corridor. The CAC has provided input/feedback on the project, circulated information, handed out surveys and engaged the community throughout the process of the project.

Findings

CEQA COMPLIANCE

Under the state CEQA Guidelines, Section 15304, the Project is categorically exempt from CEQA. This CEQA exemption applies to projects, such as the Rail to Rail Active Transportation Corridor - Segment A, which consist of minor alterations in the condition of land which do not involve removal of healthy, mature, scenic trees and where there is no reasonable possibility that the project will have a significant effect on the environment due to unusual circumstances. The Project will create bicycle lanes and a pedestrian/multi-purpose path within the existing street and public ROW. The Project will not have a significant, adverse effect on traffic, air quality, noise, and historical or other resources. Since projects of this type involving only minor alterations to land do not generally have a significant effect on the environment, they are declared by the state to be categorically exempt from the requirement for the preparation of environmental documents.

DETERMINATION OF SAFETY IMPACT

The Board actions will not have any impact on safety impacts on Metro employees and patrons.

FINANCIAL IMPACT

The FY17 budget includes $2.85 million for the Rail to Rail/River ATC Project: (1) Segment A 30% Preliminary Design and environmental analysis; (2) Segment B Alternative Analysis; and (3) Outreach for both Segment A and Segment B, in Cost Center 4360 (Active Transportation), Project 405509 (Rail to River Bikeway Feasibility). Since this is a multi-year project, the cost center manager and Chief Planning Office will be responsible for budgeting the cost of future years, including any phase (s) the Board authorizes to be exercised.

Impact to Budget

The source of funds is Measure R Admin 1.5% which is not eligible for bus and rail operating and capital expenditures. Development of the Life-of-Project budget will be established after the completion of the procurement process.

ALTERNATIVES CONSIDERED

The Board may choose not to adopt the Rail to Rail/River ATC project, findings of the environmental analysis, and selection of the Locally Preferred Alternative. This alternative is not recommended, as it is not in line with previous Board direction.

NEXT STEPS

Upon Board adoption and authorization, the NOE will be filed, and the Rail to River ATC - Segment B will advance into the environmental analysis/30% Preliminary Design.

ATTACHMENTS

Attachment A - Rail to Rail - Segment A Preliminary Design
Attachment B - Rail to Rail - Segment A Notice of Exemption
Attachment C - Rail to River - Segment B Alternative Analysis

Prepared by: Alice Tolar, Transportation Planning Manager, (213) 922-2218
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Milind Joshi, Sr. Director, Project Engineering (213) 922-7985
Diego Cardoso, Executive Officer, (213) 922-3076
Calvin E. Hollis, Senior Executive Officer, (213) 922-7319

Reviewed by: Therese W. McMillan, Chief Planning Officer, (213) 922-7077

Phillip A. Washington
Chief Executive Officer

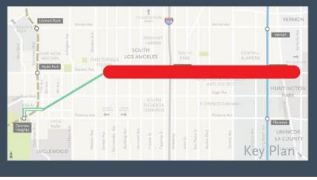
Attachment A

Rail to Rail Active Transportation Corridor Segment A 15% Preliminary Design

Attachment A

Rail to Rail/River Active Transportation Corridor Segments A & B Map

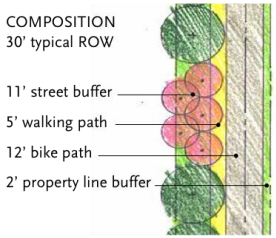
Walk/Bike Path – Slauson Corridor



Mid-block Concept (Typical 30' ROW)

- Asphalt paved walkway and 2-way bike path
- Lighting (spaced every 60')
- Fencing at ROW edge where needed (Metro standard panelized)
- Furnishings & signage
- Bioswales for stormwater run-off treatment with low fencing at edge
- Shade trees
- Diversity of trees/plant species
- Boulders and low, drought tolerant landscape in street buffer

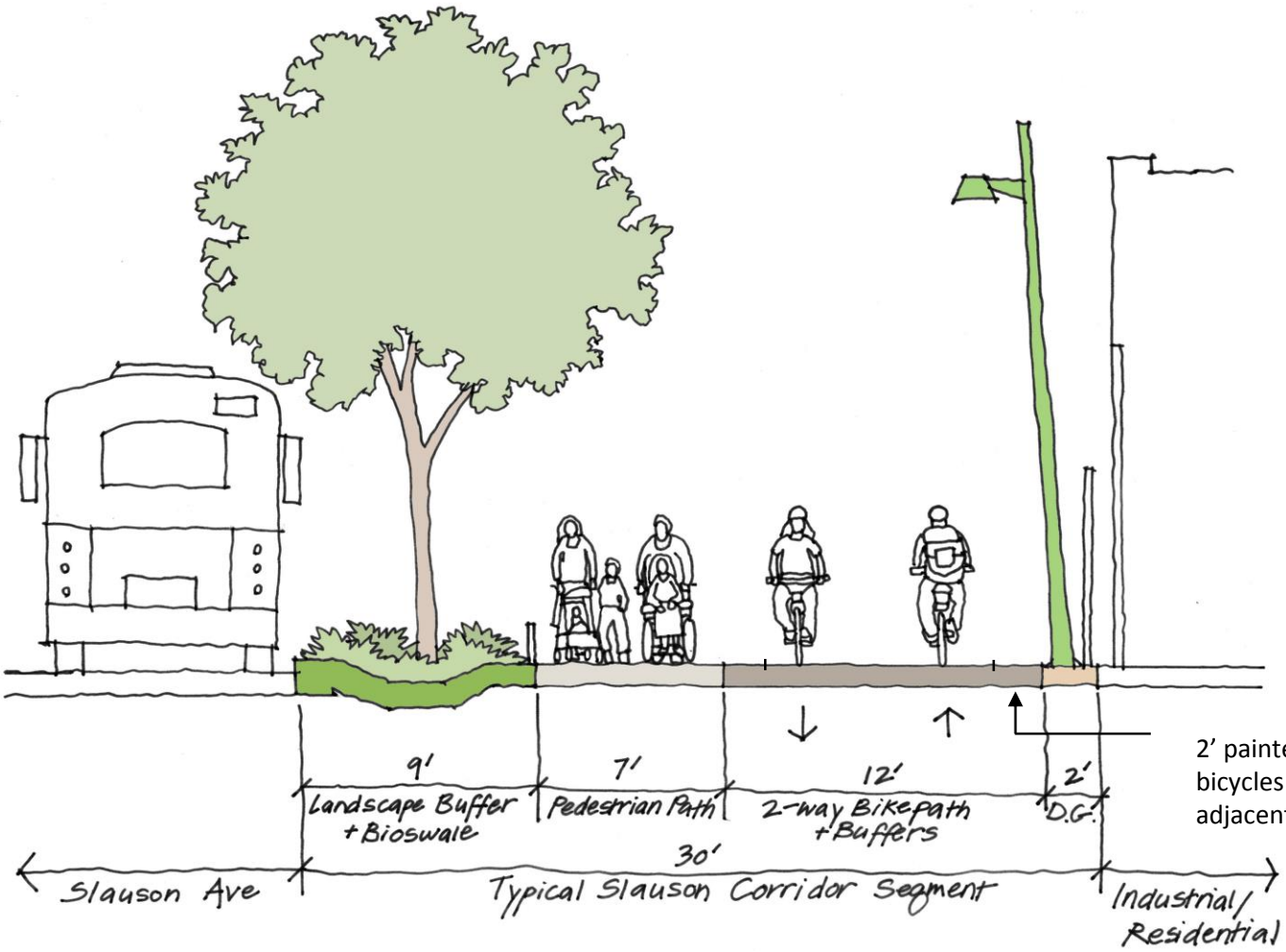
Existing photo of Slauson west of San Pedro (Note: Metro ROW ends 10' from building face in ballast area)



Looking West

Examples of bioswale on pedestrian path (Woodman Ave) and between bikeway & thoroughfare (Queens Plaza Bikeway, NY)

Layout – Slauson Corridor



2' painted buffer between bicycles and pedestrians (or adjacent uses)

Looking West

Attachment A

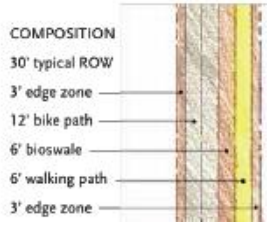
Walk/Bike Path – Diagonal Corridor

Mid-block Concept (Typical 30' ROW)

This design concept focuses on safety/security concerns between Slauson and 11th Avenues where private properties abut Metro's ROW. Given the narrow ROW, the walk and bike paths are separated with a stormwater treatment median (bioswale). The layout addresses visibility concerns by limiting trees, and discourages encampments by minimizing landscaped areas. The separated walk and bike paths would meet at regular intervals. Features include:

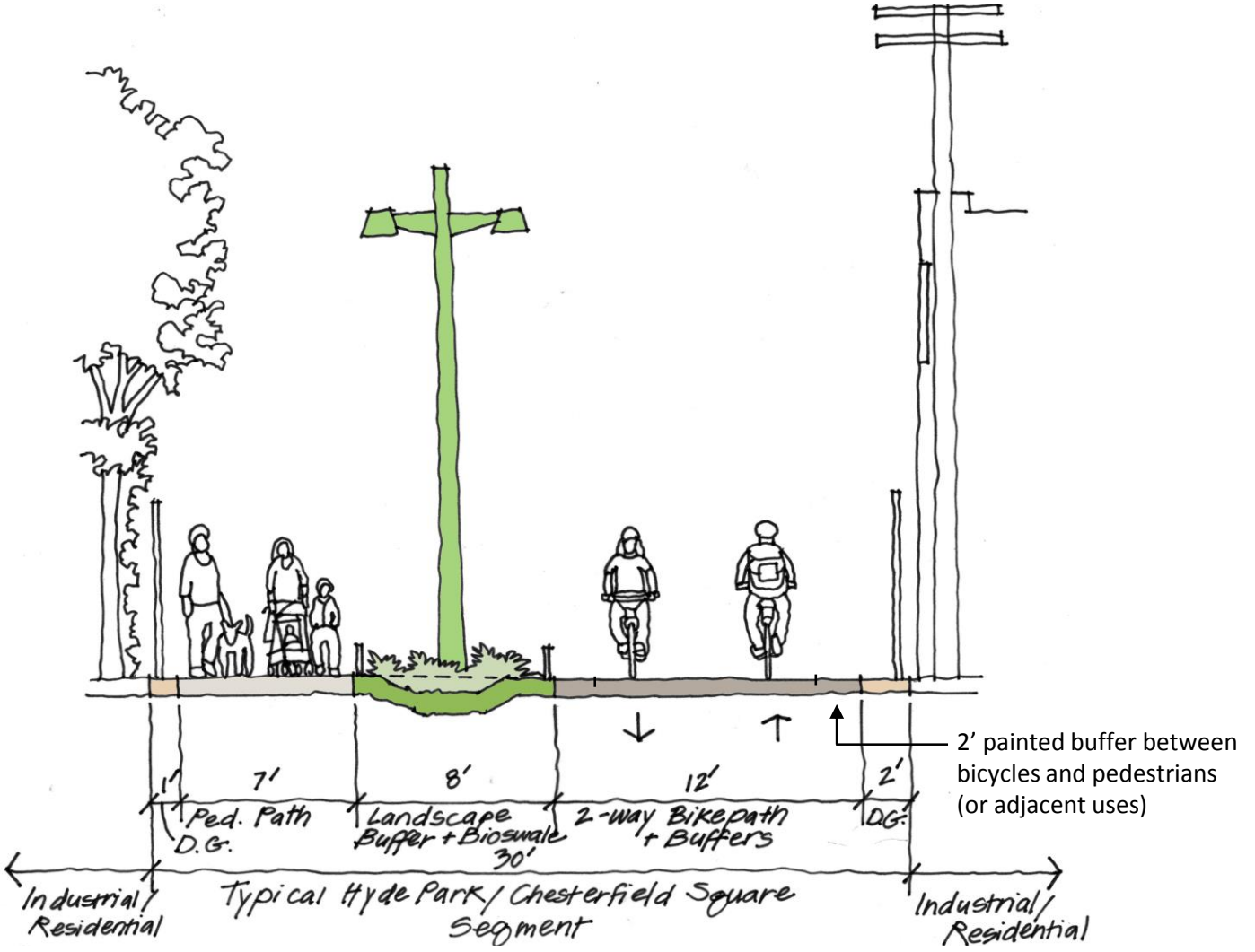
- Asphalt paved walkway and bike path
- Lighting (spaced every 75') with ability to integrate cameras and emergency telephones on pole
- Fencing at ROW edge where needed (Metro standard panelized)
- Trees at access points
- Low, drought tolerant plants and decomposed granite
- Drain to center buffer with bioswale
- Vines where appropriate (not in front of murals)

Before photo of Metro ROW at Hyde Park / Chesterfield Square segment



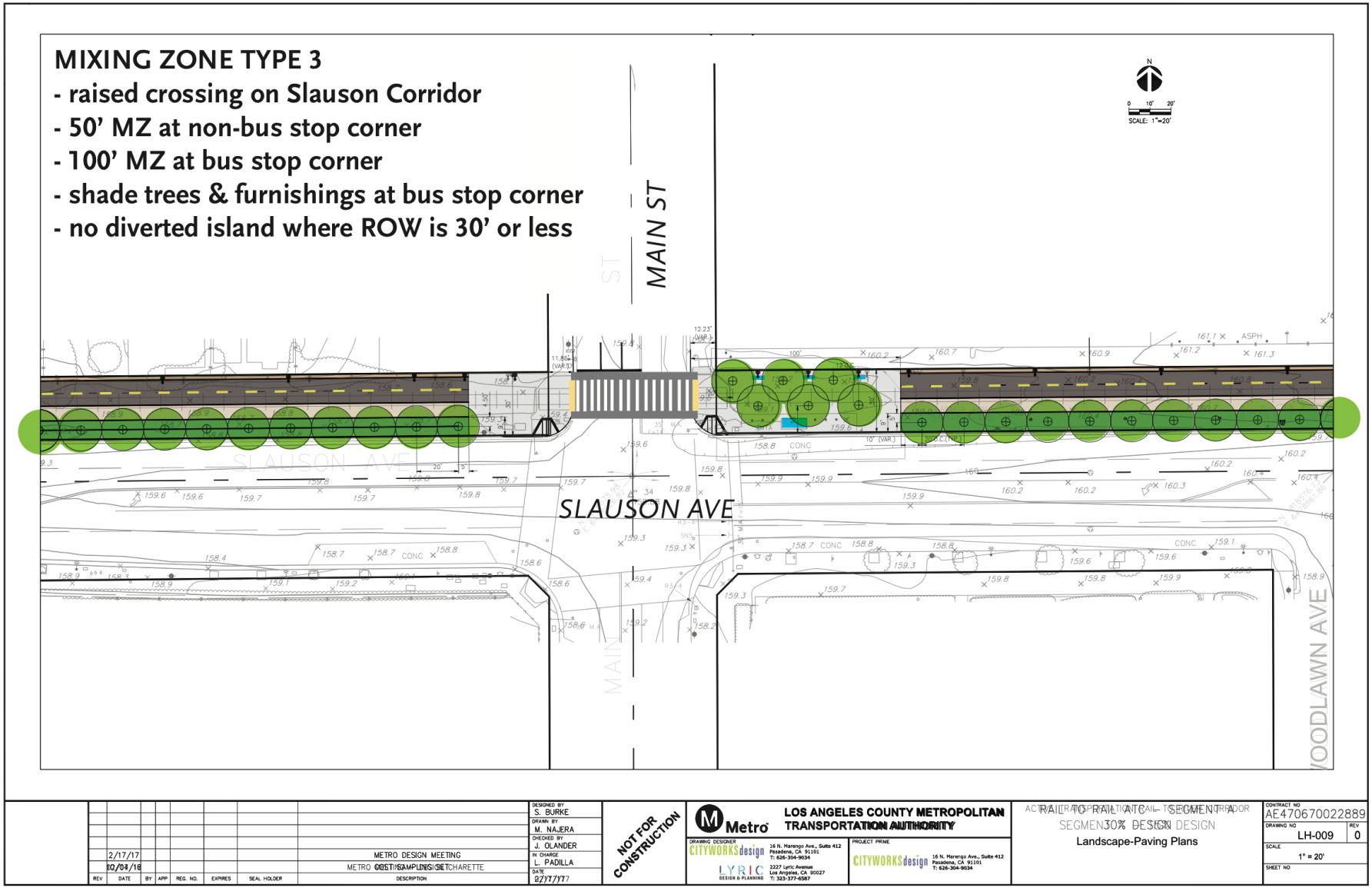
Metro

Layout – Diagonal Corridor



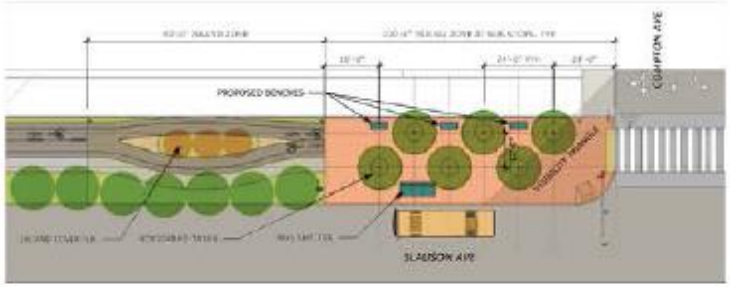
Looking West

Mixing Zone


MIXING ZONE TYPE 3
- raised crossing on Slauson Corridor
- 50' MZ at non-bus stop corner
- 100' MZ at bus stop corner
- shade trees & furnishings at bus stop corner
- no diverted island where ROW is 30' or less
MAIN ST
SLAUSON AVE
WOODLAWN AVE
SCALE: 1"=20'
NOT FOR CONSTRUCTION
LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY
Landscape-Paving Plans
CONTRACT NO AE470670022889
DRAWING NO LH-009
REV 0
SCALE 1" = 20'
SHEET NO

Mixing Zone

Slauson Corridor Concept at Bus Stop



Concept plan at bus stop mixing zones

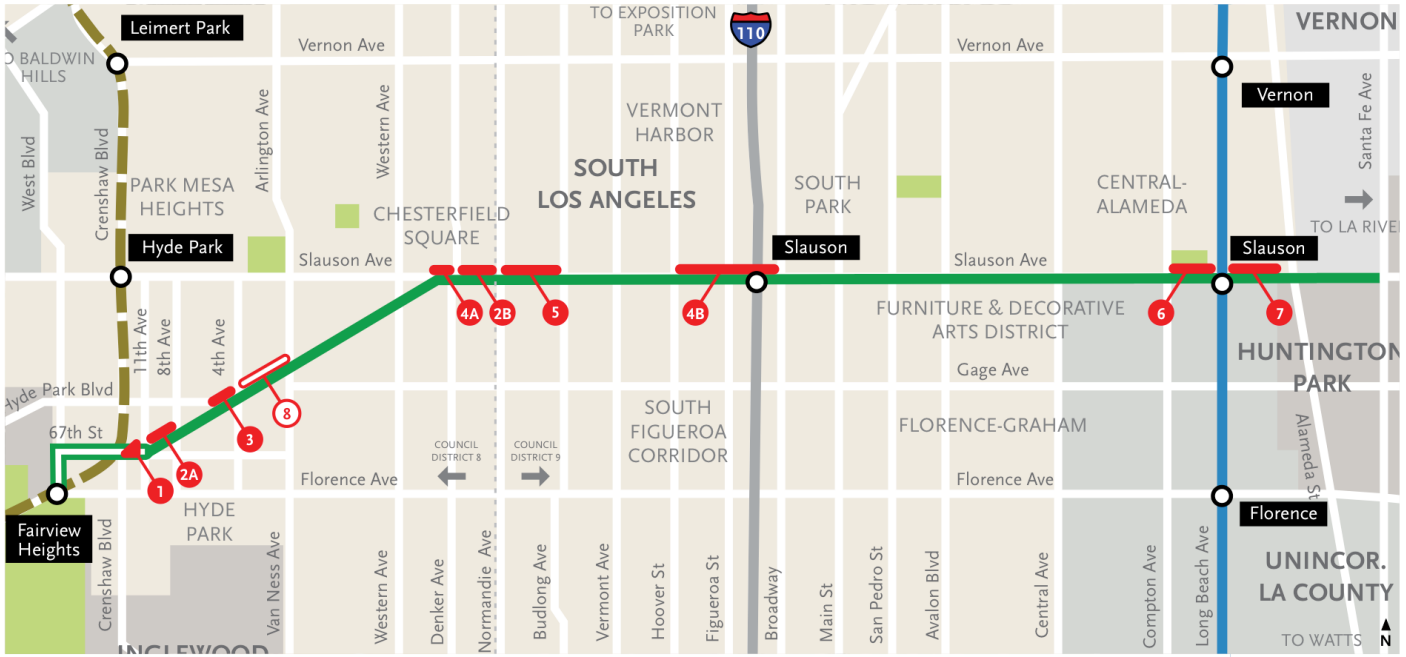
Existing photo of Slauson/Compton intersection

Example of diverter planted with drought tolerant flax

Example of street bond graphic (Auckland, NZ), a relatively inexpensive way to enhance mixing zones

Opportunity Sites

Areas with additional ROW beyond typical 30' width



Legend

- Metro Right-of-Way (ROW)
- Non-Metro ROW
- Crenshaw/LAX Line
- Silver Line
- Blue Line
- Metro LRT Station

#	Additional ROW	Opportunity Sites
1	n/a	Trailhead Plaza at 67th St & 11th Ave (7,500 sq ft)
2A 2B	20 ft	11th Ave to 8th Ave & Denker Ave to Normandie Ave (44,000 sq ft)
3	10-14 ft	Hyde Park Neighborhood (13,500 sq ft)
4A 4B	10 ft	Slauson Ave Crossing and Silver Line Station / 110 Freeway Underpass (29,000 sf)
5	50 ft	Normandie Ave to Budlong Ave (65,000 sq ft)
6	n/a	Augustus F. Hawkins Natural Park Frontage (partial segment included in 30 ft ROW)
7	40 ft	Blue Line Station and Trailhead (72,000 sq ft)
8	25-48 ft	Potential: BNSF Parcel (43,000 sq ft)

Attachment B

Notice of Exemption

To: Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

From: Los Angeles County Metropolitan Transportation Authority (Metro)
One Gateway Plaza, MS 99-22-02
Los Angeles, CA 90012

County Clerk
County of Los Angeles
12400 Imperial Highway
Norwalk, CA 90650

Project Title: Metro Rail to Rail Active Transportation Corridor – Segment A

Project Applicant: Los Angeles County Metropolitan Transportation Authority

Project Location - Specific:
The Project would extend from the Crenshaw/LAX Fairview Heights Light Rail Station in the City of Inglewood through the City of Los Angeles, Florence-Graham (an unincorporated area of Los Angeles County), the City of Vernon, to the Harbor Subdivision right-of-way (ROW)/Santa Fe Avenue intersection in the City of Huntington Park. The western portion of the Project (approximately 0.5 miles in length) would be within the City of Los Angeles and City of Inglewood public street ROW while the remaining 5.9 miles would be located within the Metro–owned Harbor Subdivision ROW.

The Project would start at the western terminus (i.e., Crenshaw/LAX Fairview Heights Light Rail Station) and travel north on West Boulevard until it meets 67th Street. The sidewalk and parkway on the west side of West Boulevard is within the City of Inglewood, while the street, parkway, and sidewalk on the east side of West Boulevard are within the City of Los Angeles. At 67th Street, the Project would travel east until the street meets 11th Avenue and the Harbor Subdivision ROW. From there, the Project would travel northeast within the Harbor Subdivision ROW. After the ROW crosses Slauson Avenue (east of Western Avenue), the Project would travel east to its eastern terminus, which is located just north of the Slauson Avenue/Santa Fe Avenue intersection in the City of Huntington Park.

Project Location - City: Cities of Inglewood, Los Angeles, Vernon, and Huntington Park; Unincorporated Florence-Graham community of Los Angeles County

Project Location - County: Los Angeles County

Description of Nature, Purpose and Beneficiaries of Project:
The Project would install on- and off-street bicycle and pedestrian/multi-purpose paths within the existing street and Metro-owned ROW. The Project would use existing sidewalks and extend existing Class II bicycle lanes on West Boulevard. On 67th Street, the Project would use the existing sidewalks and will designate the street as a Class III bicycle route. Street markings would be provided and bike route signs would be installed along the parkways of 67th Street. The City of Los Angeles 2010 Bicycle Plan identifies West Boulevard and 67th Street within the Project corridor as designated bikeways and bicycle friendly streets. This Plan also identifies the streets as part of a neighborhood bikeway network. At the Harbor Subdivision ROW (between 67th Street and Santa Fe Avenue), the Project would create two-way Class I bike paths and a separate pedestrian/multi-purpose pathway.

The purpose of the Project is to provide safe dedicated walking and cycling transportation options to promote healthy neighborhoods and linkages between local communities, schools, shopping, employment centers, transit hubs, and other key destinations. It would facilitate opportunities for improved access to major transit facilities, such as the Metro Crenshaw/LAX Light Rail Transit Line, the Harbor Transit Way, the Metro Blue Line, and various rapid and local bus lines. The Project would also remove a prominent social equity barrier within the South Los Angeles community with new and improved access for pedestrians, cyclists, and transit riders traveling to and from schools, jobs, health care providers, as well as religious, commercial and cultural institutions.

Beneficiaries of the Project include residents and employees who live and/or work within the vicinity of the Project Corridor. The area surrounding the Project Corridor has a high proportion of residents who are transit dependent and rely on walking and bicycling for both work commuting and daily life activities.

Name of Public Agency Approving Project: Los Angeles County Metropolitan Transportation Authority

Name of Person or Agency Carrying Out Project: Los Angeles County Metropolitan Transportation Authority

Exempt Status: (check one):

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
- ☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- ☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- ☒ Categorical Exemption. State type and section number: Class 4, Section 15304(h)
- ☐ Statutory Exemptions. State code number: _____

Reasons why project is exempt:
The Project would create bicycle lanes and a pedestrian/multi-purpose path within the existing street and public ROW. The Project would not involve the removal of healthy, mature, scenic trees. The Project would have no impacts on traffic, air quality, noise, historical resources, or other impact categories. The Project would follow Metro standard practices and procedures in coordinating and complying with the regulatory permit requirements of the affected jurisdictions, as well as other requirements from the South Coast Air Quality Management District, California Public Utilities Commission, and the California Department of Toxic Substances Control Voluntary Cleanup Program. In addition, it is standard Metro practice to comply with local noise ordinances.

Lead Agency
Contact Person: Roberto Machuca **Area Code/Telephone/Extension:** _____

If filed by applicant:
1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? ☐ Yes ☒ No

Signature: _____ **Date:** _____ **Title:** _____

☐ Signed by Lead Agency ☐ Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code. Date Received for filing at OPR: _____
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Attachment C

Rail to River Active Transportation Corridor
Segment B

Attachment C

Rail to Rail/River Active Transportation Corridor Segments A & B Map

Segment B – Alterntives

	Malabar Corridor	Utility Corridor	Slauson Avenue	Randolph Street
Corridor Length	2.8 miles	3.3 miles	4.1 miles	4.3 miles
Proposed Bicycle Facility Type	Class I	Class I (1.8 miles) and Class II (1.5 miles)	Class I (0.6 miles) and Class II (3.5 miles)	Class I or Class II/IV
Proposed Pedestrian Facilities	No planned pedestrian facility (sidewalk exists along Malabar St)	New pedestrian walkway alongside bike path	Improved pedestrian crossings and amenities	Improved pedestrian crossings and amenities
Overall Evaluation Rating	○ Lowest	◑ Medium	◑ Medium/High	● Highest

Segment B – Evaluation Summary

	Malabar Corridor	Utility Corridor	Slauson Avenue	Randolph Street
Goal 1: Enhance Mobility/ Connectivity	Low	Medium	High	High
Goal 2: Access to Major Destinations	Low	Medium	High	High
Goal 3: Minimize Transportation Impacts	Medium	Low	Medium	High
Goal 4: Cost Effectiveness/ Ease of Implementation	Medium	Medium	High	Low
Goal 5: Address Local Communities	Low	Medium	Medium	High
Overall Ranking	Lowest	Medium	Medium/ High	Highest

Metro

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

Metro

Board Report

File #: 2017-0138, **File Type:** Contract **Agenda Number:** 28.

CONSTRUCTION COMMITTEE
APRIL 20, 2017

SUBJECT: UNIVERSAL CITY PEDESTRIAN BRIDGE

ACTION: AUTHORIZATION FOR CONTRACT MODIFICATION

RECOMMENDATION

AUTHORIZE the Chief Executive Officer (CEO) to execute a Modification to Contract No. C1043 with Griffith Company, for the **design and construction of the Universal City Pedestrian Bridge**, in the amount of $450,000, increasing the total current contract value from $24,264,752 to $24,714,752 within the Life of Project budget.

ISSUE

This action represents staff's efforts through negotiations to settle all claims. Staff is requesting approval to execute this final Contract Modification because the current available CMA is not sufficient to take action within staff authority. This Contract Modification is required to close-out the contract, and does not affect the Life of Project (LOP) budget.

DISCUSSION

Findings

Metro issued the Notice to Proceed (NTP) for Design-Build (DB) Contract No. C1043 for the Universal City Pedestrian Bridge on January 9, 2014. The bridge had an aggressive schedule and was opened to the public on April 7, 2016.

During the course of construction, the contractor requested several design and construction changes. This Modification includes additional costs for escalators, increased elevator framing, and design modifications due to easement constraints.

Considerations

Staff has evaluated the merit of the requested changes and has followed Metro processes and

procedures to validate and negotiate the change request. A list of executed (approved) and unexecuted (pending) modifications is included in Attachment B.

There is no change in the approved LOP amount of $29,585,000.

DETERMINATION OF SAFETY IMPACT

This recommended action has no impact on safety.

FINANCIAL IMPACT

The FY17 adopted budget of $2,078,000 for the Universal Pedestrian Bridge, project 809382, in Cost Center 8510 includes the $450,000 required for this board action. With the approval of this action, staff will no longer need to budget for the construction contract in FY18.

Impact to Budget

The source of funds for this project is Prop A 35%. Prop A 35% funds are eligible for rail operations.

ALTERNATIVES CONSIDERED

The Board may choose not to approve the Modification. This alternative is not recommended, as staff would be unable to close out the project.

ATTACHMENTS

Attachment A - Procurement Summary
Attachment B - Contract Modification/Change Order Log
Attachment C - DEOD Summary

Prepared by:

Milind Joshi, Sr. Director, Project Engineering, (213) 922-7985

Brad Owen, Deputy Executive Officer, Construction Management, (213) 922-7384

Tim Lindholm, Executive Officer, Capital Projects (213) 922-7297

Reviewed by:

Debra Avila, Chief Vendor/Contract Management Officer, (213) 418-3051

Richard Clarke, Chief Program Management Officer, (213) 922-7557

Phillip A. Washington
Chief Executive Officer

ATTACHMENT A

PROCUREMENT SUMMARY

UNIVERSAL CITY PEDESTRIAN BRIDGE
CONTRACT NO. C1043

1.	**Contract Number**: C1043			
2.	**Contractor**: Griffith Company			
3.	**Mod. Work Description**: Resolutionof all claims and pending changes			
4.	**Contract Work Description**: Provide the final design and construction of a new pedestrian bridge, hardscape plazas and landscaping, and a right turn-lane.			
5.	**The following data is current as of**: 3/6/17			
6.	**Contract Completion Status**:			
	Bids/Proposals Opened:	7/25/13	**% Completion $s**:	99.91%
	Contract Awarded:	10/28/13	**% Completion time**:	100%
	NTP:	1/9/14	**Original Contract Days**:	730
	Original Complete Date:	1/9/16	**Change Order Days**:	196
	Current Est. Complete Date:	7/25/16	**Suspended Days:**	0
			Total Revised Days:	926
7.	**Financial Status**:			
	Contract Award:		$21,425,000	
	Total Contract Modifications Approved:		$2,839,752	
	Current Contract Value:		$24,264,752	
	Contract Administrator: Diana Sogomonyan		**Telephone Number**: 213.922.7243	
8.	**Project Manager**: Milind Joshi		**Telephone Number**: 213.922.7985	

A. Contract Action Summary

This Board Action is to approve authorization for Metro Chief Executive Officer (CEO) to execute Modification No. 30, for the resolution and settlement of all claims in order to close-out the subject contract. This Contract Modification will be processed in accordance with Metro's Acquisition Policies and Procedures. This is a firm fixed price Contract.

On October 28, 2013, Metro CEO authorized award of a firm fixed price contract, Contract No. C1043, to Griffith Company, a General Contractor located in Brea, California, for the period of performance of 730 calendar days after Notice to Proceed (NTP) date of January 9, 2014.

Twenty-seven Contract Modifications have been executed on the Contract to date. Excusable and compensable delay has extended the contract completion date to July 25, 2016 (added 196 calendar days from original completion date).

Contract Modification No. 30 in the amount of $450,000 will allow the resolution and settlement of pending changes and claims on the Contract and to close-out the contract. Although this Modification amount is within the staff delegation of authority, the Contract Modification Authority amount currently remaining on the Contract is insufficient. Refer to Attachment B for further details on modifications issued to date adding work, and the proposed modification currently pending authorization.

B. Cost/Price Analysis

The recommended price for the resolution of all contract claims has been determined to be fair and reasonable based upon cost analysis, technical analysis, fact finding, and negotiations. Ultimately a business decision was made by both parties at the recommended dollar amount to resolve all claims. An audit request for Modification No. 30 was not required as the negotiated total dollar value is not greater than the audit threshhold for construction changes of $1,000,000.

Item No.	Changes	Proposal amount	Metro ICE	Negotiated amount
1	Mod No. 30	$2,037,406	$250,000	$450,000

ATTACHMENT B

CONTRACT MODIFICATION/CHANGE ORDER LOG

UNIVERSAL CITY PEDESTRIAN BRIDGE
CONTRACT NO. C1043

Mod./CO No.	Description	Status (approved or pending)	Cost		
			Contract Value	Mods.	Board Approved CMA
N/A	Initial Contract Award	Approved	$21,425,000		$2,142,500
N/A	CMA Increase	Approved	$21,425,000		$400,000
N/A	CMA Increase	Approved	$21,425,000		$577,000
Mod 1	Conversion to Metro CADD Standards	Approved	$21,474,251	$49,251	
Mod 2	Perforated Panel Design Change	Canceled	$21,474,251	$0.00	
Mod 3	Transformer Relocation - Design Change (Design Only)	Approved	$21,512,771	$38,520	
Mod 4	Revised DEOD SBE Contract Compliance Manual	Canceled	$21,512,771	$0.00	
Mod 5	Additional Traffic Control for NBC Universal	Approved	$21,550,504	$37,733	
Mod 6	Additional Plaza Lighting	Approved	$21,642,285	$91,781	
Mod 7	CIDH Pile Rebar Coupler Installation (RFC-5); Pile Splice Zone	Approved	$21,688,368	$46,083	
Mod 8	Transformer Relocation - Construction Change	Approved	$22,008,368	$320,000	
Mod 9	Perforated Panel Design Change (Design Phase Only)	Approved	$22,055,005	$46,637	
Mod 10	Bridge Mid Chord Connection (Design and Construction)	Approved	$22,523,719	$468,714	
Mod 11	Field Directed Labor and Martials - Museum Signage	Approved	$22,526,376	$2,657	
Mod 12	Additional Traffic Control for NBC Universal	Approved	$22,548,366	$21,990	
Mod 13	Add Specification Section 07 16 16	Approved	$22,548,366	$0.00	
Mod 14	Additional Curb Ramp Improvements	Approved	$22,585,554	$37,188	
Mod 15	Additional Work due to Painting Specification Change	Approved	$22,591,814	$6,260	
Mod 16	Mod to Special Provisions and General Conditions	Approved	$22,591,814	$0.00	
Mod 17	Procurement of Intrusion Detection System and Station Materials	Approved	$22,636,002	$44,188	

Mod 18	Addition of Silica Carbide for Hardscaping (	Approved	$22,788,327	$152,325	
Mod 19	Soil Handling at Station 2 and 3, Universal Property	Approved	$22,856,005	$67,678	
Mod 20	Perforated Metal Wall Panel Design and Construction	Approved	$22,985,097	$129,092	
Mod 21	Use Cast in Drilled Hole (CIDH) Pile Foundation and Grade Beams in Place of Spread Footings	Approved	$23,337,810	$352,713	
Mod 22	Delay Due to LABOE Pushover Analysis Review Time	Approved	$23,387,641	$49,831	
Mod 23	Additional HVAC Scope	Approved	$23,663,823	$276,182	
Mod 24	Adding Metro Rail Underground Design Directive Drawings for Customer Station Signage	Approved	$23,829,464	$165,641	
Mod 25	DSC During Drilling and Excavation Activities at Station 1, 2, and 3	Approved	$23,892,871	$63,407	
Mod 26	Station 3 Hardscape Remove and Replace	Approved	$23,909,027	$16,156	
Mod 27	Miscellaneous Work: Metro Support	Approved	$23,929,008	$19,981	
Mod 28	Station 1, 2, 3 Radius Curb Replacement at Elevator Towers	Approved	$24,044,752	$115,744	
Mod 29	Settlement of Various Issues Leading to Close-Out	Approved	$24,264,752	$220,000	
Mod 30	Settlement of Claims	Pending	$24,714,752	$450,000	
		Subtotal – Approved Modifications		$2,839,752	
		Subtotal – Pending Changes/Modifications		$450,000	
		Subtotal Totals: Mods. + Pending Changes/Modifications	**$3,289,752**		
		Subtotal – Pending Claims	$0.00		
		Total: Mods + Pending Changes/Mods + Possible Claims	**$3,289,752**		
		Previous Authorized CMA	$3,119,500		
		CMA Necessary to Execute Pending Changes/Mods + Possible Claims	$170,252		
		Total CMA including this Action	**$3,289,752**		
		CMA Remaining for Future Changes/Mods after this Action	**$0.00**		

ATTACHMENT C

DEOD SUMMARY

UNIVERSAL CITY PEDESTRIAN BRIDGE
CONTRACT NO. C1043

A. Small Business Participation

Griffith Company made a 10% Small Business Enterprise (SBE) commitment for this solicitation. The project is 99% complete. Current SBE participation is 6.60%, a shortfall of 3.40%. The shortfall is a result of Griffith's SBE escalator subcontractor, Excelsior Elevator's non-compliant equipment, which represented 8.37% of their commitment. Metro's Project Manager confirmed that Excelsior's proposed escalator equipment was not used because Excelsior did not meet all the specifications required by Metro.

To date, Griffith Company has added five (5) SBE subcontractors to perform surveying, noise and vibration monitoring, construction career coordination, and community services, amounting to a 1.13% increase in their SBE participation. This increase is not enough to make up the current shortfall.

Small Business Commitment	10.00% SBE	Small Business Participation	6.60% SBE

	SBE Subcontractors	% Commitment	Current Participation[1]
1.	Excelsior Elevator	8.37%	3.83%
2.	Intueor Consulting	0.83%	0.78%
3.	Diaz Yourman	0.80%	0.70%
4.	Precision Engineering	Added	0.22%
5.	RT Engineering	Added	0.15%
6.	Langford & Carmichael	Added	0.06%
7.	Morgner Technology Management	Added	0.35%
8.	G&C Equipment Corporation	Added	0.51%
	Total	**10.00%**	**6.60%**

[1] *Current Participation = Total Actual Amount Paid-to-Date to SBE firms ÷Total Actual Amount Paid-to-date*

B. Project Labor Agreement / Construction Careers Policy (PLA/CCP)

The Contractor has committed to complying with PLA/CCP requirements for this project. This project is 98.25% complete (based on total construction labor hours expended, divided by the total estimated construction labor hours in the approved Employment Hiring Plan) and the contractor is not achieving the 40% Targeted Worker Goal at 38.13%, achieving the 20% Apprentice Worker Goal at 27.86%, and

achieving the Disadvantaged Worker Goal at 12.80%. Staff is currently performing close-out audits on the Targeted Worker non-compliance issue and will keep the Board updated on the outcome and any possible liquidated damages that will be assessed.

C. Prevailing Wage Applicability

Prevailing Wage requirements are applicable to this project. DEOD will continue to monitor contractors' compliance with the State of California Department of Industrial Relations (DIR), California Labor Code, and, if federally funded, the U S Department of Labor (DOL) Davis Bacon and Related Acts (DBRA).

D. Living Wage Service Contract Worker Retention Policy Applicability

The Living Wage and Service Contract Worker Retention Policy is not applicable to this Modification.

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

File #: 2017-0158, **File Type:** Contract **Agenda Number:** 37.

EXECUTIVE MANAGEMENT COMMITTEE
APRIL 20, 2017

SUBJECT: METRO MYSTERY RIDER PROGRAM

ACTION: AWARD CONTRACT FOR MYSTERY RIDER PROGRAM

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to award a 3-year, with two, one year options, firm fixed price Contract No. PS6224700 to **Mobility Advancement Group, for Metro's Mystery Rider Program** in the amount of $565,516 for the (3) year base period and $408,128 for the (2) one year options, for a total contract amount of $973,644, subject to resolution of protest(s), if any.

ISSUE

Metro's current Mystery Rider Program (MRP) contract, which was issued in December 2011, is approaching the end of its term in April 2017. MRP monitors and reports on the effectiveness of Metro's fixed route bus services and all Metro's contracted bus services (operated by outside bus contractors) in their adherence to Americans with Disabilities Act (ADA) requirements, accessibility, Title VI of the Civil Rights Act of 1964 (Title VI), Executive Order 13166, and other operating policies and procedures. In addition, Metro must ensure that its many subrecipients of federal funding are in compliance with the ADA, Title VI, and Executive Order 13166.

DISCUSSION

The purpose of the Mystery Rider Program (MRP) is to monitor and test Metro's fixed route bus services, as well as Metro's contracted bus services, for compliance with the requirements of the ADA, additional accessibility-related policies and procedures, and Title VI of the Civil Rights Act of 1964. Metro is also required to ensure that its subrecipients of federal funding are compliant with required regulations and policies.

Accessibility / ADA MRP Observations

On a quarterly basis, Metro requires 600 observations of Metro's bus services and 120 observations of its contracted bus services for ADA and accessibility compliance. Metro uses these 720 quarterly observations to generate statistical data for reports.

In addition to these observations, up to 120 “Special Rides” will be required of the Contractor each quarter. Special Rides are as-needed observations of Metro’s bus services and those services provided by the participants of Metro’s ADA Oversight Program for Subrecipients Program.

The primary point of contact for all Accessibility-related MRP contract issues will be the Mystery Rider Program Manager.

Title VI MRP Observations

In order to ensure that Metro and its subrecipients are in compliance with the Limited English Policy under Title VI, Metro requires 100 quarterly observations and contacts (75 in-person observations and 25 telephone contacts) of Metro employees through its system.

The observations and contacts will help Metro monitor and evaluate the compliance of Metro employees who have contact with the public with the Language Assistance Program of Metro as mandated by Title VI and Executive Order 13166. This will include evaluating Metro’s bus services, contracted bus services, and other frontline employees having direct contact with customers.

An additional 75 in-person observations and 25 telephone contacts of Metro’s subrecipients will be required of the Contractor each quarter. The observations and telephone contacts of Metro’s subrecipients will begin January 1, 2018.

The primary point of contact for all Title VI MRP contract issues will be the Title VI Program Manager.

DETERMINATION OF SAFETY IMPACT

MRP will help ensure that patrons with disabilities and other needs will receive the safest and most accessible service from Metro, its contracted lines, and its subrecipients. MRP will address potential accessibility-related maintenance and operations issues, and will help in improving safety for Metro staff and customers who ride the system.

FINANCIAL IMPACT

The funding of $148,360 for this service is included in the FY17 budget in cost center 2413, Office of Civil Rights, under project number 100002, and project name Mystery Rider Program.

Since this is a multi-year contract/project, the cost center manager and Chief Civil Rights Programs Officer will be accountable for budgeting the cost in future years, including any options exercised.

Impact to Budget

The source of funds is Prop A, Prop C and TDA Administration, which is not eligible for bus and rail Operating and capital uses.

ALTERNATIVES CONSIDERED

One alternative is to reduce the scope of work to encompass mystery rides for solely Metro's fixed route system; however, this alternative is not recommended as Metro's contracted lines and subrecipients are required to adhere to the Americans with Disabilities Act and Title VI of the Civil Rights Act of 1964. The Mystery Rider Program is a vital tool in monitoring the adherence to the aforementioned statutes; improving Metro's services, contracted services, and subrecipients; and ensuring compliance with federal regulations.

NEXT STEPS

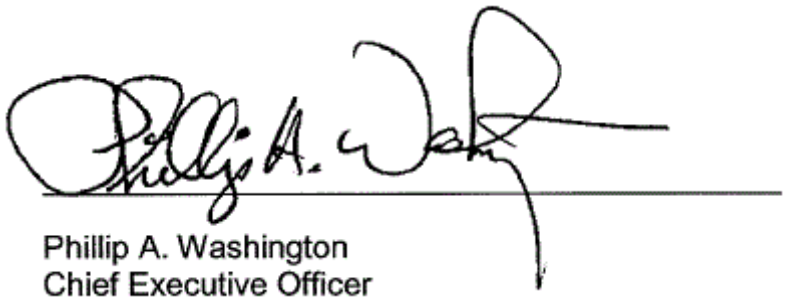
Upon approval by the Board, staff will execute Contract No. PS6224700 with Mobility Advancement Group for Metro's Mystery Rider Program.

ATTACHMENTS

Attachment A - Procurement Summary
Attachment B - DEOD Summary

Prepared by: Paula Guevara, Accessibility Analyst, (213) 922-7495

Reviewed by: Daniel Levy, Chief Office of Civil Rights, (213) 922-8891
Debra Avila, Chief Vendor/Contract Management Officer,
(213) 418-3051



Phillip A. Washington
Chief Executive Officer

PROCUREMENT SUMMARY

METRO MYSTERY RIDER PROGRAM/PS6224700

1.	**Contract Number**: PS6224700	
2.	**Recommended Vendor**: Mobility Advancement Group	
3.	**Type of Procurement (check one):** ☐ **IFB** ☒ **RFP** ☐ **RFP–A&E** ☐ **Non-Competitive** ☐ **Modification** ☐ **Task Order**	
4.	**Procurement Dates**:	
	A. Issued: August 15, 2016	
	B. Advertised/Publicized: August 17, 2016	
	C. Pre-Proposal Conference: August 25, 2016	
	D. Proposals Due: September 12, 2016	
	E. Pre-Qualification Completed: January 24, 2017	
	F. Conflict of Interest Form Submitted to Ethics: September 27, 2016	
	G. Protest Period End Date: April 24, 2017	
5.	**Solicitations Picked up/Downloaded**: 12	**Bids/Proposals Received**: 1
6.	**Contract Administrator**: Marc Margoni	**Telephone Number**: (213) 922-1304
7.	**Project Manager**: Paula Guevara	**Telephone Number**: (213) 922-7495

A. Procurement Background

This Board Action is to approve Contract No. PS6224700 issued in support of the Metro Mystery Rider Program (MRP). Board approval of contract awards are subject to resolution of any properly submitted protest.

Request for Proposal (RFP) No. PS31507 was issued in accordance with Metro's Acquisition Policy and the contract type is firm fixed price. The RFP was issued as a small business prime and was open to Metro SBE certified small businesses only.

One amendment was issued during the solicitation phase of this RFP. Amendment No. 1, issued on September 2, 2016, clarified Metro Title VI Mystery Rider observation report percentages and the number of in-person observations.

On August 25, 2016, a pre-proposal conference was held and representatives from four firms attended the conference.

On August 29, 2016, 23 questions were submitted and received, and answers to those questions were provided in writing the following week.

A total of one proposal was received on September 12, 2016. The single proposal received was from the incumbent, Mobility Advancement Group (MAG).

A market survey was conducted shortly thereafter inquiring as to why members on the Planholder's list elected not to participate in the solicitation. Two vendors

responded. One vendor elected not to participate due to the extensive report preparation required in the Statement of Work. The second vendor also indicated that he did not have the required research skills and report preparation experience as required.

B. Evaluation of Proposals

A Proposal Evaluation Team (PET) consisting of staff from the Office of Civil Rights, Operations, and Bus Contract Services was convened and conducted a comprehensive technical evaluation of the proposal received.

The proposal was evaluated based on the following evaluation criteria and weights:

- Firm's Personnel, Skill, and Experience 30 percent
- Understanding of the Work 25 percent
- Sample of Mystery Rider Observations 25 percent
- Price 20 percent

The evaluation criteria are appropriate and consistent with criteria developed for other, similar procurements. Several factors were considered when developing these weights, giving the greatest importance to the Firm's Personnel, Skill, and Experience.

During the week of September 21, 2016, the PET met and conducted an independent technical evaluation and deemed Mobility Advancement Group technically qualified to perform the tasks as outlined in the RFP.

Qualifications Summary of Firm

Mobility Advancement Group

MAG is located in Altadena, CA. They have performed operator performance assessments for most of the major transit operations in Southern California since 2009. Martin Gombert, the owner of the Mobility Advancement Group, is responsible for overseeing transit consulting projects including performance audits, operation reviews, safety audits, and financial analysis.

MAG is a Metro certified SBE and has been providing transit operator performance assessments to Metro since 2009. They are familiar with the proposed work and required approach. MAG is the incumbent vendor and is currently providing Title VI MRP observations for Metro.

For this project, MAG proposed as the prime contractor and partnered with Temps, Inc. (Temps), a Metro certified SBE, to manage the contract and serve as the client interface to Metro.

Temps, Inc. will provide transit surveyors. They have provided surveyors for the Metro Mystery Rider project since 2009. Ms. Brenda Sanchez-Johnson, V.P. of Operations for Temps, Inc., has over fifteen years of experience in data collection and participating in survey projects for transit agencies throughout Southern California.

As a result of the proposal received, the PET recommendation for contract award is as follows:

1	Firm	Average Score	Factor Weight	Weighted Average Score	Rank
2	**Mobility Advancement Group**				
3	Firm's Personnel, Skill, and Experience	93.3	30.00%	27.99	
4	Understanding of the Work	100	25.00%	25	
5	Sample of Mystery Rider Observations	93.2	25.00%	23.3	
6	Price	100	20.00%	20	
7	**Total**		**100.00%**	**96.29**	**1**

C. Cost/Price Analysis

The recommended price has been determined to be fair and reasonable based upon independent cost estimate, price analysis, technical evaluation, fact finding, and negotiations. Mobility Advancement Group has developed a report preparation system where the majority of the requirements for Metro have been fully developed and their solution has been implemented with other transit agencies.

Proposer Name	Proposal Amount	Metro ICE	Negotiated or NTE amount
Mobility Advancement Group	$1,023,492	$1,003,784	$973,644

The Period of Performance for the base contract is three (3) years. The option period is for two (2) single years. The value of the three year (3) base is $565,516. The value of the (2) one year options is $408,128. The total NTE amount is $973,644.

D. Background on Recommended Contractor

The recommended firm, MAG, located in Altadena, CA, is a leader in the field of Title VI MRP Observations. Previous Mystery Rider clients include Long Beach Transit, Foothill Transit, Bauer's Intelligent Transportation (Flyaway) and Norwalk Transit.

Mr. Martin Gombert (MAG) and Ms. Brenda Sanchez-Johnson (Temps) are subject matter experts in the transit operator performance assessments field and represent over 20 years of combined experience in MRP data collection and report preparation.

Both MAG and its subcontractor Temps are Metro certified SBE firms.

The Period of Performance for the base amount is three (3) years with two (2) one year options.

ATTACHMENT B

DEOD SUMMARY

METRO MYSTERY RIDER PROGRAM / PS6224700

A. Small Business Participation

Effective June 2, 2014, per Metro's Board-approved policy, competitive acquisitions with three or more Small Business Enterprise (SBE) certified firms within the specified North American Industry Classification System (NAICS) as identified for the project scope shall constitute a Small Business Prime (Set-Aside) procurement. Accordingly, the Contract Administrator advanced the solicitation, including posting the solicitation on Metro's website, advertising, and notifying certified small businesses as identified by NAICS code(s) that this solicitation was open to **SBE Certified Small Businesses Only**.

Mobility Advancement Group, an SBE Prime, is performing 35.54% of the work with its own workforce and made a 100% SBE commitment.

SMALL BUSINESS PRIME (SET-ASIDE)

	SBE Contractor	% Committed
1.	Mobility Advancement Group (Prime)	35.54%
2.	TEMPS, Inc. (Subcontractor)	64.46%
	Total Commitment	100%

B. Living Wage and Service Contract Worker Retention Policy Applicability

The Living Wage and Service Contract Worker Retention Policy is not applicable to this Contract.

C. Prevailing Wage Applicability

Prevailing wage is not applicable to this Contract.

D. Project Labor Agreement/Construction Careers Policy

Project Labor Agreement/Construction Careers Policy is not applicable to this Contract.

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

File #: 2017-0206, **File Type:** Ordinance / Administrative Code **Agenda Number:** 38.

REVISED
EXECUTIVE MANAGEMENT COMMITTEE
APRIL 20, 2017

SUBJECT: CUSTOMER CODE OF CONDUCT AMENDMENTS - TRANSIT COURT

ACTION: APPROVE AMENDMENTS TO ADMINISTRATIVE CODE

RECOMMENDATION

APPROVE **amendment of Title 6, Chapter 6-05 of the Los Angeles County Metropolitan Transportation Authority ("Metro") Administrative Code** (the "Code"), otherwise known as the Metro Customer Code of Conduct, as set forth in Attachment A. The amended Code will become effective May 1, 2017.

DISCUSSION

Proposed amendments to the Code are set forth in Attachment A to this Board Report to address several areas:

Enforcement of Minors Citations

On December 1, 2016, agenda item 44 by Directors Ridley-Thomas, Kuehl, Fasana, and Garcetti directed the Chief Executive Officer and relevant stakeholders to report back in writing in 160 days on an implementation plan to completely decriminalize fare evasion amongst youth transit users. This board report addresses that motion.

The following summarizes key activities that have already occurred to further the objectives of this motion:

1. Transferring Fare Evasion Citations to Civilian Transit Security Personnel instead of Law Enforcement Officials: Seventy-seven new transit security personnel have been hired to perform fare compliance checks and provide customer assistance. Law Enforcement personnel will no longer have fare compliance as a primary job duty. This supports the decriminalization of fare evasion as Transit Security Personnel will not be performing background checks as common protocol for every fare evasion citation.

2. Meetings with Key Stakeholders: Meetings have occurred with community stakeholders such as the Los Angeles Conservation Corps, Children's Defense Fund - California, and the Los Angeles County Department of Public Health to receive their input on March 2, 2017 and March 8, 2017.

The following summarizes Transit Security's next steps to achieve the objectives of the motion:

- Implement a non-fine based Transit Fare Resolution Program: Under the new approach, minors will be given multiple warnings. Transit school, referrals to community service for chronic offenders, and exclusions, will be pursued if necessary, instead of being asked to pay a fine or referred to the Probation Department, as is current practice. A fine will only be required when the youth, parent or guardian refuses non-fiscal remedies. If exclusion is necessary, exceptions will be made so that youth will not be prevented from riding the system to and from school (K-12).

- Increase Targeted Efforts to Direct Youth to Fare Subsidy Programs: As part of the Youth Fare Resolution Program, increased efforts will be made starting at the initial fare evasion attempt, to enroll youth who can't afford payment into student or other low cost pass programs.

- Utilize Diversion Programming to Address Chronic Fare Evasion Amongst Youth: Youth who continue to engage in non-compliance with fare payments will be directed to community service or other programs in lieu of a fine. A new Transit Fare Resolution Program, housed in Metro Transit Court, will be responsible for promoting education, awareness and enrollment in student and other low income fare programs, transit school, community service, and other remedies to resolve fare non-compliance as well as enable resolution in an informal setting.

- Update the Transit Security guidelines as follows:

  Metro fare compliance officers may exercise the following options when encountering a minor without valid proof of fare. Officers may elect to: a) issue a verbal warning and direct the minor to the nearest ticket vending machine for payment; b) issue a written warning informing the minor and or the minor's parents about Metro's discounted monthly student pass; or c) after multiple written warnings refer the minor to Metro's Transit Fare Resolution Program administered through Transit Court. Metro staff will meet with the minor and/or the minor's parents to resolve the fare compliance issue in a non-punitive manner. Meeting times will be flexible to accommodate school and work schedules.

The proposed amendment will change section 6-05-020 of the Code to add the bolded and underlined language as follows:

Definitions

6-05-020 Definitions

The following terms, whenever used in this chapter, shall be construed as defined in this section:
L. "Minor" means a person under the age of 18.

The proposed amendment will change section 6-05-150 of the Code to add the bolded and underlined language and delete the language shown by strike through as follows:

6-05-150 Noise

The following acts are prohibited in Metro facilities and vehicles:
A. Disturbing others by engaging in ~~boisterous or~~ unruly behavior.
B. **Failing to comply with a warning by a Metro representative to cease c**reating **loud, boisterous or unreasonable** noise, including unnecessary cell phone or other conversation, that is so loud, lengthy, sexually explicit, threatening, violent, or disruptive, that it causes a nuisance or unreasonably interferes with the use, operation, or enjoyment of the Metro facilities or vehicles for Metro representatives or patrons, or creates an unsafe condition, such as distracting operators of Metro vehicles.
C. Playing a sound device, except when using headphones or earphones that make the sound inaudible to others unless a permit has been issued for usage of such sound device by Metro.

The proposed amendment will change section 6-05-240 of the Code to add the bolded and underlined language and delete the language shown by strike through as follows:

6-05-240 Enforcement

A. Violations
A person who violates the Code is subject to a notice of violation and imposition of any and all remedies, fines, criminal sanctions, damages, and penalties available by law. Enforcement of any provisions of the Code involving the payment of any fees, penalties or other administrative amounts, or community service, ~~by adults~~ based on California Penal Code section 640 (b) and (c), shall be pursuant to the authority and according to the procedures, herein and as set forth in the California Public Utilities Code including section 99580 et seq. ~~The procedures set forth in section 99580 et seq. shall not apply to minors, whose violations shall be subject to enforcement as criminal matters in Superior Court as provided by law.~~ **Parents or guardians shall also be responsible in addition to the minor for any fees, penalties, or fines incurred or damages caused by their minor in connection with a citation.**

D. Exclusion
1. A person, who violates the Code or a law in a Metro facility or vehicle, may be excluded from all or part of Metro facilities and vehicles either indefinitely or for a period of time specified in the Metro penalty schedule or notice of exclusion provided pursuant to subsection E below.
2. Any person to whom a notice of violation or Penal Code citation **or a written warning** pertaining to an offense which occurred on or in a public transit facility or vehicle, was issued, and a. who has received a citation **or written warning** for the same violation at least 3 times in the prior 12 months; or b. who has failed to pay any applicable fines, fees, penalties or other administrative amounts by the due date, or otherwise resolve the citation ~~or who has otherwise failed to pay any fine, fee, or penalty~~ when such payment was due; or c. who is the subject of any outstanding warrant**, pending trial, or convicted** with respect to any Penal Code offense that is alleged to have occurred on or in a public transit system facility or vehicle, is subject to exclusion, and may receive a notice of exclusion pursuant to Subsection E below.
3. A person excluded under the Code may not enter a Metro facility or vehicle during the period of exclusion. Metro may take any reasonable steps necessary to enforce an order of exclusion, including criminal arrest or such other remedies as may be available at law.

F. Review Request
An excluded person may request a review of the exclusion. The exclusion shall be suspended upon Metro's receipt of a request for review of a notice of exclusion, and until the review is decided and **notice of the decision or review is** received by the excluded person. The request for review must be made in writing, and may be submitted by mail, or in person or as otherwise provided in the notice of exclusion, within five (5) days after the Notice of Exclusion is received from Metro. A request for review **or notice of decision or review** is deemed to be received on the date it is personally delivered, or if mailed, five (5) days after the date of the postmark. The excluded person will be notified of the date for public hearing by mail or in person. The excluded person may request that the exclusion be rescinded or waived for good cause, that the places of exclusion be altered, or that the duration of exclusion be reduced **or waived based on participation in any diversion program available by Metro for which such persons are eligible**. The request should include a copy of the notice of exclusion or the number assigned to the notice, a request for review, the current mailing address and signature of the excluded person, and any written statement (and supporting documentation) to explain why the exclusion should be rescinded, waived, altered, reduced, or otherwise modified. **Students shall receive modification of an exclusion to enable them to commute to or from school.**

G. Administrative Review
The hearing shall be conducted by a Hearing Officer who is fair and impartial. The excluded person is

not required to attend the hearing, and shall have the choice of the hearing being conducted by mail or in person. No Metro representative shall be required to attend the hearing. Metro may submit a copy of the notice(s) of violation, any notice of exclusion, and any documentation or statement by the Metro representative(s) issuing the notice(s) of violation or notice of exclusion. Any notice(s) of violation and/or notice of exclusion shall be received into evidence. Other relevant evidence submitted may be received into evidence at the determination of the presiding Hearing Officer. Copies of the notice(s) of violation and/or notice(s) of exclusion shall be prima facie evidence of the facts stated therein and shall establish a rebuttable presumption supporting the exclusion of the individual. At the hearing, the Hearing Officer will review the prima facie validity of the Notice of Exclusion. Metro and the excluded person may present evidence including witness testimony to the hearing officer and may question witnesses who are present at the hearing. The Hearing Officer's decision shall be based on a preponderance of the evidence. Hearing officers shall have the discretion to dismiss or reduce the fines or other penalties, cancel the Notice of Exclusion, and make necessary modifications in the interests of justice **including permitting enrollment in an appropriate Metro diversion program for which such person is eligible,** in accordance with any policies or procedures adopted by the Metro Hearing Unit. Continuances of the appeal hearing are disfavored but may be ordered by the hearing officer. The hearing officer may authorize the recording of the hearing. The decision of the hearing officer shall be made in writing. The decision of the Hearing Officer shall be deemed in full effect upon personal service to the excluded person or five days after the mailing of the decision to the address provided by the excluded person.

The proposed amendment will change the Code Chapter 6-05 Penalty Schedule to add a $40 fine for minors as set forth in Attachment A (intended for non-fare evasion citations, or ~~for fare evasion related citations when a parent or minor declines non-fiscal remedies and~~ for the purposes of calculating the number of ~~community service~~ diversion program hours or for fare evasion related citations when a parent or minor declines non-fiscal remedies.)

Penalty and Ejection Schedules

The Penalty Schedule and Ejection Schedule for the Code currently do not include a fine for failing to obtain a permit to engage in commercial activity, failing to comply with commercial activity permit rules, and for engaging in commercial activity in a prohibited area.

The proposed amendment will add the bolded and underlined language to include a fine for violations of section 6-05-090(A)-(C) of the Code to the Penalty Schedule and Ejection Schedule as set forth in Attachment A.

NEXT STEPS

Following Board approval of the recommended amendments to the Code, Transit Court staff will continue to work with Metro Communications and Operations, as well as Transit Security, to communicate the Code including amendments to the public to promote awareness, compliance, and enforcement.

Metro's law enforcement and transit security division will also be trained on the new policy including the ultimate goal of decriminalizing fare evasion and supporting youth ridership to commute to school, jobs and other community activities. Metro staff will provide a written report back to the Board upon finalization of the Youth Fare Resolution Program, which will define the types of diversion programs available for youth.

Metro staff will monitor the amount of fare enforcement encounters that take place with minors and report on a bi-annual basis to the Board regarding the number of warnings and escalations that have occurred. This data will be disaggregated based on demographic characteristics. This analysis will also assess whether modifications to Metro's fare subsidy programs should be considered.

Metro staff will meet quarterly or as requested with a round table of stakeholders to provide updated information on the Youth Fare Resolution Program.

ATTACHMENTS

A. Code Amendments

Prepared by: Julie Chang, Principal Hearing Officer, Metro Transit Court

Approved by: Karen Gorman, Chief Hearing Officer

Karen Gorman
Inspector General/Chief Ethics Officer/
Chief Hearing Officer

REVISED
ATTACHMENT A

CODE AMENDMENTS

LACMTA Administrative Code section 6-05-020

Definitions

6-05-020 Definitions

The following terms, whenever used in this chapter, shall be construed as defined in this section:
L. "Minor" means a person under the age of 18.

LACMTA Administrative Code section 6-05-150

6-05-150 Noise

The following acts are prohibited in Metro facilities and vehicles:
A. Disturbing others by engaging in ~~boisterous or~~ unruly behavior.
B. **Failing to comply with a warning by a Metro representative to cease c**reating **loud, boisterous or unreasonable** noise, including unnecessary cell phone or other conversation, that is so loud, lengthy, sexually explicit, threatening, violent, or disruptive, that it causes a nuisance or unreasonably interferes with the use, operation, or enjoyment of the Metro facilities or vehicles for Metro representatives or patrons, or creates an unsafe condition, such as distracting operators of Metro vehicles.
C. Playing a sound device, except when using headphones or earphones that make the sound inaudible to others unless a permit has been issued for usage of such sound device by Metro.

LACMTA Administrative Code section 6-05-240

6-05-240 Enforcement

A. Violations
A person who violates the Code is subject to a notice of violation and imposition of any and all remedies, fines, criminal sanctions, damages, and penalties available by law. Enforcement of any provisions of the Code involving the payment of any fees, penalties or other administrative amounts, or community service, ~~by adults~~ based on California Penal Code section 640 (b) and (c), shall be pursuant to the authority and according to the procedures, herein and as set forth in the California Public Utilities Code including section 99580 et seq. ~~The procedures set forth in section 99580 et seq. shall not apply to minors, whose violations shall be subject to enforcement as criminal matters in Superior~~

~~Court as provided by law.~~ **Parents or guardians shall also be responsible in addition to the minor for any fees, penalties, or fines incurred or damages caused by their minor in connection with a citation.**

D. Exclusion

1. A person, who violates the Code or a law in a Metro facility or vehicle, may be excluded from all or part of Metro facilities and vehicles either indefinitely or for a period of time specified in the Metro penalty schedule or notice of exclusion provided pursuant to subsection E below.

2. Any person to whom a notice of violation or Penal Code citation **or a written warning** pertaining to an offense which occurred on or in a public transit facility or vehicle, was issued, and a. who has received a citation **or written warning** for the same violation at least 3 times in the prior 12 months; or b. who has failed to pay any applicable fines, fees, penalties or other administrative amounts by the due date, or otherwise resolve the citation ~~or who has otherwise failed to pay any fine, fee, or penalty~~ when such payment was due; or c. who is the subject of any outstanding warrant**, pending trial, or convicted** with respect to any Penal Code offense that is alleged to have occurred on or in a public transit system facility or vehicle, is subject to exclusion, and may receive a notice of exclusion pursuant to Subsection E below.

3. A person excluded under the Code may not enter a Metro facility or vehicle during the period of exclusion. Metro may take any reasonable steps necessary to enforce an order of exclusion, including criminal arrest or such other remedies as may be available at law.

F. Review Request

An excluded person may request a review of the exclusion. The exclusion shall be suspended upon Metro's receipt of a request for review of a notice of exclusion, and until the review is decided and **notice of the decision or review is** received by the excluded person. The request for review must be made in writing, and may be submitted by mail, or in person or as otherwise provided in the notice of exclusion, within five (5) days after the Notice of Exclusion is received from Metro. A request for review **or notice of decision or review** is deemed to be received on the date it is personally delivered, or if mailed, five (5) days after the date of the postmark. The excluded person will be notified of the date for public hearing by mail or in person. The excluded person may request that the exclusion be rescinded or waived for good cause, that the places of exclusion be altered, or that the duration of exclusion be reduced **or be permitted to participate in any diversion program available by Metro for which such persons are eligible**. The request should include a copy of the notice of exclusion or the number assigned to the notice, a request for review, the current mailing address and signature of the excluded person, and any written statement (and supporting documentation) to explain why the exclusion should be rescinded, waived, altered, reduced, or otherwise modified.

G. Administrative Review

The hearing shall be conducted by a Hearing Officer who is fair and impartial. The excluded person is not required to attend the hearing, and shall have the choice of the hearing being conducted by mail or in person. No Metro representative shall be

required to attend the hearing. Metro may submit a copy of the notice(s) of violation, any notice of exclusion, and any documentation or statement by the Metro representative(s) issuing the notice(s) of violation or notice of exclusion. Any notice(s) of violation and/or notice of exclusion shall be received into evidence. Other relevant evidence submitted may be received into evidence at the determination of the presiding Hearing Officer. Copies of the notice(s) of violation and/or notice(s) of exclusion shall be prima facie evidence of the facts stated therein and shall establish a rebuttable presumption supporting the exclusion of the individual. At the hearing, the Hearing Officer will review the prima facie validity of the Notice of Exclusion. Metro and the excluded person may present evidence including witness testimony to the hearing officer and may question witnesses who are present at the hearing. The Hearing Officer's decision shall be based on a preponderance of the evidence. Hearing officers shall have the discretion to dismiss or reduce the fines or other penalties, cancel the Notice of Exclusion, and make necessary modifications in the interests of justice **including permitting enrollment in an appropriate Metro diversion program for which such person is eligible,** in accordance with any policies or procedures adopted by the Metro Hearing Unit. Continuances of the appeal hearing are disfavored but may be ordered by the hearing officer. The hearing officer may authorize the recording of the hearing. The decision of the hearing officer shall be made in writing. The decision of the Hearing Officer shall be deemed in full effect upon personal service to the excluded person or five days after the mailing of the decision to the address provided by the excluded person.

LACMTA Administrative Code section 6-05 Penalty Schedule

Metro Customer Code of Conduct Chapter 6-05 Penalty Schedule*

Code Section	Description	1st Offense**	2nd Offense	3rd Offense	4th Offense	5th Offense or Greater
6-05-040	Bicycles, Skateboards and Skates					
6-05-040.A	Riding bicycles and skateboards in Metro facility	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 30 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 60 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 90 days
6-05-040.C	Tandem, three-wheeled or fuel-powered bicycles are not permitted in Metro facilities	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 30 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 60 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 90 days
6-05-050	Blocking					
6-05-	Blocking, operating or	> Notice of	> Notice of	> Notice of	> Notice of	> Notice of

050.A-I	obstructing Metro vehicle, occupying more than one seat, impeding safe boarding	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 30 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 60 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 90 days
6-05-100	Disorderly Conduct					
6-05-100.A-I, K-N	Spitting, hazardous material, urinating, defecating, throwing an object, gambling, hanging from rails, inciting violence, lewd conduct, prostitution, vandalizing/tampering, littering, injuring person or property	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 30 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 60 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 90 days
6-05-110	Food, Alcohol and Drugs					
6-05-110.A	Eating, drinking, smoking, vaping	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 30 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 60 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 90 days
6-05-110.B	Placing chewing gum onto Metro property	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 30 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 60 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 90 days
6-05-110.C	Drinking alcohol	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 30 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 60 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 90 days
6-05-120	Loitering					
6-05-120.A	Loitering	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 30 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 60 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 90 days
6-05-150	Noise					
6-05-150.A	Disturbing others	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 30 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 60 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 90 days
6-05-	Creating disruptive	> Notice of	> Notice of	> Notice of	> Notice of	> Notice of

150.B	noise	violation > $75 fine > **$40 fine for Minors** > Ejection	violation > $75 fine > **$40 fine for Minors** > Ejection	violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 30 days	violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 60 days	violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 90 days
6-05-150.C	Playing sound device	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 30 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 60 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 90 days
6-05-090	**Commercial Activity**					
6-05-090.A, B, C	**Permit required, comply with permit rules, no commercial in prohibited area**	> **Notice of violation** > **$75 fine** > **$40 fine for Minors** > **Ejection**	> **Notice of violation** > **$75 fine** > **$40 fine for Minors** > **Ejection**	> **Notice of violation** > **$75 fine** > **$40 fine for Minors** > **Ejection** > **Exclusion for 30 days**	> **Notice of violation** > **$75 fine** > **$40 fine for Minors** > **Ejection** > **Exclusion for 60 days**	> **Notice of violation** > **$75 fine** > **$40 fine for Minors** > **Ejection** > **Exclusion for 90 days**
6-05-200	Signs					
6-05-200.A-D	Post, destroy, failure to obey signs	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 30 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 60 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 90 days
6-05-210	Solicitation					
6-05-210.A-B	Solicitation	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 30 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 60 days	> Notice of violation > $75 fine > **$40 fine for Minors** > Ejection > Exclusion for 90 days
6-05-230	Fares					
6-05-230.A, C (1), (5), (6), (8), (10)	Patrons must pay fare; Fare Evasion	> Notice of violation > $75 fine > **Diversion Program in lieu of $40 fine for Minors[1]** > Ejection	> Notice of violation > $75 fine > **Diversion Program in lieu of $40 fine for Minors[1]** > Ejection	> Notice of violation > $75 fine > **Diversion Program in lieu of $40 fine for Minors[1]** > Ejection > Exclusion for 30 days	> Notice of violation > $75 fine > **Diversion Program in lieu of $40 fine for Minors[1]** > Ejection > Exclusion for 60 days	> Notice of violation > $75 fine > **Diversion Program in lieu of $40 fine for Minors[1]** > Ejection > Exclusion for 90 days
6-05-230.B	Proof of payment	> Notice of violation > $75 fine > **Diversion Program in lieu of $40 fine for Minors[1]**	> Notice of violation > $75 fine > **Diversion Program in lieu of $40 fine for Minors[1]**	> Notice of violation > $75 fine > **Diversion Program in lieu of $40 fine for Minors[1]** > Ejection	> Notice of violation > $75 fine > **Diversion Program in lieu of $40 fine for Minors[1]** > Ejection	> Notice of violation > $75 fine > **Diversion Program in lieu of $40 fine for Minors[1]** > Ejection

		> Ejection	> Ejection	> Exclusion for 30 days	> Exclusion for 60 days	> Exclusion for 90 days
6-05-230.C (2-4), (7), (9)	Misuse of fare media	> Notice of violation > $75 fine > **Diversion Program in lieu of $40 fine for Minors[1]** > Ejection	> Notice of violation > $75 fine > **Diversion Program in lieu of $40 fine for Minors[1]** > Ejection	> Notice of violation > $75 fine > **Diversion Program in lieu of $40 fine for Minors[1]** > Ejection > Exclusion for 30 days	> Notice of violation > $75 fine > **Diversion Program in lieu of $40 fine for Minors[1]** > Ejection > Exclusion for 60 days	> Notice of violation > $75 fine > **Diversion Program in lieu of $40 fine for Minors[1]** > Ejection > Exclusion for 90 days

* Pursuant to the Customer Code of Conduct Section 6-05-240(C) any person who commits a criminal offense, or fails to pay a penalty when due or violates any provisions of the Code, including those not listed above, may be ejected from a Metro vehicle or facility by order of an authorized Metro representative, and may be excluded from all or a portion of Metro vehicles and facilities.
** All violators are subject to all penalties listed above. An individual who received a Notice of Violation is eligible to complete Metro Transit School **and Community Service which**~~. Transit School~~ may only be completed~~, for the purpose of reducing any penalty payable,~~ once in any 12 month period ~~and prior to any second level appeal except~~ **upon** order of a Metro Hearing Officer.
[1] This amount is used to calculate the number of diversion program hours a minor might complete to satisfy a written warning or notice of exclusion, or that a minor/parent might select in lieu of non-fiscal remedies.

Violations of the Customer Code that will be addressed through ejection*

Code Section	Description	1st Offense**	2nd Offense	3rd Offense	4th Offense	5th Offense or Greater
6-05-090	**Commercial Activity**					
6-05-090.A, B, C	**Permit required, comply with permit rules, no commercial in prohibited area**	**Warning and/or Ejection**	**Warning and/or Ejection**	**Warning and/or Ejection**	**Warning and/or Ejection**	**Warning and/or Ejection**

* Pursuant to the Customer Code of Conduct Section 6-05-240(C) any person who commits a criminal offense, or fails to pay a penalty when due or violates any provisions of the Code, including those not listed above, may be ejected from a Metro vehicle or facility by order of an authorized Metro representative, and may be excluded from all or a portion of Metro vehicles and facilities.
** All violators are subject to all penalties listed above. An individual who received a Notice of Violation is eligible to complete Metro Transit School **and Community Service which**~~. Transit School~~ may only be completed~~, for the purpose of reducing any penalty payable,~~ once in any 12 month period ~~and prior to any second level appeal except by~~ **upon** order of a Metro Hearing Officer.

File #: 2017-0150, **File Type:** Contract **Agenda Number:** 36

REVISED
REGULAR BOARD MEETING
MAY 25, 2017

SUBJECT: BIOMETHANE PROVIDER

ACTION: AWARD BIOMETHANE SUPPLIER CONTRACT

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to:

A. AWARD five (5) year, Indefinite Delivery/Indefinite Quantity Contract No. OP7396000 for a **Biomethane Gas Provider to Clean Energy Renewables**, the lowest responsive and responsible bidder for a not-to-exceed amount of $1,240,520 for the base year (for one bus division as a pilot) and a not-to-exceed amount of $54,808,110 for a four (4) year option, for a total contract amount of $56,048,630 (for all bus divisions if the pilot is successful), subject to resolution of protest(s), if any; and

B. EXECUTE individual Task Orders (Transaction Confirmations) and changes within the Board approved contract amount.

ISSUE

Metro became the largest compressed natural gas bus fleet in the nation after retiring its last diesel bus in 2011. However, the transit industry is already looking ahead to new technologies and cleaner fuel sources that offer improved efficiency and environmental benefits. Metro's long-term plan to achieve California's ambitious air quality and greenhouse gas (GHG) goals is to explore and procure for Zero Emission Buses (ZEBs). The recent ZEB procurement and testing continue to be used by our agency to gain first-hand experience through the rapidly growing space of electric vehicle and battery technology. While this occurs, our agency's immediate term strategy includes the use of Low ~~Nitrous~~ Nitrogen Oxides (NOx) "Near Zero" CNG engines and procuring for renewable natural gas (i.e., biomethane). Based on our modeling efforts, this short-term strategy yields significant regional air quality benefits and greenhouse gas emissions reductions in a timely and cost-effective manner.

DISCUSSION

Biomethane is natural gas derived from landfills, dairies, and wastewater treatment plants rather than being extracted or mined from the ground. Therefore, biomethane has a much lower carbon intensity

(CI) when compared to traditional forms of natural gas (i.e., “fossil natural gas”). The CI of a fuel is a measure of its GHG emissions over the lifecycle of that fuel’s production, including extraction, refinement, transportation, and consumption. Regardless of extraction or production, natural gas is already considered a lower carbon fuel than diesel or gasoline. Alternative sourcing, such as those associated with biomethane, reduce natural gas’ carbon intensity with improved greenhouse gas benefits.

In June 2013, the Board adopted the Biomethane Implementation Plan (Attachment C). This is staff’s comprehensive analysis of the technical, environmental, and financial merits of transitioning to a renewable source of natural gas for Metro’s bus fleet. In May 2014, the Board approved a staff recommendation to pursue Pathway 2 of the Biomethane Implementation Plan whereby Metro would contract with an energy provider as a means of achieving a transition to biomethane. In the same report, staff demonstrated that the use of biomethane in our CNG buses would not need any new fueling infrastructure or fleet retrofits.

As a fuel, biomethane will be delivered in the same quality and grade for immediate use by our fleet. Biomethane supppliers will deliver the fuel to Metro bus divisions using existing natural gas pipelines. Metro’s current natural gas provider, Southern California Gas Company (Gas Company) allows for Core Aggregation Transportation (CAT) services whereby Core Transport Agents (CTAs) provide procurement services to Gas Company Customers such as Metro. In this arrangement, CTAs are responsible for balancing natural gas delivery and quality meeting stringent California Public Utilities Commission (CPUC) guidelines. Many transit agencies are already using biomethane under this or similar models including Santa Monica’s Big Blue Bus (BBB), Orange County Transportation Authority (OCTA), San Diego Metropolitan Transportation System (MTS), and Torrance Transit.

Transitioning to biomethane provides enormous GHG emissions reduction benefits for Metro’s bus emissions and overall carbon footprint. Reducing greenhouse gas emissions is not only an important goal for Metro but a substantial component of California’s climate change policies. Pending ZEB rules from the California Air Resources Board (CARB) will mandate a shift in bus technology in coming years. The attached report (Attachment D) from Ramboll/Environ outlines different fleet technology options for Metro including high-level cost assessments and emissions impacts for electric buses, fuel cell buses, and Low NOx CNG with biomethane. Highlights of the report particularly relevant to this document include:

- Low NOx CNG engines fueled with biomethane reduces fleet emissions by two-thirds when compared to the current baseline over the next 40 years; and
- Compared with the Electric Buses scenarios, Low NOx CNG with biomethane achieves approximately 39% greater reductions in GHG emissions at half the cost.

In addition to improving the agency’s sustainability performance, a biomethane short-term strategy is an excellent example of exercising fiscal discipline in the area of energy supply. According to Metro’s

2016 Energy and Resource Report, the agency spends over $22M each year on natural gas for its bus fleet. While this expense is susceptible to price volatility outside of the agency's control, there are measures Metro can take in order to reduce risk and manage future costs. One such measure is to procure for a long-term supply contract for natural gas under The Gas Company's CAT service. Under such a contract, Metro can secure a competitive rate tied to a natural gas index. Tying natural gas prices to the natural gas index provides rate transparency for Metro's natural gas hedging initiatives.

Finally, Metro's use of biomethane makes our agency eligible for accumulating additional carbon credits under state and federal programs. These credits can be sold in open credit markets. Revenues from these sales have already funded additional cost-saving and value creating projects under our sustainability capital program, providing additional value to our agency.

DETERMINATION OF SAFETY IMPACT

This Board action will not have an adverse impact on safety standards for Metro.

FINANCIAL IMPACT

If Contract no. OP84203485 is awarded, Metro will realize two distinct financial benefits summarized in the table below. It should be noted that these figures utilize current (March 2017) projections for natural gas pricing and consumption, environmental commodity pricing, and credit generation rates.

Case	**Natural Gas Costs**	**Environmental Commodities**
Business-As-Usual (BAU)	$64,325,174	$7,044,474
OP84203485	$56,048,630 (1)	$$29,436,460 (2)
Value Added	*$8,276,544*	*$22,391,985*
	Total Value Added	**$30,668,529**

Notes:

(1) Cost savings for shifting to natural gas index vs. Gas Company average cost of gas pricing

(2) Additional carbon credits available due to shift to less carbon intensive natural gas product

Natural Gas Cost Savings

Moving away from The Gas Company's procurement services affords a number of financial benefits to Metro. In addition to securing a competitive rate, Metro requires under the new award that the price the agency pays for natural gas is tied to a natural gas index rather than The Gas Company's average cost of gas. Further, this move provides for additional savings and transparency for Metro's natural gas hedging program. In total, Metro is projected to realize over $8M in reduced costs for natural gas over the term of the contract.

Optimized Environmental Commodities

Under CARB's Low Carbon Fuel Standard (LCFS) program, Metro is currently generating credits through the dispensing of natural gas for bus fueling and use of electricity for light and heavy rail propulsion. Natural gas that comes from renewable sources have substantially lower CI value compared to fossil natural gas, and our use of biomethane provides us with the opportunity to get many more credits than those from fossil natural gas use. Our agency will get a competitive share of these credits for our part in the transaction as a transportation fuel end-user. Additional credits will also be generated under the federal Renewable Fuel Standard (RFS) program. In total, these credits have been valued at over $29M over the term of the contract, if awarded.

These environmental commodities can be sold in respective credit markets. Our agency has been participating in the LCFS credit market since 2014, selling over 290,000 credits bringing in nearly $28M in revenue used in value-creating and cost-saving projects. Part of our optimization plan for these credits is a key performance indicator (KPI) to monitor the success of the carbon credits program:

Key Performance Indicator	**Metric**	**Current Performance**	**Goal**
Portfolio-wide average	$/credits sold	$96.54	Above Market Average ($81)

The FY17 adopted budget includes $19,329,625 for the purchase of compressed natural gas under Project 306002 Bus Operations Maintenance, cost center 3365, and Account 50402 Fuel CNG - Revenue Equipment. Since this is a multi-year contract, the Project Manager and Cost Center Manager will be responsible for budgeting in future fiscal years. Upon approval of Recommendation A, future gas costs will be budgeted against this project. Anticipated natural gas cost savings of $8,276,544 are based on the natural gas index pricing at the time of bid.

Impact to Budget

Metro will realize a reduction in annual natural gas costs over the duration of this Contract. Based on index projections, these savings will total over $8M over the term of the Contract. Further, Metro will generate additional environmental commodities valued at over $22M over the term of the contract. Together, the execution of Contract No. OP84203485 will add over $30M in value for our agency.

This contract will be funded by project number 306002 - Bus Operations, which is funded by Operations eligible sources such as Prop C40%, Measure R 20%, TDA 4, STA and other local sources. No other funding sources were considered.

ALTERNATIVES CONSIDERED

If Contract No. OP84203485 is not awarded, Metro will continue to receive natural gas procurement services from The Gas Company. As a result, Metro will not have the opportunity to get a competitive rate for natural gas nor choose the source of its natural gas until The Gas Company offers their own biomethane service. We do not anticipate The Gas Company to offer a biomethane service any time soon. If not awarded, we will also not realize the short-term greenhouse gas gains we anticipate from a Low NOx and biomethane strategy. This is key to our continued clean air success during a possible transition towards a zero emissions fleet.

NEXT STEPS

After the recommended Board Action is approved, staff will execute the contract and commence biomethane delivery at one bus division. Staff will evaluate the performance of the contract over the next year and determine whether to exercise the four-year option.

ATTACHMENTS

Attachment A - Procurement Summary
Attachment B - DEOD Summary
Attachment C - Biomethane Implementation Plan April 2013
Attachment D - Ramboll Environ Report September 29, 2016

Prepared by:

Cris B. Liban, EO, Environmental Compliance and Sustainability (213) 922-2471

Reviewed by:

Richard Clarke, Chief Program Management Officer (213) 922-7557
Debra Avila, Chief Vendor/Contract Management Officer (213) 418-3051

Phillip A. Washington
Chief Executive Officer

ATTACHMENT A

PROCUREMENT SUMMARY

BIOMETHANE PROVIDER / OP7396000

1.	**Contract Number**: OP7396000	
2.	**Recommended Vendor(s)**: Clean Energy Renewables	
3.	**Type of Procurement (check one):** ☒ **IFB** ☐ **RFP** ☐ **RFP–A&E** ☐ **Non-Competitive** ☐ **Modification** ☐ **Task Order**	
4.	**Procurement Dates**:	
	A. Issued: 5/13/15	
	B. Advertised/Publicized: 5/11/15	
	C. Pre-proposal/Pre-Bid Conference: 5/20/15	
	D. Proposals/Bids Due: 2/13/17	
	E. Pre-Qualification Completed: 3/15/17	
	F. Conflict of Interest Form Submitted to Ethics: 2/17/1 7	
	G. Protest Period End Date: 4/21/17	
5.	**Solicitations Picked up/Downloaded**: 24	**Bids/Proposals Received**: 2
6.	**Contract Administrator**: Nathan Jones III	**Telephone Number**: (213) 922-6101
7.	**Project Manager**: Evan Rosenberg	**Telephone Number**: (213) 922-7326

A. Procurement Background

This Board Action is to approve a Contract No. OP739600 for the procurement of a Biomethane Provider of Renewable Natural Gas (RNG) to support Metro's bus fleet.

IFB No. OP84203485 was issued in accordance with Metro's Acquisition Policy and the contract type is a Fixed Unit Price, Indefinite Delivery, Indefinite Quantity (IDIQ).

Eight amendments were issued during the solicitation phase of this IFB:

- Amendment No. 1, issued on May 19, 2015, to revise the Instructions to Bidders, Insurance Requirements, Pre-Qualification Application, and the Required Certifications;
- Amendment No. 2, issued on May 27, 2015, to revise the Statement of Work;
- Amendment No. 3, issued on December 18, 2015, to revise the bid due date;
- Amendment No. 4, issued on January 7, 2016, to revise Exhibit C, Bid Form, Schedule of Quantities and Prices;
- Amendment No. 5, issued on February 3, 2016, to change the bid due date;
- Amendment No. 6, issued on January 4, 2017, to revise the Contract, Bid Forms, and the bid due date;
- Amendment No. 7, issued on January 4, 2017, to revise the due date for Bidders' comments and questions; and
- Amendment No. 8, issued on January 27, 2017, to revise the due date for Metro's formal responses to Bidders' questions, Bid Forms and revise the bid due date.

The Two Step Seal Bid process, as defined in Metro's Acquisition Policy, was used for this acquisition. Step 1 required potential bidders to submit a technical proposal for Metro to evaluate and to make a determination on whether the bidder was technically qualified. In response to Step 1, Metro received three formal technical proposals, and Metro evaluated each technical proposal and made individual final determinations that each bidder was technically qualified to furnish RNG. A formal notification was issued to each bidder advising them that they were deemed technically qualified and were invited to participate in Step 2 by submitting a formal bid price.

Prior to the public bid opening due date, Metro received a formal letter from one of the technically qualified bidders advising Metro that it had elected to No Bid. A total of two bids were received on the bid due date, February 13, 2017. One of the bids was rejected for material changes to the IFB requirements.

B. Evaluation of Bids

The firm recommended for award is Clean Energy Renewables (Clean Energy) which was found to be in full compliance with the IFB requirements.

Bidder Name	Base	Option	Total Contract Price
Clean Energy	$1,240,520.00	$54,808,110.00	$56,048,630.00

The Base period is for one year and to cover supplying RNG for all buses at one Metro bus division. The Option is for four years to supply RNG for all buses at all Metro bus divisions.

C. Price Analysis

The recommended total bid price was determined to be fair and reasonable based upon adequate price competition and selection of the lowest responsive and responsible bidder. There are three components to this price analysis: gas commodity price, environmental commodities value, and total bid price. The IFB required the vendor to supply the total bid price that is the net of the gas commodity price and environmental commodities value. The lowest total bid price gets awarded the contract. The table below provides these information.

While the lowest total bid price is the basis for award, the contract value to be awarded is based on the gas commodity price.

Low Bidder Name	Bid Amount	Metro ICE
Clean Energy	$26,612,169 (1)	$34,414,674

Bid Breakdown	Bid Amount	Metro ICE
Gas Commodity Price	$56,048,630 (2)	$57,008,630
Environmental Commodities Value	$29,436,460	$22,593,956
Total Bid Price	$26,612,169	$34,414,674

Notes:
(1) Basis for award
(2) Contract value

D. Background on Recommended Contractor

The recommended firm, Clean Energy, has over seven years of experience in biomethane industry, including biomethane production, marketing, sales and distribution. Clean Energy is the only company that has built, owns and operates biomethane production facilities and is a registered Energy Service Provider with SoCalGas. Since 2009, Clean Energy has delivered biomethane to customers at customer owned stations as well as Clean-Energy owned public access stations. The firm meets and exceeds Metro's specified IFB minimum technical qualification requirements for supplying biomethane. Some of Clean Energy's customers include Foothill Transit, City of Santa Monica (Big Blue Bus), Sacramento Municipal Utilities District, City of Sacramento, and University of California, San Diego, and Atlas Refuel. Clean Energy has been a Metro supplier of natural gas products and commodities for over 20 years and their services to Metro have been satisfactory.

ATTACHMENT B

DEOD SUMMARY

BIOMETHANE PROVIDER / OP7396000

A. Small Business Participation

The Diversity and Economic Opportunity Department (DEOD) did not recommend a Disadvantaged Business Enterprise (DBE) goal for this solicitation, which involves the purchase of a commodity (natural gas), to be delivered via existing pipelines to Metro. DEOD explored subcontracting opportunities and determined that opportunities for subcontracting were not apparent. It is expected that Clean Energy Renewables will perform the scope of work with their own workforce.

B. Living Wage and Service Contract Worker Retention Policy Applicability

The Living Wage and Service Contract Worker Retention Policy is not applicable to this Contract.

C. Prevailing Wage Applicability

Prevailing wage is not applicable to this Contract.

D. Project Labor Agreement/Construction Careers Policy

Project Labor Agreement/Construction Careers Policy is not applicable to this Contract.

UPDATED DRAFT

Intended for

Advanced Transit Vehicle Consortium
Los Angeles, California

Prepared by

Ramboll Environ US Corporation
Los Angeles, California

M.J. Bradley & Associates, LLC
Concord, Massachusetts

Date

September 29, 2016

ZERO EMISSION BUS OPTIONS: ANALYSIS OF 2015-2055 FLEET COSTS AND EMISSIONS

NEW TRANSIT VEHICLE TECHNOLOGIES AND ADVANCED TECHNOLOGY IMPLEMENTATION (OP33203093)

Metro

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EXECUTIVE SUMMARY

The Los Angeles County Metropolitan Transportation Authority (LACMTA) currently operates an active fleet of 2,194 urban transit buses in fixed-route service throughout the Los Angeles metropolitan area. All of LACMTA's buses are compressed natural gas (CNG) buses which operate on standard natural gas procured from the local natural gas utility. LACMTA fuels these buses at eleven CNG fuel stations located on LACMTA property at various locations throughout the city.

LACMTA continually renews their bus fleet by purchasing new buses and retiring their oldest buses. Their general policy is to keep buses in service for 14 years; as such approximately 7% of the fleet is replaced each year with new buses.

This report summarizes the results of modeling to estimate capital and operating costs, as well as exhaust emissions, for the LACMTA bus fleet over the period 2015 – 2055 under five different future bus technology/fuel purchase scenarios:

1) **BASELINE:** Continue to purchase standard CNG buses to replace retiring buses, and continue to purchase conventional natural gas.

2) **RENEWABLE NATURAL GAS**: Beginning in 2016 start to phase in the purchase of renewable natural gas (RNG), with 100% of natural gas use by the bus fleet renewable gas after 2017. Continue to purchase standard CNG buses to replace retiring buses.

3) **RENEWABLE NATURAL GAS PLUS LOW NOx BUSES:** In addition to phasing in the use of renewable natural gas, in 2019 begin to purchase new CNG buses with "Low NOx" engines (LNOx), certified to have NOx, CH_4, and PM emissions 92%, 72% and 50% lower, respectively, than emissions from "standard" natural gas engines that meet California Air Recourses Board new engine standards. In addition, beginning in 2018 begin to repower old buses with new Low NOx engines during their mid-life overhaul. Under this scenario the entire fleet will turn over to Low NOx natural gas engines by 2028.

4) **ELECTRIC BUSES:** Starting in 2025 replace all retiring buses with battery-electric buses. Under this scenario the entire bus fleet will turn over to electric buses by 2039. There are two options for battery charging under this scenario: 1) charging at the bus depot only, and 2) charging at the bus depot and in-route throughout the day.

5) **FUEL CELL BUSES:** Starting in 2025 replace all retiring buses with hydrogen fuel cell buses. Under this scenario the entire bus fleet will turn over to fuel cell buses by 2039. There are two options for producing the necessary hydrogen fuel under this scenario: 1) produce hydrogen on-site at LACMTA depots using steam reformation of natural gas (SMR), and 2) produce hydrogen on-site at LACMTA depots using electrolysis of water.

Scenarios four and five represent current options available to transit agencies under the California Air Resources Board's (CARB) proposed Zero Emission Bus (ZEB) rule. Scenario three is an alternative approach to reducing both GHG and NOx emissions that could be considered as an alternative method to meet the intent of CARB's ZEB rule.

This September 2016 updated draft report is a revision to a Draft report released by LACMTA/ATVC in February 2016 ("draft analysis"). It incorporates updated assumptions based on newly available information. The major differences between this revised analysis and the draft analysis include:

- Fuel costs for electricity used to power battery buses, and hydrogen used to power fuel cell buses, presented in this revised analysis, are net of credits that LACMTA could generate under California's Low Carbon Fuel Standard (LCFS). LCFS credits for electricity and hydrogen were

not included in the draft analysis. Commercial providers of Renewable Natural Gas can also generate credits under LCFS, and these credits were implicitly included in LACMTA's projected cost of RNG in the draft analysis, as well as in this revised analysis.

- Projected purchase and overhaul costs for battery-electric and fuel cell buses were revised downward based on feedback from bus manufacturers. The revised prices reflect recent, significant reductions in near-term battery prices (2017 – 2020) as well as recent projections of continued, significant battery cost reductions through 2030.
- Revised assumptions for projected average energy use (kWh/mi) for electric buses in LACMTA service. The revised assumptions are based on the average energy use from a fleet of five 40-ft electric buses recently put into service by LACMTA, which has accumulated approximately 30,000 in-service miles to date. In this revised analysis, electric buses are projected to use approximately 20% more energy per mile than was assumed in the draft analysis.
- Revised assumptions for projected average range per charge for electric buses, based on the revised assumptions for average energy use, as well as revised assumptions about the battery capacity of commercially available electric buses after 2025. Based on feedback from bus manufacturers, and recent developments, this analysis assumes that future electric buses will have approximately 20% larger battery packs than was assumed in the draft analysis, thus increasing their expected range per charge. The effect of the larger projected battery packs on range is, however, offset by projected greater energy use per mile.
- Revised assumptions about the practical replacement ratio of in-service CNG buses with battery-electric buses. The revised assumptions are based on an analysis of all of LACMTA's week-day scheduled bus assignments (time and mileage in-service), compared to the revised assumptions for practical battery bus range per charge. This analysis is summarized in Section 2.1 and 2.2. This analysis determined that lower replacement ratios would be required in the 2025 – 2035 time frame than was assumed in the draft analysis (i.e. fewer electric buses would be required to replace CNG buses).

Note that on 9/12/16 one electric bus manufacturer (Proterra) released preliminary information about an extended range version of their 40-ft transit bus, which can carry up to 660 kWh of batteries, potentially extending practical electric bus range beyond that estimated in this analysis. Significant questions remain unanswered about this bus, including its purchase cost, its in-use energy use in LACMTA service, its passenger capacity, and the manufacturer's production capability and timing. As such, this updated draft report does not incorporate the potential effect of this bus on future electric bus costs.

LACMTA currently has an active solicitation for purchase of 40-ft and 60-ft buses, including electric buses, with bids due in January 2017. It is expected that this solicitation will yield better information about the near-term purchase costs and technical capabilities of electric buses from several manufacturers, including the Proterra extended range bus.

When this information is available, this analysis will be updated again, with revised assumptions that reflect the new information. It is expected that this next update will be available in late January 2017.

SUMMARY OF RESULTS

Table 1 summarizes the net present value of total estimated fleet costs from 2015 – 2055 under each scenario in 2015 dollars. As shown, the use of RNG by itself is not projected to increase total fleet costs. The use of RNG and the transition to LNOx buses is projected to increase total fleets costs by $173 million over the next 40 years, an increase of $0.001 per revenue seat-mile, which is 1.1% greater than projected baseline costs.

The transition to electric buses is projected to increase total fleets costs by $376 - $768 million over the next 40 years, an increase of $0.003 - $0.006 per revenue seat-mile, which is 2.3% - 4.7% greater than projected baseline costs. Exclusive depot charging is projected to be more expensive than depot and in-route charging.

The transition to fuel cell buses is projected to increase total fleets costs by $1.4 - $1.7 billion over the next 40 years, an increase of $0.012 - $0.014 per revenue seat-mile, which is 8.5% - 10.3% greater than projected baseline costs. Production of hydrogen fuel for fuel cell buses using electrolysis is projected to be more expensive than hydrogen production using SMR.

Table 1. LACMTA Zero Emission Bus NPV Estimated Total Fleet Costs 2015 - 2055 (2015 $ million)

Cost Element		BASELINE	RENEW NG	LOW NOx CNG BUS & REPOWER		ELECTRIC BUS		FUEL CELL BUS	
		Std CNG Bus Conv NG	Std CNG Bus RNG	LNOx Bus Conv NG	LNOx Bus RNG	Depot Charging	Depot & In-Route Charging	H_2 by SMR	H_2 by Electrolysis
Capital	Bus Purchase	$2,299.1	$2,299.1	$2,332.0	$2,332.0	$3,031.6	$2,931.4	$3,133.2	$3,133.2
	Bus Repower			$100.3	$100.3				
	Bus mid-life OH	$164.2	$164.2	$173.2	$173.2	$307.3	$280.8	$609.1	$609.1
	Depot Mods					$61.1	$36.0	$49.8	$49.8
	Fuel Infra	$0.0	$0.0	$0.0	$0.0	$49.3	$63.6	$165.2	$165.2
	sub-total	*$2,463.3*	*$2,463.3*	*$2,605.5*	*$2,605.5*	*$3,449.3*	*$3,311.7*	*$3,957.4*	*$3,957.4*
Operating	BO Labor	$10,441.4	$10,441.4	$10,441.4	$10,441.4	$10,663.5	$10,441.4	$10,441.4	$10,441.4
	Fuel	$1,244.4	$1,244.4	$1,248.3	$1,248.3	$862.5	$844.9	$1,071.4	$1,372.3
	Maintenance	$2,128.6	$2,128.6	$2,155.6	$2,155.6	$2,070.3	$2,055.9	$2,186.9	$2,186.9
	sub-total	*$13,814.4*	*$13,814.4*	*$13,845.3*	*$13,845.3*	*$13,596.3*	*$13,342.2*	*$13,699.7*	*$14,000.5*
TOTAL		**$16,277.7**	**$16,277.7**	**$16,450.8**	**$16,450.8**	**$17,045.6**	**$16,653.9**	**$17,657.1**	**$17,957.9**
INCREASE		**NA**	**$0.00**	**$173.03**	**$173.03**	**$767.85**	**$376.14**	**$1,379.33**	**$1,680.15**
AVG $/mile		$4.18	$4.18	$4.22	$4.22	$4.27	$4.28	$4.53	$4.61
AVG $/revenue seat-mile	**Value**	$0.138	$0.138	$0.139	$0.139	$0.144	$0.141	$0.150	$0.152
	% diff to baseline	*NA*	*100.0%*	*101.1%*	*101.1%*	*104.7%*	*102.3%*	*108.5%*	*110.3%*

Table 2 summarizes total estimated fleet emissions from 2015 – 2055 under each scenario. This data is also shown in Figure 1.

As shown, compared to the baseline the use of RNG is estimated to increase NOx emitted within the South Coast Air Basin[1] over the next 40 years by 1% and reduce PM emitted within the basin by 128%. The use of RNG will also reduce NOx and PM emitted outside of the South Coast Air Basin over

[1] The South Coast Air basin encompasses Orange County and parts of Los Angeles, San Bernardino, and Riverside counties in southern California, including the entire city of Los Angeles.

the next 40 years by 82% and 600% respectively. PM emissions decrease by more than 100% because both in-basin and out-of-basin upstream PM emissions from production of RNG are negative due to credits, more than offsetting all tailpipe PM emissions from CNG buses.

The use of RNG will reduce CH_4 emissions by 2%, reduce CO_2 emissions by 81% and reduce total CO_2-equivalent GHG emissions by 70%.

Table 2. LACMTA Zero Emission Bus Estimated Total Fleet Emissions (tons) 2015 - 2055

Pollutant	BASELINE	RENEW NG	LOW NOx CNG BUS & REPOWER		ELECTRIC BUS		FUEL CELL BUS	
	Std CNG Bus Conv NG	Std CNG Bus Renew NG	LNOx Bus Conv NG	LNOx Bus Renew NG	Depot Charging	Depot & In-Route Charging	H_2 by SMR	H_2 by Electrolysis
NOx (in-basin)	6,296	6,385	3,483	3,573	3,444	3,431	6,228	3,792
PM (in-basin)	81.1	-22.8	79.0	-25.4	40.0	39.7	723.5	49.1
CH_4	89,590	87,421	76,590	74,414	41,124	40,965	59,292	45,651
CO_2	13,637,506	2,618,086	13,681,149	2,624,750	6,537,416	6,486,030	11,106,350	8,011,017
GHG (CO_2-e)	15,877,260	4,803,609	15,595,906	4,485,096	7,565,519	7,510,164	12,588,639	9,152,286
NOx (Out-of-basin)	10,157	1,785	10,190	1,789	4,954	4,910	6,410	6,228
PM (out-of-basin)	110.4	-551.7	110.7	-553.5	70.1	68.3	73.0	117.5

Compared to the baseline the use of RNG and the transition to LNOx buses is projected to reduce NOx and PM emitted within the South Coast Air Basin over the next 40 years by 43% and 131%, respectively, and to reduce NOx and PM emitted outside of the South Coast Air Basin over the next 40 years by 82% and 602%, respectively. PM emissions decrease by more than 100% because upstream PM emissions from production of RNG are negative due to credits, more than offsetting all tailpipe PM emissions from LNOx CNG buses. The use of RNG and LNOx CNG buses will reduce CH_4 emissions by 17%, will reduce CO_2 emissions by 81% and will reduce total CO_2-equivalent GHG emissions by 72%.

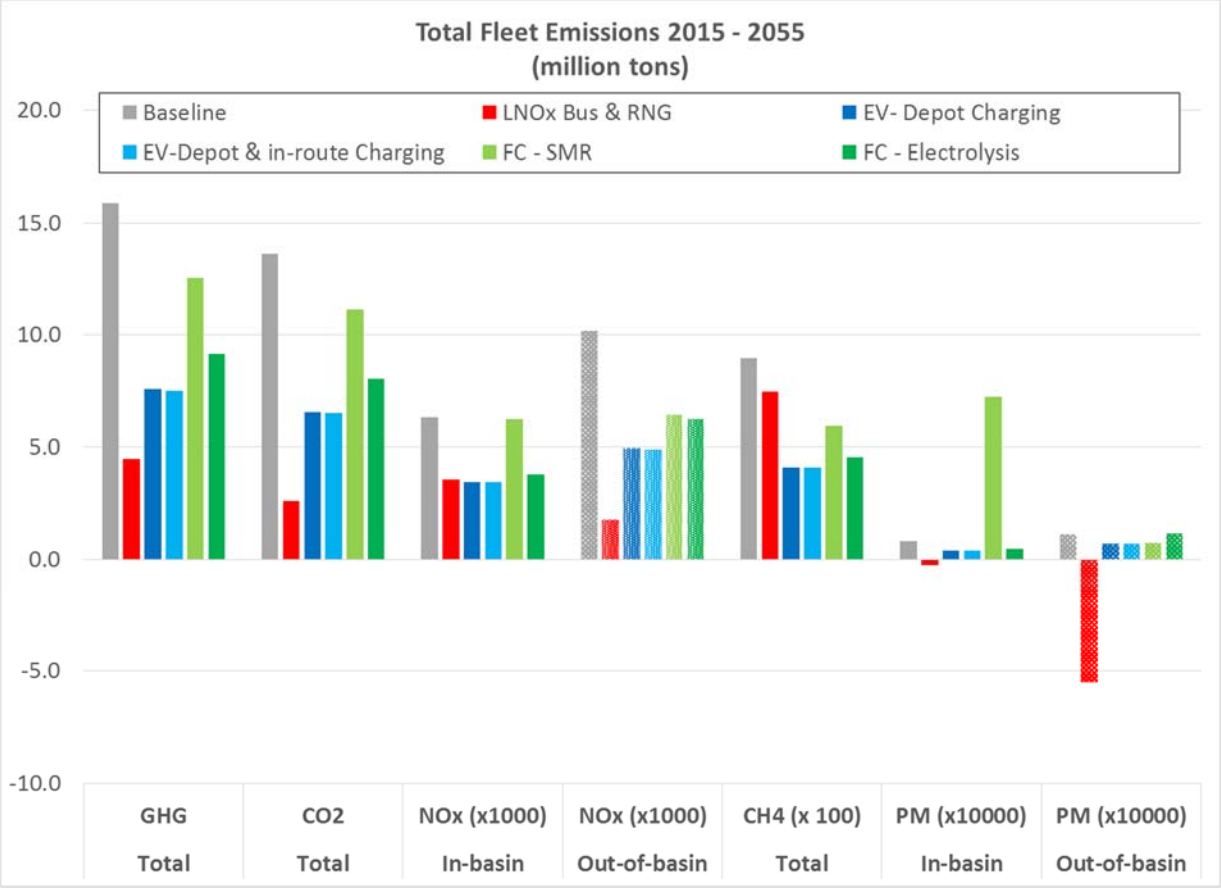
Compared to the baseline the transition to electric buses is projected to reduce NOx emitted within the South Coast Air Basin over the next 40 years by 45% -46%, and to reduce NOx emitted outside of the South Coast Air Basin over the next 40 years by 51% - 52%. It will also reduce PM emitted within the South Coast Air Basin over the next 40 years by 51%, and reduce PM emitted outside of the South Coast Air Basin over the next 40 years by 51% -52%. The transition to electric buses will reduce CH_4 emissions by 54%, reduce CO_2 emissions by 52%, and reduce total CO_2-equivalent GHG emissions by 52% - 53%. The use of depot and in-route charging will reduce emissions slightly more than the use of depot charging only, due to fewer in-service bus miles.

Compared to the baseline, the transition to fuel cell buses is projected to reduce NOx emitted within the South Coast Air Basin over the next 40 years by 1% - 40%, and to reduce NOx emitted outside of the South Coast Air Basin over the next 40 years by 37% - 39%. The transition to fuel cell buses will also reduce CH_4 emissions by 34% - 39%, reduce CO_2 emissions by 19% - 41%, and reduce total CO_2-equivalent GHG emissions by 21% - 42%.

Production of hydrogen using electrolysis will reduce NOx and GHG emissions significantly more than production of hydrogen using SMR. In addition, compared to the baseline, production of hydrogen using electrolysis will reduce PM emitted within the South Coast Air basin by 39%, but will increase PM emitted outside of the South Coast Air Basin by 6%. Production of hydrogen using SMR will increase

PM emitted within the South Coast Air Basin by 792% while reducing PM emitted outside of the South Coast Air Basin by 34%.

Figure 1. LACMTA Zero Emission Bus Estimated Total Fleet Emissions 2015 – 2055



The modeling summarized here indicates that Scenario 3, the use of RNG and transition to LNOx buses, will be more effective at reducing in-basin PM, total CO_2, total GHGs, and total NOx from the LACMTA fleet over the next 40 years than transition to either electric or fuel cell buses, but will be slightly less effective at reducing in-basin NOx.

This approach will also be less expensive than transition to either electric or fuel cell buses. Table 3 presents a summary of the cost-effectiveness of emission reductions under each scenario.

If all incremental costs (above baseline) are attributed to GHG reduction, the use of RNG and transition to LNOx buses will cost $15/ton of GHG reduced over the next 40 years. The transition to electric buses will cost $46 - $94/ton of GHG reduced, and the transition to fuel cell buses will cost $250 – $419/ton of GHG reduced.

If all incremental costs (above baseline) are attributed to NOx reduction, the use of RNG and transition to LNOx buses will cost $64 thousand/ton of in-basin NOx reduced over the next 40 years. The transition to electric buses will cost $133 - $272 thousand/ton of in-basin NOx reduced, and the transition to fuel cell buses will cost $0.67 – $20 million/ton of in-basin NOx reduced.

Table 3. Zero Emission Bus Options Cost Effectiveness of Emission Reductions ($/ton)

			Electric Bus		Fuel Cell Bus	
		LNOx Bus & RNG	Depot Charging	Depot & In-route Charging	SMR	Electrolysis
Compared to Baseline	Increased Cost (NPV $ million)	$173.0	$767.8	$376.1	$1,379.3	$1,680.2
	GHG Reduction (million ton)	11.4	8.2	8.2	3.3	6.7
	In-basin NOx Reduction (ton x000)	2.72	2.83	2.84	0.07	2.50
Cost effectiveness of Emission Reductions	$/ton GHG	$15.19	$93.71	$45.69	$419.43	$249.84
	$/ton IB NOx	$63,530	$271,638	$132,667	$20,247,155	$670,849

1. FLEET COST & EMISSIONS MODEL DESCRIPTION

Both the fleet cost model and the fleet emissions model are based on a fleet assignment of 2,500 40-ft buses, which provides equivalent total passenger capacity (seat-miles) to LACMTA's current mixed fleet of 1,212 40-ft, 626 45-ft, and 356 60-ft buses. This fleet assignment is held constant throughout the analysis period; the models assume no growth (or reduction) in LACMTA service during the 40-year analysis period.

The starting fleet in calendar year 2015 is assumed to be composed of 625 buses with engines built prior to model year 2007, and 1,875 buses with model year 2007 – 2014 engines, consistent with LACMTA's current fleet[2]. The model assumes that 178 older buses will be retired each year and replaced by new buses, to maintain 7% annual fleet turnover. For all scenarios other than electric buses charged exclusively at the depot, the model assumes that old buses will be replaced one-for one with new buses, so that total fleet size and total annual fleet miles will stay constant from year-to-year.

Due to daily range restrictions the model assumes that one retiring bus will need to be replaced with more than one electric bus, if the electric buses are charged only at the depot; the replacement ratio is based on assumed daily range between charging events relative to the minimum required daily range for current buses based on actual week-day bus assignments (see section 2.2). For this scenario this results in a slight increase in fleet size over time, as well as an increase in annual fleet miles, because dead-head mileage is also assumed to increase due to the need to make more daily bus-swaps in service.

For electric buses charged both at the depot and in-route using route-based chargers, the model assumes that the in-route charging will increase daily bus range above the minimum requirement, so that retiring buses can be replaced one-for one with new electric buses, and fleet size and annual fleet mileage will stay constant over time.

As the fleet composition changes over time, the model calculates for each scenario total mileage and fuel use each year by all buses of each type (CNG, Low NOx CNG, Electric, Fuel Cell) in each of the following model year bins: Pre-MY2007, MY2007 - MY2014, MY2015 - MY2024, MY2025 – MY2034, MY2035 – MY2044, MY2045 – MY2054. The model then applies cost and emission factors to calculate total costs and emissions associated with the buses of each type in each model year bin that year, and sums the costs and emissions across the bins to get the calendar year annual fleet totals.

The cost and emission factors used by the model are specific to each bus type and each model year bin. In that way, the model accounts for changes in technical capability and purchase and operating costs, as well as changes in emissions performance, for the different technologies as they mature over time. For example, range between charging events is assumed to be greater for MY2035 – MY2044 electric buses than for MY2025 – MY2034 buses, resulting in a smaller replacement ratio. Similarly, purchase and maintenance costs for electric and fuel cell buses (in 2015$) are assumed to be lower for MY2035 – MY2044 buses than they are for MY2025 – MY2034 buses.

[2] The current fleet has a larger number of older buses, but for the past few years LACMTA has been repowering older buses with new engines during mid-life overhauls. Engines built in model year 2007 and later have significantly lower nitrogen oxide (NOx) emissions than earlier model year engines.

1.1 Fleet Cost Model

The fleet cost model includes capital and operating costs associated with each bus and fuel purchasing scenario. The included capital cost elements are: bus purchase, bus repower (Low NOx CNG scenario only), bus mid-life overhaul, depot upgrades and expansion, and new fueling infrastructure.

Fueling infrastructure costs include purchase of battery chargers (electric bus scenarios), and purchase of hydrogen production and fueling stations (fuel cell bus scenarios). The model does not directly include any future costs associated with renewal or replacement of existing LACMTA CNG fueling stations. These stations are currently operated under contract by a third party, and the contract requires that the operator maintain these stations in full working order at all times. In effect, the future cost of upgrade and overhaul for these stations is included in the contract price of natural gas (dollars per therm[3]) and is therefore captured indirectly in the model for all scenarios as part of natural gas fuel costs.

Depot expansion is only required for the electric bus scenarios. For the depot-only charging scenario, in which fleet size increases, expansion of existing depots or construction of new depots is required to accommodate the larger fleet. Expansion of depot parking areas is also required for both electric bus scenarios to accommodate the installation of depot-based chargers in bus parking areas.

Other depot upgrades include investments related to high voltage safety and diagnostic equipment (electric bus and fuel cell scenarios) and investments in hydrogen sensors and improved ventilations systems (fuel cell scenario). Neither the baseline nor Low NOx CNG bus scenarios require any depot upgrades.

The included operating cost elements are: bus operator labor (including direct fringe benefits), bus maintenance (labor and material), and fuel purchase (including commodity costs and operating costs for fueling infrastructure). For all bus technologies, the fuel costs used in the model are net of projected financial credits that could be generated under California's Low Carbon Fuel Standard (LCFS). For natural gas (baseline) and renewable natural gas these LCFS credits would accrue to the fuel provider under LCFS rules; they are implicitly included in the model based on projected LACMTA costs to purchase natural gas or RNG. For electricity used to power battery-electric buses, and for hydrogen produced on-site at LACMTA depots to power fuel cell buses, LCFS credits would accrue directly to LACMTA. The model explicitly calculates these credits and deducts them from projected electricity purchase and hydrogen production costs.

The fleet cost model does not include original purchase costs associated with any existing LACMTA fueling, maintenance, or bus storage facilities; operating costs associated with maintenance and bus storage facilities; overhead costs for maintenance and transportation supervision or management; or overhead costs associated with operations planning, marketing, and revenue collection activities. All of these costs are assumed to be substantially similar regardless of which future bus technology and fuel purchase scenario is followed.

1.2 Fleet Emissions Model

The fleet emissions model estimates, for each future bus technology/fuel purchase scenario, total annual emissions of carbon dioxide (CO_2), nitrogen oxides (NOx), particulate matter (PM), and methane (CH_4). Using the global warming potential of methane over a 100-year period (GWP_{100}) the model also uses estimated CO_2 and CH_4 emissions to estimate total annual greenhouse gas (GHG) emissions in terms of CO_2-equivalent emissions (CO_2-e). For both NOx and PM emissions the model

[3] A therm is an amount of natural gas with 100,000 British thermal units (BTU) heat content

estimates separately the amount emitted under each scenario within the South Coast Air Basin, as well as the amount emitted outside of this air basin. The South Coast Air Basin encompasses Orange County and parts of Los Angeles, San Bernardino, and Riverside counties in southern California.

The fleet emissions model estimates total emissions associated with each bus technology/fuel purchase scenario on a “wells-to-wheels” life cycle basis. In addition to direct tail-pipe emissions from the engine of each in-service bus, the model estimates “upstream” emissions associated with the production and delivery of the fuel used by the buses each year.

For CNG buses upstream emissions include those associated with natural gas production, processing, pipeline transport, and compression. For electric buses upstream emissions include stack emissions from electricity generation, as well as emissions associated with production, processing, and transport of the hydrocarbon fuel(s) (i.e. coal and natural gas) used for electricity generation. For fuel cell buses upstream emissions include emissions generated directly during production, storage, transport, and compression of hydrogen; these emission come mostly from generating the electricity used for both water electrolysis and SMR. For the SMR production path upstream emissions also include emissions associated with production, processing, and transport of the natural gas used to produce the hydrogen.

All tailpipe NOx and PM emissions are assumed to be emitted within the South Coast Air Basin, as are upstream emissions from facilities and processes conducted within the basin (i.e. emissions from power plants located within the basin and from fuel production and transport activities that occur within the basin). Other upstream emissions (i.e. from natural gas extraction and processing, and from power plants located outside of the basin) are assumed to be out-of-basin emissions.

Emission factors used for upstream emissions vary by calendar year, to account for expected changes in the energy mix over time. For example, it is assumed that over the next 40 years average emission rates for electricity generation in California will fall significantly, reflecting greater use of zero-emission and renewable generating sources, in response to both government policy and market forces.

2. MAJOR ASSUMPTIONS AND DATA SOURCES

2.1 Electric Bus Range

To estimate the range per charge for current and future electric buses used in LACMTA service, the authors conducted a literature review, interviewed technical and sales staff from three transit bus manufacturers that currently offer 35-ft to 42-ft electric transit buses commercially[4], and evaluated the results of an on-going in-service test of battery buses at LACMTA.

For an electric bus, range per charge (miles) is a function of two primary variables: 1) the energy capacity of the installed battery pack (kWh), and 2) actual energy use in service (kWh/mi). For any given bus the size of the battery pack is fixed, but energy use can vary based on a number of variables, including driver behavior, bus loading, and route characteristics (i.e. average speed and topography).

In addition, batteries lose capacity over time, as they are charged and dis-charged on a daily basis. This loss of capacity must be factored in to establish a practical range that can be relied on over the expected service life of a bus. Capacity loss is not solely a function of charge/discharge cycles; however, it can also be affected by the "depth" of discharge. Most battery manufacturers do not recommend depleting the battery fully (to zero percent state of charge) on a daily basis, as this can increase the rate at which batteries lose capacity. Over the past 20 years the general rule of thumb has been to use 80% depth of discharge as a planning factor when calculating practical electric vehicle range, to maximize in-service battery life.

Each of these variables is discussed further below, along with the author's projections of practical electric bus range based on these variables.

2.1.1 Electric Bus Battery Capacity

Virtually all commercially available 40-ft electric transit buses sold today (MY2016) have installed batteries with 300 – 330 kWh of energy storage capacity. In practical terms the size of the battery pack is constrained primarily by available packaging volume on the vehicle, but may also be constrained by axle weight limits. As such, increasing the energy storage capacity of electric buses will require further improvements in battery technology, to increase energy density (kWh/kg; kWh/ft^3).

All bus manufacturers interviewed indicated that their battery suppliers are promising significant improvements in energy density over the next 5 – 15 years, though estimates vary as to when these improvement will be available, and how large they will be. One bus manufacturer indicated that battery packs larger than 400 kWh would be available within two years; others were more cautious, indicating that battery packs with 33% greater capacity than current packs "might" be available by 2025, with further increases in later years.

For this analysis the authors used conservative estimates for the energy storage capacity of battery packs on future electric buses, as follows: Model Year 2025 – 2034, 420 kWh; model year 2035 – 2044, 450 kWh; model year 2045+ 482 kWh.

[4] BYD, Proterra, and New Flyer.

2.1.2 Electric Bus Energy Use

LACMTA operated a pilot fleet of 5 40-ft battery buses in regular Metro service between June 2015 and April 2016. These buses are used on a route with average speed of approximately 9 MPH. Since entering service they have accumulated more than 30,000 in-service miles. Weekly average energy use for all 5 buses has ranged from 2.3 kWh/mi to 3.5 kWh/mi; the over-all average since the beginning of the test is 3.2 kWh/mi. The route on which these buses operate has a slower average speed (9 MPH) than the LACMTA fleet average speed (12 MPH). Prior modeling conducted by the authors indicates that projected average energy use for these buses on a 12 MPH route would be 2.8kWh/mi.

Electric bus energy economy testing conducted by the Federal Transit Authority's New Model Bus Testing program indicates that there is a significant range in average energy use (kWh/mi) for different commercially available buses today[5]. One of the tested buses averaged 15% less energy per mile on the test routes than the bus model which LACMTA is currently operating in service.

In addition, all bus manufacturers interviewed indicated that electric buses will become more efficient over time, as the technology continues to mature.

Based on all of the above information, this analysis assumes that MY2025 – MY2034 electric buses will use an average of 2.5_kWh/mi in LACMTA service, MY2035 – MY2044 electric buses will use an average of 2.4 kWh/mi, and MY2045+ electric buses will use an average of 2.3 kWh/mi. These values reflect a 5% reduction in "industry average" energy usage per decade, compared to current buses.

The above values were used to calculate electricity use and cost. To calculate expected range per charge 10% was added to these figures, to account for driver and route variability.

2.1.3 Battery Life & Depth of Discharge

One electric bus manufacturer currently offers a 12-year warranty on their batteries, which guarantees that after 12 years in service the battery pack will retain at least 70% of its original name plate capacity (kWh). This implies 2.5% loss of capacity per year. This manufacturer also indicated that there is no restriction on daily depth of discharge.

The other manufacturers are less aggressive with respect to claims of battery life, offering only a standard 5-year warranty which guarantees no less than 80% of initial name plate capacity after that time, and recommending 80% depth of discharge as a planning factor in order to maximize effective battery life. One manufacturer indicated that actual capacity loss after 6 years in service indicates the possibility of a 10-year life, but they are not ready to guarantee that level of performance. This manufacturer also indicated that their battery management system limits depth of discharge to no more than 80% in the first few years of bus life, but opens that up over time, to allow 95% depth of discharge after year 5. In this way, buses are able to achieve consistent daily range even though the pack is losing effective capacity over time.

LACMTA currently keeps their buses in service for 14 years. For electric buses to be reliably usable over their entire life, the expected capacity loss must be included in calculations of the practical range

5 Bus Testing and Research Center, Pennsylvania Transportation Institute; Federal Transit Bus Test; Report Number LTI-BT-R1307, June 2014; Report Number LTI-BT-R1405, July 2015; Report Number LTI-BT-R1406, May 2015.

per charge. One option is to assume that batteries will last 14 years without replacement, but the range calculation would then need to assume a usable capacity of only 65% - 70% of battery nameplate capacity. The other option would be to assume that batteries will be replaced at bus mid-life (7 years). Under this scenario LACMTA will incur additional costs for battery replacement, but they will need fewer buses because range per charge can be based on approximately 80% of battery nameplate capacity.

Analysis indicates that buying fewer buses, but planning to replace the battery packs at 7 years, will be the least costly option for LACMTA. Thus, this is the scenario on which projected range per charge was calculated for this analysis.

2.1.4 Electric Bus Range per Charge

Based on projected nameplate battery capacity, protected in-service energy use, and expected battery degradation, as discussed above, this analysis assumes that the practical, reliable electric bus range per charge for buses used in LACMTA service will be 126 miles for MY2025-MY2034 buses, 142 miles for MY2035 -2044 buses, and 161 miles for buses purchased after MY2045. These values represent expected range per charge at the end of year 7 with 95% depth of discharge.

2.2 LACMTA Bus Assignments & Electric Bus Replacement Ratio

Figures 2 and 3 show a summary of LACMTA's week-day scheduled bus assignments. An "assignment" is a piece of work encompassing the time and mileage from when a bus first leaves a depot and enters service to when that bus returns to the depot. Figure 2 plots the weekday bus assignments based on accumulated mileage (miles) before the bus returns to the depot, and Figure 3 plots the assignments based on the accumulated time (hours) before the bus returns to the depot.

There are 2,878 daily bus assignments handled by 1,908 peak buses. That means that approximately 938 buses (49%) do one assignment per day, and 970 buses (51%) do two assignments per day. In general buses that do two assignments per day go out early in the morning to cover the morning peak period, return to the depot in late morning, and then leave the depot again in mid-afternoon to cover the afternoon peak. These buses generally spend three to six hours parked at the depot during mid-day and most will also be parked at the depot for three to six hours again in the late evening/early morning.

As shown on Figures 2 and 3, about 30% of all assignments are longer than 12 hours and 125 miles, and these are the assignments that are typically handled by buses that do only one assignment per day. These assignments average 165 miles and 15 hours per day in service. The remaining 70% of assignments, which are typically handled by buses that do two assignments per day, average 62 miles and 4.7 hours per day in service. That means that the buses that handle these assignments (two per day) generally average 124 miles and 9.4 hours per day in service.

Figure 2. LACMTA Weekday Bus Assignments, Percent versus Accumulated Miles in Service

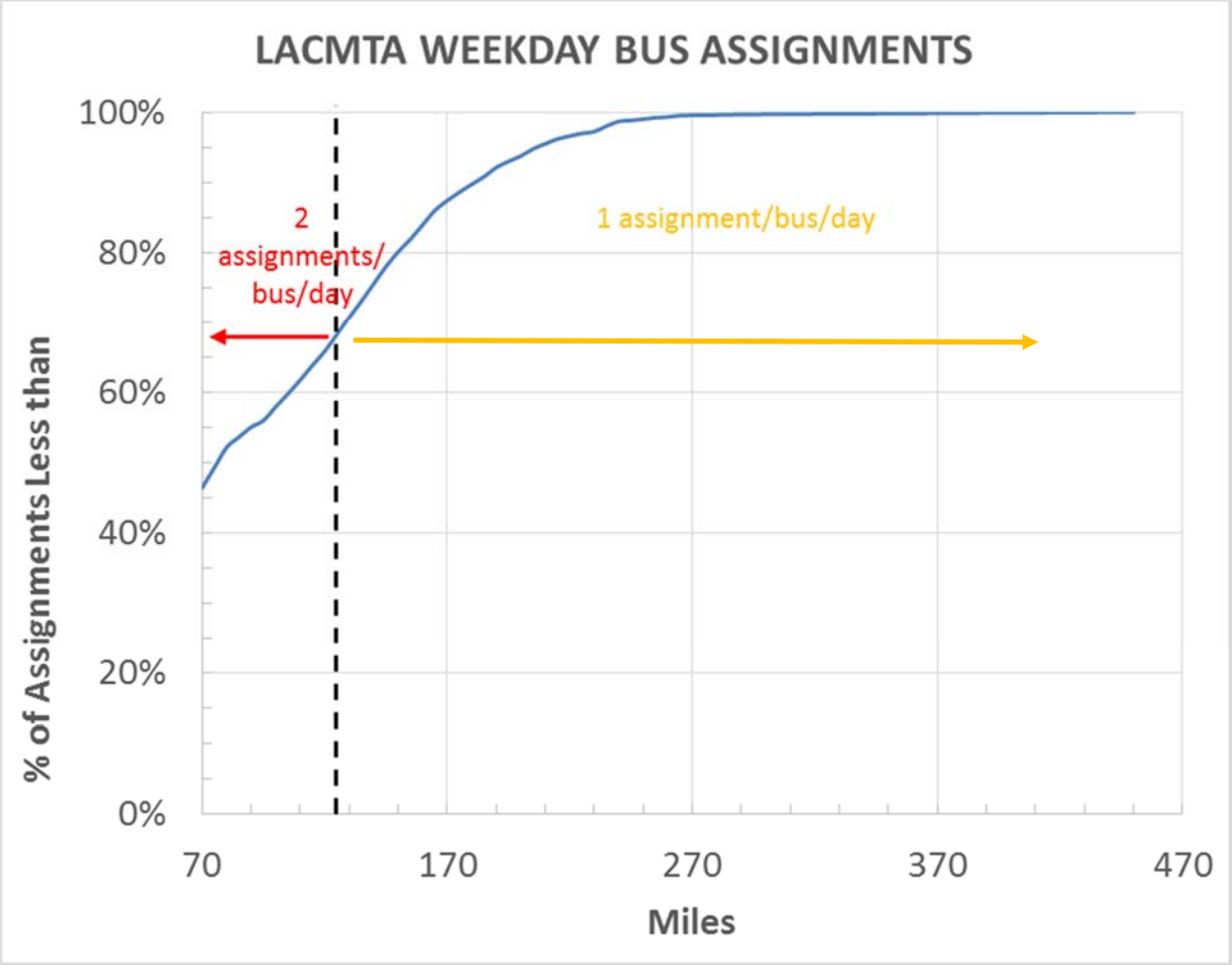
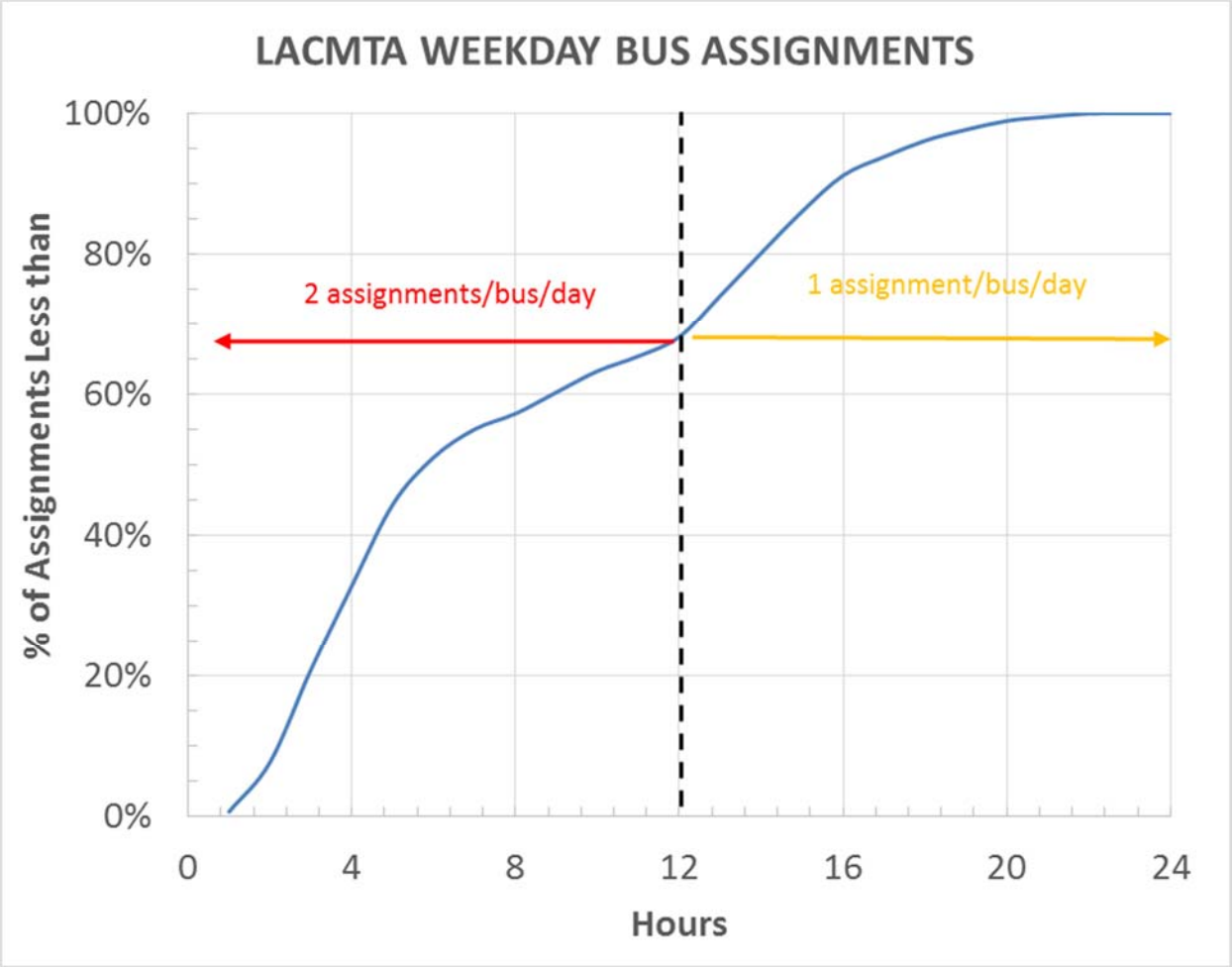


Figure 3. LACMTA Weekday Bus Assignments, Percent versus Accumulated Time in Service



When at the depot, LACMTA buses are parked nose-to-tail in adjacent parking lanes. As such, bus pull-outs for service are based on first-in, first-out; i.e. when a bus operator leaves for his or her assignment they take the first bus in line. When they return from service they park the bus in whatever spot is available. Given this, it is difficult, if not impossible, to dedicate specific buses to specific routes or assignments, except on a limited basis. Every bus of a given size assigned to a depot must be usable for every assignment operated from the depot on which that size bus is used. This means that in practical terms: 1) electric buses must have sufficient range per charge to handle every daily assignment, or 2) long assignments (miles) must be broken up into shorter assignments to accommodate actual electric bus range, or 3) depot charging of electric buses must be supplemented by in-route charging. Option 2, the break-up of long bus assignments into shorter assignments will increase the number of peak buses required compared to the current fleet of CNG buses (i.e. the electric bus replacement ratio will be greater than 1).

As discussed above in Section 2.1, this analysis assumes that model year 2025 – 2034 electric buses will have a practical, reliable range of 124 miles/charge in LACMTA service throughout their service life. This is a 34% increase from the current generation of electric buses (model year 2016) which are

estimated to have a reliable range of 85 – 100 miles per charge in LACMTA service[6]. The analysis assumes that battery technology will continue to improve in future years, such that model year 2035 – 2044 electric buses will have a reliable range of 142 miles/charge and model year 2045 – 2055 electric buses will have a reliable range of 161 miles/charge.

Electric buses can replace current CNG buses one-for-one on daily bus assignments, or combinations of assignments, with shorter accumulated mileage than the assumed range per charge. Daily bus assignments longer than the assumed range per charge will need to be reconfigured to create more, shorter assignments, thus increasing the total number of peak buses required, if only depot charging is used.

To determine the number of electric buses required to replace CNG buses in the depot-charging only scenario, the authors calculated the percentage of current daily bus assignments shorter than the assumed range per charge, and then calculated the percentage of peak buses that would be used for these assignments. The percentage of peak buses is smaller than the percentage of assignments, because most if not all buses used for these short assignments do two assignments per day. Next the authors calculated the average daily mileage for all assignments longer than the assumed miles/charge, and the electric bus replacement ratio that would be required to accommodate these longer assignments. Finally the authors calculated a fleet average electric bus replacement ratio, which is a weighted average of peak buses needed to accommodate short assignments (1:1 replacement) and buses needed to accommodate the current long assignments (greater than 1:1 replacement ratio). The results of this analysis are shown in Table 4.

Table 4. Estimated Electric Bus Replacement Ration for Depot charging-only Scenario

	Model Year 2016	Model Year 2025 - 2034	Model Year 2035 - 2044	Model Year 2045 - 2054
Projected Electric Bus range/charge [miles]	93 mi	126 mi	142 mi	161 mi
% of Bus Assignments <range/charge	55%	68%	75%	84%
% of Peak Buses with daily mileage < range per charge	42%	51%	55%	59%
Average Daily Mileage for Bus Assignments > range/charge	152 mi	168 mi	177 mi	190 mi
Replacement Ratio for Assignments > range/charge	1.70	1.34	1.27	1.19
FLEET AVERAGE REPLACEMENT RATIO	**1.41**	**1.17**	**1.12**	**1.08**

6 Projected range varies by bus manufacturer based on differences in installed battery capacity (kWh) and projected average energy use (kWh/mi).

As shown in Table 4, in the 2025 – 2034 time frame 1.17 electric buses would be required to replace one CNG bus if charging is done only at the depot. In the 2035 – 2044 time frame this electric bus replacement ratio drops to 1.12, and it drops further to 1.08 after 2045.

2.3 Other Assumptions

Table 5 lists the major assumptions used in the fleet cost and emissions models, as well as the source of these assumptions.

All costs in Table 5 are shown in 2015$. For each year the model escalates these values based on assumed annual inflation, to calculate yearly total costs in nominal dollars. For net present value calculations these annual nominal dollar totals are then discounted back to 2015$ based on an assumed discount rate.

Table 5a. Major Assumptions and Data Sources Used in Fleet Cost & Emissions Model – LACMTA System Characteristics

5A: LACMTA SYSTEM CHARACTERISTICS		
Metric	*Data Sources*	*Values/Notes*
Average Annual Total Miles per bus	LACMTA, National Transit database, 2013	38,000 miles
Average Annual Revenue Miles per bus	LACMTA, National Transit database, 2013	32,000 miles
Fleet Spare Factor	LACMTA policy	20%
Average Daily Total Miles per Bus	MJB&A analysis	130 miles; (annual miles/bus ÷ (365 day/yr x (1-spare factor))
Average In-service Bus Speed (MPH)	LACMTA, National Transit database, 2013	12.1 MPH; total bus miles ÷ total bus hours
Average Daily in-Service Hours per bus	LACMTA, National Transit database, 2013; MJB&A analysis	10.8 hours; average daily miles ÷ average in-service speed
Bus Retirement age	LACMTA policy	14 years
In-service Bus Lay-over Time	LACMTA Service Planning	10 minutes per hour of driving
Total Lay-over (Terminal) Locations, System-wide	LACMTA Service Planning	280 = 140 bus lines x 2 Terminal/line (one at each end)
2015 Bus Operator Labor Cost ($/hr)	LACMTA Service Planning	$33.50/hour; includes direct fringe benefits
Bus Operator Availability (%)	LACMTA Service Planning	80%
Bus Operator % of shift time driving	LACMTA Service Planning	83%

Table 5b. Major Assumptions and Data Sources Used in Fleet Cost & Emissions Model – Fuel Costs

5B: FUEL COSTS		
Metric	*Data Sources*	*Values/Notes*
Natural Gas (2015)	LACMTA Fuel report	Actual average cost for 2015, $0.780/therm, includes cost of fuel station maintenance and operation. This price implicitly includes California Low Carbon Fuel Standard (LCFS) credits that can be earned by the natural gas supplier, and which are wholly or partially passed on to LACMTA via commercial market pricing.
Renewable Natural Gas (2015)	LACMTA Procurement	Assume that purchase cost of renewable natural gas will be the same as standard natural gas, at $0.780/therm in 2015. This is based on LACMTA market research showing that there are multiple providers willing to provide renewable gas at this rate today. This price implicitly includes California Low Carbon Fuel Standard (LCFS) credits that can be earned by the RNG fuel supplier, and which are wholly or partially passed on to LACMTA via commercial market pricing.
Electricity (2015)	Southern California Edison, *Schedule TOU-8, Time-of-Use General-Service Large; Cal. PUC Sheet No. 53221-E* California Air Resources Board, Final Regulation Order, Subchapter 10 Climate Change, Article 4 Regulations to Achieve Greenhouse Gas Emission Reductions, Subchapter 7 Low Carbon Fuel Standard MJB&A Analysis	TOU-8 is the electric rate applicable to large commercial customers in Los Angeles with expected usage greater than 500 kW. The rate is composed of delivery and generation energy charges ($/KWh) which vary by time of day (off-peak, mid-peak, and high-peak) and season (summer, winter). There are also monthly facility demand charges ($/kW) based on over-all peak demand within the month and monthly time-based demand charges ($/kW) based on monthly peak demand within each daily rate period (off-peak, mid-peak, and high-peak) over the month. Based on an analysis of scheduled daily LACMTA service (% of buses in service and at the depot by time of day), MJB&A determined that approximately 64%, 32%, and 5% of electric bus depot charging would occur during off-peak, mid-peak, and high-peak periods, and that approximately 24%, 65%, and 11% of in-route charging would occur during off-peak, mid-peak, and high-peak periods.

5B: FUEL COSTS		
Metric	*Data Sources*	*Values/Notes*
		Based on this charging distribution the average annual cost of electricity in 2015 under Southern California Edison's TOU-8 rate would be $0.172/kWh for depot charging and $0.143/kWh for in-route charging. Based on an assumption of constant daily production during only off-peak and mid-peak hours the average annual cost of electricity for hydrogen production in 2015 would be $0.1061/kWh under the TOU-8 rate. LACMTA can earn credits under California's low carbon Fuel Standard (LCFS) for battery electric bus charging. Available credits in each year were calculated using the procedures outlined in the LCFS Final Regulation Order, and assuming a credit value of $100 per metric ton of CO_2 reduction, which is the current market value of LCFS credits. These credits were then deducted from LACMTA's projected cost of purchasing electricity, to yield their net cost of electricity for battery bus charging. Projected LCFS credits are $0.118/kWh in 2015, increasing to $0.127/kWh in 2055 as the projected carbon intensity of electricity production falls over time. LACMTA's net electricity costs for battery bus charging are projected to be $0.053/kWh for depot charging and $0.025/kWh for in-route charging in 2015.
Hydrogen (2015)	National Renewable Energy Laboratory, *H2FAST: Hydrogen Financial Analysis Scenario Tool,* April, 2015, Version 1.0 California Air Resources Board, Final Regulation Order, Subchapter 10 Climate Change, Article 4 Regulations to Achieve Greenhouse Gas Emission Reductions,	Hydrogen production via steam reforming (SMR) assumes 1.7 therms NG and 10 kWh electricity input per kg or hydrogen produced. The model also assumes $0.25/kg maintenance and operating cost, which equates to approximately $300,000 per station/year with one station per depot. Hydrogen production via electrolysis assumes 50 kWh electricity input per kg hydrogen produced in 2015, falling to 44.7 kWh/kg in 2025 and later years. The 2025 value is consistent with US Department of Energy research and development targets and equates to 75% net efficiency (the theoretical minimum energy requirement is 33 kWh/kg). The model also assumes $0.35/kg maintenance and operating

5B: FUEL COSTS		
Metric	*Data Sources*	*Values/Notes*
	Subchapter 7 Low Carbon Fuel Standard MJB&A Analysis	cost, which equates to approximately $420,000 per station/year with one station per depot. Using these assumptions LACMTA's cost of hydrogen production is projected to be $2.64/kg using SMR and $5.65/kg using electrolysis in 2015, not including amortized capital costs for the production equipment, which is calculated separately and included in capital costs. LACMTA can earn credits under California's low carbon Fuel Standard (LCFS) for fuel cell bus hydrogen production. Available credits in each year were calculated using the procedures outlined in the LCFS Final Regulation Order, and assuming a credit value of $100 per metric ton of CO_2 reduction, which is the current market value of LCFS credits. These credits were then deducted from LACMTA's projected cost of producing hydrogen, to yield their net cost of producing hydrogen. Projected LCFS credits are $1.03/kg in 2015, resulting in net hydrogen production costs in 2015 of $1.60/kg for SMR and $4.62/kg for electrolysis.
Annual Fuel Cost Inflation	Energy Information Administration, Annual Energy Outlook 2016 early release, *Table 3.9, Energy Prices by Sector & Source, Pacific region, May 2016*	Projections for % change in annual nominal price of natural gas and electricity used for transportation (reference case), through 2040; for 2041 – 2055 assumed average rate for 2031 – 2040.

Table 5c. Major Assumptions and Data Sources Used in Fleet Cost & Emissions Model – Emissions Factors

5C: EMISSIONS FACTORS		
Metric	*Data Sources*	*Values/Notes*
CNG bus tailpipe NOx, PM, CH_4 (g/mi)	California Air Resources Board, EMFAC2014	Season - annual; Sub area - Los Angeles (SC); vehicle class – UBUS; Fuel – NG; Process – RUNEX; Speed Time - Weighted average of bins 5 through 30 to simulate urban bus duty cycle with 12.5 MPH average speed. Values calculated for each model year in each calendar year.
Low NOx CNG bus tailpipe NOx, PM, CH_4 (g/mi)	California Air Resources Board Executive Orders A-021-0631 and A-021-0629	NOx, PM, and CH_4 g/mi emissions assumed to be proportionally lower than emissions from standard CNG buses of the same model year based on model year 2016 certified engine emissions for Low NOx and standard CNG engines. NOx emissions assumed to be 92% lower (0.01 g/bhp-hr vs 0.13 g/bhp-hr), CH_4 g/mi emissions assumed to be 72% lower (0.56 g/bhp-hr vs 1.97 g/bhp-hr) and PM emissions assumed to be 50% lower (0.001 g/bhp-hr vs 0.002 g/bhp-hr).
CNG and Low NOx CNG bus tailpipe CO_2 (g/mi)	U.S. Department of Energy, *Alternative Fuels & Advanced Vehicles Data Center* (www.afdc.energy.gov/afdc/fuels/properties.html)	5,593 g CO_2/therm, assuming NG with 22,453 btu/lb (high heating value) and 75.5% carbon by weight (90% methane and 10% ethane by volume). Gram/mile emissions = Fuel use (therm/mi) x g CO_2/therm.
Natural Gas Upstream CO_2, NOx, PM, CH_4 (g/therm)	Argonne national Laboratory, *The Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (GREET) Model,* as modified by California Air Resources Board to reflect California conditions (CAGREET)	CA GREET was used to calculate upstream emission rates (g/mmbtu, g/therm) for pipeline natural gas and renewable natural gas. The emission rates for renewable natural gas assume the following mixture of production sources: 100% landfill, 0% animal waste, and 0% wastewater treatment plant. These assumptions are conservative; LACMTA has not yet determined actual production sources for commercially available RNG. Inclusion of gas produced from wastewater treatment plants and/or food waste would further reduce emissions of both GHG and NOx compared to current assumptions.
Renewable Natural Gas Upstream CO_2, NOx, PM, CH_4 (g/therm)		
Hydrogen Production CO_2, NOx, PM, CH_4 (g/kg)	G. Saur and A. Milbrandt, National Renewable Energy Laboratory, *Renewable Hydrogen Potential from Biogas in the United States*,	

5C: EMISSIONS FACTORS		
Metric	*Data Sources*	*Values/Notes*
	NREL/TP-5400-60283, July 2014	CA GREET was used to calculate upstream emission rates (g/mmbtu, g/kg) for production of hydrogen using SMR. All upstream emission rates for natural gas, renewable natural gas and SMR hydrogen are assumed to be constant throughout the analysis period. For production of hydrogen using electrolysis, emission rates (g/kg) were determined by multiplying the electrical energy required for production (kWh/kg) by emission rates for electricity generation (g/kWh). For standard natural gas, including the natural gas used for production of hydrogen via SMR, the following components of upstream NOx and PM emissions are assumed to be emitted within the South Coast Air Basin: 7.4% of emissions from "natural gas transmission to fueling station" (50 out of 680 pipeline miles) and 100% of emissions from compression. The following components of natural gas upstream NOx and PM emissions are assumed to be emitted outside of the South Coast Air Basin: 100% of emissions from natural gas recovery and processing; and 92.6% of emissions from natural gas transmission to fueling station (630 out of 680 pipeline miles). For RNG, 25% of NOx and PM emissions from "natural gas transmission to fueling station" (50 out of 200 pipeline miles) are assumed to be in-basin, as well as 100% of emissions from RNG compression. Emissions from production and processing of RNG are attributed as in-basin or out-of-basin depending on the location of the RNG sources. The model assumes that in 2018 100% of RNG will be from out-of-basin sources, but that over time a greater percentage of RNG will be from in-basin sources, rising to 30% by 2055. NREL's

5C: EMISSIONS FACTORS		
Metric	*Data Sources*	*Values/Notes*
		projections of bio-methane potential from all sources shows that approximately 30% of potential bio-methane in California is attributed to sources located within the South Coast Air basin. All emissions from production and compression of hydrogen produced via SMR are assumed to be in-basin.
Electricity Generation CO_2, NOx, PM, CH_4 (g/kWh)	Argonne national Laboratory, *The Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (GREET) Model,* as modified by California Air Resources Board to reflect California conditions (CAGREET) ARB targets for renewable generation through 2050 ABB Velocity Suite™ database of electric generating units within CAISO	CA GREET was used to calculate 2015 and 2020 emission rates (g/kWh) for each discrete electric generating source type used in California: wind, solar, geothermal, hydroelectric, nuclear, biomass, natural gas, and coal. For each pollutant in each calendar year the model uses source-weighted average emissions factors calculated by multiplying the emission factor for each source type by the assumed percentage of electricity produced by that source type in California that year. The assumptions for percentage of generation by source type match the California Air Resources Board's published targets for increases in zero-emitting and renewable resources through 2050. For example, the model assumes that there will be no electricity generation using coal after 2027, and that zero-emitting sources will increase from 46% of total generation in 2015 to 78% in 2050. At the same time, generation with natural gas will fall from 53% of total generation in 2015 to 22% in 2050. CA Greet indicates that emission rates (g/kWh) of NOx, PM, CO_2, and CH_4 will fall between 2015 and 2020 for nuclear, natural gas, biomass, and coal generating sources, presumably based on improvements in efficiency and/or addition of emission controls in response to regulation. The difference in emission rates between 2015 and 2020 were used to calculate an annual adjustment factor for each pollutant and generating source,

5C: EMISSIONS FACTORS		
Metric	*Data Sources*	*Values/Notes*
		which was applied in each year of the analysis – i.e. emission rates were assumed to continue to improve at the same annual rate through 2055, which is a conservative assumption. To determine the percentage of NOx and PM emissions emitted within the South Coast Air Basin from electricity generation under each scenario, the ABB Velocity Suite™ database was used to determine the percentage of current generation (MWh) within the California Independent System Operator (CAISO) territory produced by generating plants located in the South Coast Air Basin. In 2013 approximately 22.2% of total CAISO generation by natural gas-fired plants was from plants within the basin, while O% of coal generation was from plants within the basin and 9.4% of biomass generation was from plants within the basin. These percentages were applied separately to the emission factors for each type of generation to calculate weighted average NOx and PM emission factors (g/kWH) within and outside the basin. The analysis assumes that total gas generation will fall each year through 2050, while total biomass generation will increase; however the percentage of total generation from plants of each type within the basin is assumed to stay constant.

Table 5d. Major Assumptions and Data Sources Used in Fleet Cost & Emissions Model – CNG Buses

5D: CNG BUSES		
Metric	*Data Sources*	*Values/Notes*
Purchase Cost (2015 $)	LACMTA Maintenance Department	$490,000 per bus. This is the actual price paid by LACMTA for 40-ft CNG bus purchases in 2013.
Mid-Life Overhaul Cost (2015 $)	LACMTA Maintenance Department	$35,000 per bus. This is the actual average cost for overhauls completed in 2014.
Maintenance Cost ($/mi)	LACMTA maintenance records for 2013 - 2014	Average cost of $0.850/mile for buses near mid-life (7 years old). 35% of costs ($0.30/mi) attributed to propulsion system (engine, transmission, brakes) and 65% attributed to all other bus systems ($0.55/mi).
Fuel Use (therm/mi)	LACMTA fueling records	Average of 0.476 therm/mi.

Table 5e. Major Assumptions and Data Sources Used in Fleet Cost & Emissions Model – Low NOx CNG Buses

5E: LOW NOx CNG BUSES		
Metric	*Data Sources*	*Values/Notes*
Purchase Cost (2015 $)	Environ discussion with Cummins, Inc.	Incremental cost of Low NOx CNG bus compared to standard CNG bus $10,000 through MY2035, falling to $5,000 after MY2045 due to technology maturity.
Repower Cost (2015 $)	LACMTA Maintenance Department	Assume $112,000/bus for repowers in 2015 – 2034, falling to $102,000/bus for repowers in 2045 – 2054. Current cost of repowering LACMTA CNG buses averages $100,000/bus. Low NOx repowers assumed to be more expensive due to incremental cost of Low NOx engine ($10,000) and $2,000/bus for up-front engineering and design work ($200,000 spread over 1,000 buses). Incremental cost of Low NOx engine assumed to decline over time as technology matures.
Mid-Life Overhaul Cost (2015 $)	LACMTA Maintenance Department	Assume that mid-life overhauls for Low NOx engine buses will be $38,000/bus, which is $3,000/bus greater than current mid-life overhaul costs for standard CNG buses. Costs assumed to be higher due to higher cost for re-building Low NOx engine.
Maintenance Cost ($/mi)	LACMTA Maintenance Department	Assume that non-propulsion maintenance costs will be the same as current CNG buses ($0.553/mi) and that propulsion related maintenance costs will be 10% higher ($0.327/mi) for Low NOx engines purchased 2015 – 2024, due to technology immaturity. Assumes that by MY2035 propulsion related maintenance costs for Low NOx engines will be the same as for current buses.
Fuel Use (therm/mi)	California Air Resources Board Executive Orders A-021-0631 and A-021-0629	Assume that fuel use for Low NOx engines will be 0.4% higher than fuel use of current NG engines, based on certified CO_2 emissions of model year 2016 Low NOx engines compared to standard engines (465 g/bhp-hr vs 463 g/bhp-hr).

Table 5f. Major Assumptions and Data Sources Used in Fleet Cost & Emissions Model – Electric Buses

5F: ELECTRIC BUSES		
Metric	*Data Sources*	*Values/Notes*
Purchase Cost (2015 $)	Air Resources Board, Mobile Source Control Division, *Advanced Clean Transit,* May 2015 BYD bus purchase quote to LACMTA Discussion with battery electric bus manufacturers, BYD, Proterra, and New Flyer	Current costs (MY2016) are estimated to be $760,000 per bus for depot-only charging and $810,000 per bus for depot and in-route charging. The increased cost for in-route charging is for inductive charge receiver on the bus. Based on discussion with bus manufacturers, industry average battery bus purchase costs (depot charging, 2015$) are projected to fall to $657,000 in MY2025, $632,000 in MY2035, and $631,000 in MY2045. These costs reflect significant projected reductions in battery pack costs ($/kWh, 2015$), but also significant increases in battery pack size (kW) over time, based on increased energy density. The model assumes no reduction in costs (2015$) over time for bus systems other than the battery pack; the majority of the cost of a bus is in items and systems (steel structure, doors, windows, suspension system, etc.) that will be common between electric and CNG buses, which are not expected to change. Increases in battery energy density are projected based on current research efforts by battery manufacturers. Reductions in battery costs are projected based on research efforts as well as projected increases in manufacturing volume, primarily based on increased sales of light-duty electric vehicles. Cell level battery costs are projected to fall from an industry average of $417/kWh (2015$) today to $150/kWh in 2025 and $100/kWh in 2035 and later years (2015$). Total battery pack costs (including physical structure, battery management system, and manufacturing labor and overhead) are projected to fall from an industry average of $740/kWh today to $358/kWh in 2025, $275/kWh in 2035, and $258/kWh in 2045 (all in 2015$).

5F: ELECTRIC BUSES		
Metric	*Data Sources*	*Values/Notes*
		Installed battery pack size is projected to increase from an industry average of 330 kWh today to 420 kWh in 2025, 450 kWh in 2035, and 482 kWh in 2045. The above values represent a conservative, but realistic assessment of industry average costs. There was a significant range of values provided by different bus manufacturers, with some stated projections significantly more optimistic than others (lower battery cost and higher energy density).
Mid-Life Overhaul Cost (2015 $)	BYD purchase quote to LACMTA Discussion with battery electric bus manufacturers, BYD, Proterra, and New Flyer	Based on discussion with bus manufacturers, this analysis assumes that the drive motor and inverter on electric buses will need to be replaced/overhauled at mid-life at a cost of $30,000. This analysis also assumes that all electric buses will have their battery packs overhauled at mid-life by replacing the battery cells (but not the physical structure). See discussion of battery life in section 2.1.3. Mid-life battery overhaul costs are based on pack size (kW) and assumed cell costs ($/kWh) discussed above under electric bus Purchase Cost, plus 30% for labor. This results in total mid-life overhaul costs of $84,600 for MY2025-MY2034 electric buses, $88,500 for MY2035 – MY2044 electric buses, and $92,700 for MY2045 – MY2054 electric buses.
Maintenance Cost ($/mi)	MJB&A analysis	Non-propulsion related costs assumed to be same as CNG, $0.553/mi. Propulsion-related costs (drive motor, inverter, brakes) assumed to be half the cost of CNG buses ($0.149/mi).
Fuel Use (kWh/mi)	40-ft electric bus in-service test at LACMTA Bus Testing and Research Center, Pennsylvania Transportation Institute; Federal Transit Bus Test;	MY 2025 electric buses used in LACMTA service are projected to average 2.5 kWh/mi energy use; this fleet average is projected to fall to 2.4 kWh/mi for MY2035 buses and 2.3 kWh/mi for MY2045 buses. See section 2.1.2 for discussion of how these values were derived.

5F: ELECTRIC BUSES		
Metric	*Data Sources*	*Values/Notes*
	Report Number LTI-BT-R1307, June 2014; Report Number LTI-BT-R1405, July 2015; Report Number LTI-BT-R1406, May 2015 Discussion with electric bus manufacturers BYD, Proterra, and New Flyer MJB&A Analysis	
Range (mi/charge)	Discussion with battery electric bus manufacturers, BYD, Proterra, and New Flyer MJB&A Analysis	MY 2025 electric buses are assumed to have range per charge of 126 miles, increasing to 142 miles for MY2035 and 161 miles for MY2045. These values represent industry average, reliable daily range at bus mid-life. See Section 2.1 for a full discussion of how these values were derived.

Table 5g. Major Assumptions and Data Sources Used in Fleet Cost & Emissions Model – Fuel Cell Buses

5G: FUEL CELL BUSES		
Metric	*Data Sources*	*Values/Notes*
Purchase Cost (2015 $)	Letter from New Flyer to Air Resources Board Air Resources Board, Mobile Source Control Division, *Advanced Clean Transit,* May 2015 E. den Boer, et al, CE Delft, *Zero emissions trucks: An overview of state-of-the-art technologies and their potential,* Report Delft, July 2013	Current cost (MY 2016) is $1,300,000 per bus. Per a letter from New Flyer to Air Resource Board the cost for MY2025 buses (2015$) is assumed to be $920,000, falling to $690,000 in MY2035 (-25%) and $598,000 in MY2045 (-35%). Assumed cost reductions for MY2035 and MY2045 are per estimates by CE Delft.
Mid-Life Overhaul Cost (2015 $)	LACMTA Maintenance Department E. den Boer, et al, CE Delft, *Zero emissions trucks: An overview of state-of-the-art technologies and their potential,* Report Delft, July 2013 MJB&A Analysis	Mid-life overhaul costs assumed to be the same as for CNG bus mid-life plus the cost of replacing the fuel cell stack. Fuel cell stack replacement assumed to be $300,000 for MY2025 – MY2034 buses, $125,000 for MY2035 – MY2044 buses, and $50,000 for MY2045 – MY2054 buses, based on projected future cost differential between CNG and fuel cell buses at time of overhaul.
Maintenance Cost ($/mi)	L. Eudy and M. Post, National Renewable Energy Laboratory, *Zero Emission Bay Area (ZEBA) Fuel Cell Bus Demonstration Results: Fourth Report,* July 2015	Non-propulsion related costs assumed to be same as CNG, $0.553/mi. Current generation fuel cell buses have propulsion related costs at least 33% higher than diesel buses. For this analysis propulsion related costs assumed to be 20% higher than CNG buses for MY2025 – MY2034 buses, falling to only 10% higher for MY2045-MY2054 buses due to technology maturity.

5G: FUEL CELL BUSES		
Metric	*Data Sources*	*Values/Notes*
H_2 Fuel Use (kg/mi)	L. Eudy and M. Post, National Renewable Energy Laboratory, *Zero Emission Bay Area (ZEBA) Fuel Cell Bus Demonstration Results: Fourth Report*, July 2015	Average H_2 fuel use for current generation buses is 0.156 kg/mi. This value used for MY2025 – MY2034 buses. Assumed 5% reduction for MY2035-MY2044 buses, and 10% reduction for MY2045 -MY2054 buses due to technology maturity.

Table 5h. Major Assumptions and Data Sources Used in Fleet Cost & Emissions Model – Fueling Infrastructure – Electric Buses

5H: FUELING INFRASTRUCTURE – ELECTRIC BUSES		
Metric	*Data Sources*	*Values/Notes*
Depot Chargers ($/kW)	J. Agenbroad, Rocky Mountain Institute, *Pulling Back the Veil on EV Charging Station Costs,* April 29, 2014 *http://blog.rmi.org/blog_2014_04_29_pulling_back_the_veil_on_ev_charging_station_costs* Recent LACMTA experience installing chargers for BYD electric buses	LACMTA facilities department estimates a cost of $500/kW to upgrade depot electrical infrastructure, plus $10,000 per bus for the charge adapter, based on a full depot roll-out of electric buses. This equates to $30,000/bus for required 40 kW chargers. Model assumes 2,000 depot chargers will be required, one for each daily in-service bus. Daily in-service buses = Fleet assignment x (1-spare factor %). Annual maintenance costs for depot chargers are assumed to be 10% of installed capital cost.
In-route Chargers ($/kW)		Installed cost of $4,000/kW, based on $80,000 for public, 20 kW DC inductive fast-charger. In-route chargers assumed to be more expensive than depot-based chargers due to need to secure right-of-way, longer feeder runs, and installation of inductive charging pad. Model assumes that 308 in-route chargers will be required, which is one at each terminal point of 140 bus routes, plus 10%; some existing terminal locations routinely hold more than one bus at a time and would require more than one charger. Annual maintenance costs for in-route chargers are assumed to be 10% of installed capital cost.
Size (kW)	MJB&A analysis	Charger size (depot and in-route) based on average daily energy requirement (kWh) and available charging time (hr). Average daily energy requirement based on average daily miles times average energy use (kWh/mi). Depot charger size is 40 kW; In-route charger size is 20 kW.

Table 5i. Major Assumptions and Data Sources Used in Fleet Cost & Emissions Model – Fueling Infrastructure – Fuel Cell Buses

5I: FUELING INFRASTRUCTURE – FUEL CELL BUSES		
Metric	*Data Sources*	*Values/Notes*
SMR Cost ($/kg/day)	M. Melaina and M. Penev, National Renewable Energy Laboratory, *Hydrogen Station Cost Estimates, Comparing Hydrogen Station Cost Calculator Results with other Recent Estimates,* Technical Report NREL/TP-5400-56412, September 2013	$5,150/kg/day for stations built 2025 – 2034, and $3,370/day for stations built after 2034. These values represent a 70% and 80% reduction in costs, respectively, compared to recently built hydrogen fuel stations.
Electrolyzer Cost ($/kg/day)		
Required Capacity (kg/day)	MJB&A analysis	Required hydrogen production/dispensing capacity based on number of buses, daily mileage (mi/day), and average fuel use (kg/mi). Early buses will require 20 kg/bus/day and later buses will require only 18 kg/bus/day based on improved fuel economy due to technology maturity.

Table 5j. Major Assumptions and Data Sources Used in Fleet Cost & Emissions Model – Depot Expansion and Modifications

5J: DEPOT EXPANSION AND MODIFICATIONS		
Metric	*Data Sources*	*Values/Notes*
Depot Expansion ($/incremental bus)	LACMTA Engineering Department	$67,500/bus, applicable only to fleet expansion for electric buses with depot-only charging. Fleet expansion is required because electric buses cannot replace current buses one-for one due to limited range. This cost is based on $500/sf for depot maintenance bays and $100/sf for bus parking areas, but is discounted by 50% due to potential excess capacity within the system based on future operational changes.
Depot Parking Expansion ($/charger)	LACMTA Engineering Department	Assumes that each depot-based electric charger will require 200 square feet of space for installation in depot parking areas. This will require expansion of parking areas to maintain bus parking capacity. Cost of new bus parking areas assumed to be $100/sf. Total cost of additional bus parking space is $20,000 per charger.
Maintenance & Diagnostic Equipment ($/bus)	BYD electric bus quote to LACMTA for electric bus diagnostic equipment	Average cost of $200/bus, applicable to all new Electric and Fuel Cell buses, based on recent BYD quote.
H_2 Detection and Ventilation Upgrade Cost ($/bus)	L. Eudy and M. Post, National Renewable Energy Laboratory, *Zero Emission Bay Area (ZEBA) Fuel Cell Bus Demonstration Results: Fourth Report,* July 2015	Average costs of $28,000/bus, applicable to all new Fuel Cell buses. This is based on costs of $350,000 per maintenance bay incurred by AC Transit, and an average of one maintenance bay per 12.6 buses.

Table 5k. Major Assumptions and Data Sources Used in Fleet Cost & Emissions Model – Global Economic Assumptions

5K: GLOBAL ECONOMIC ASSUMPTIONS		
Metric	*Data Sources*	*Values/Notes*
Annual Inflation, Bus and Infrastructure Purchase and Maintenance and Bus Operator Labor	Energy Information Administration, Annual Energy Outlook 2016, *early release, Table 20 Macroeconomic Indicators*	Projections for average annual % change in annual Wholesale Price Index, Industrial Commodities Excluding Energy (reference case), through 2040; value used is 1.8%.
Discount Rate for Net Present Value Calculations	LACMTA Policy	Value of 4% intended to represent average borrowing cost for LACMTA capital bonds. Note that this rate is generally consistent with the Energy Information Administration's projection of interest rates for 10-year treasury notes over the next 25 years (AEO2016 reference case).
Methane Global Warming Potential (GWP_{100})	Intergovernmental Panel on Climate Change, *Fifth Assessment Report*, 2013	Global warming potential of methane over 100 years relative to CO_2. Value is 25.

3. RESULTS

This section summarizes the detailed results of the fleet cost and emissions analysis for each modeled bus technology/fuel purchase scenario.

3.1 Fleet Costs 2015 - 2055

Table 6 summarizes the total estimated fleet costs from 2015 – 2055 under each scenario in nominal dollars, during the transition to the different bus and fuel technologies. Incremental costs for each scenario compared to baseline are also plotted in Figure 4. See the Executive Summary for the net present value of estimated fleet costs in current dollars (2015).

As shown, the use of RNG by itself is not projected to increase total fleet costs. The use of RNG and the transition to LNOx buses is projected to increase total fleet costs over the next 40 years by $297 million, an increase of 0.8% over projected baseline costs. The increased costs are due to slightly higher fuel and maintenance costs, as well as slightly higher bus purchase and overhaul costs.

The transition to electric buses is projected to increase total fleets costs by $764 million - $1.82 billion over the next 40 years, an increase of 2.1% - 4.9% over projected baseline costs. Exclusive depot charging is projected to be more expensive than depot and in-route charging during the transition.

The electric bus scenarios have increased costs relative to the baseline projection primarily due to increased capital costs for bus purchase and overhaul and for required depot modifications and installation of required fueling infrastructure.

For electric buses total operating costs are projected to be lower than baseline operating costs due to reduced fuel and maintenance costs. For depot-only charging these operating cost reductions are offset by higher bus operator labor costs due to the need to operate a greater number of buses because of electric bus operating range restrictions. Depot-only charging is projected to be more expensive than depot and in-route charging due to this increase in operator labor, as well as increased costs for purchasing a greater number of buses, which more than offsets higher infrastructure costs for route-based chargers.

Table 6. LACMTA Zero Emission Bus Estimated Total Fleet Costs 2015 - 2055 (nominal $ million)

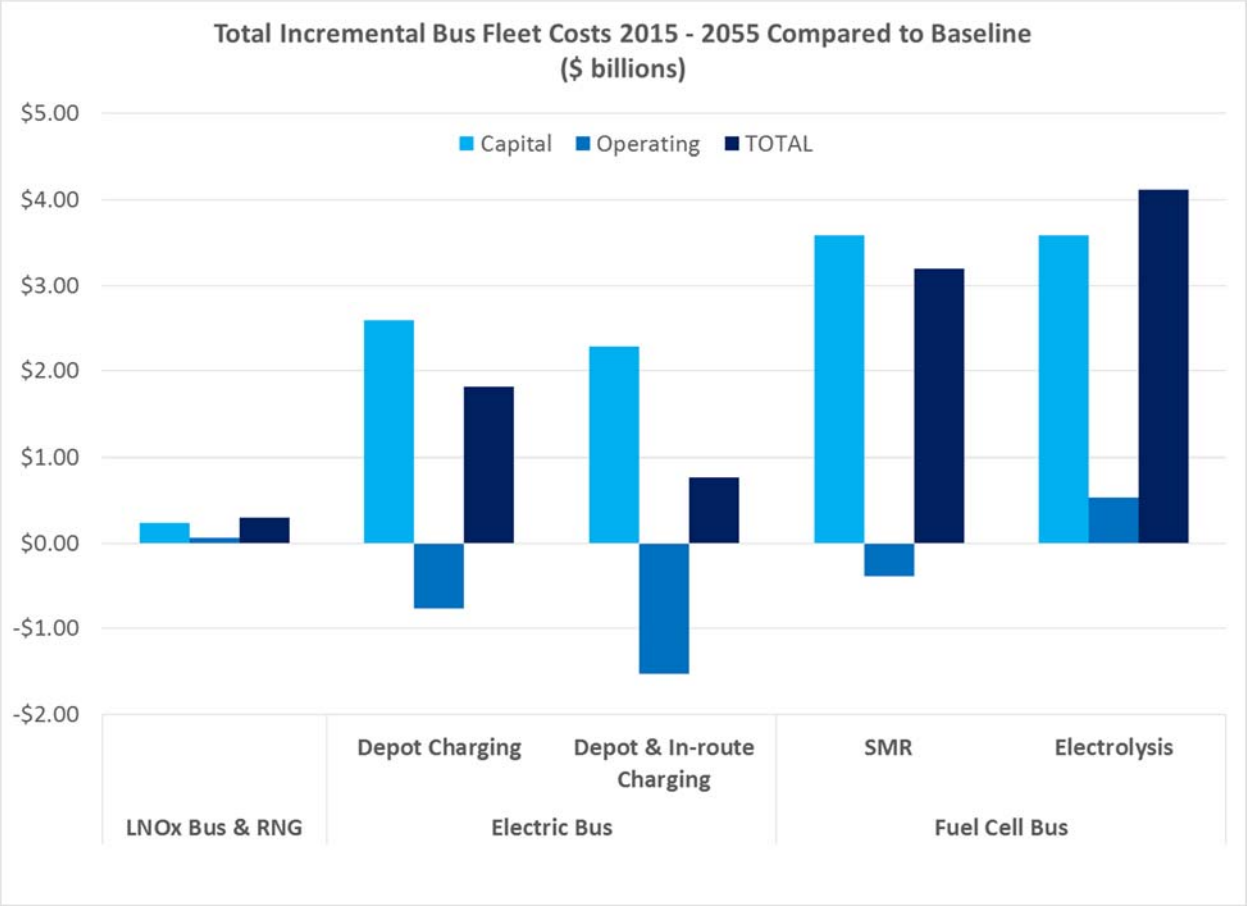
Cost Element		BASELINE	RENEW NG	LOW NOx CNG BUS & REPOWER		ELECTRIC BUS		FUEL CELL BUS	
		Std CNG Bus Conv NG	Std CNG Bus RNG	LNOx Bus Conv NG	LNOx Bus RNG	Depot Charging	Depot & In-Route Charging	H_2 by SMR	H_2 by Electrolysis
Capital	Bus Purchase	$5,177.9	$5,177.9	$5,250.0	$5,250.0	$7,094.2	$6,889.2	$7,101.5	$7,101.5
	Bus Repower			$135.7	$135.7				
	Bus mid-life OH	$369.9	$369.9	$395.1	$395.1	$823.4	$744.1	$1,603.6	$1,603.6
	Depot Mods					$118.7	$72.8	$100.8	$100.8
	Fuel Infra	$0.0	$0.0	$0.0	$0.0	$99.4	$127.7	$324.9	$324.9
	sub-total	*$5,547.8*	*$5,547.8*	*$5,780.9*	*$5,780.9*	*$8,135.7*	*$7,833.7*	*$9,130.7*	*$9,130.7*
Operating	BO Labor	$23,515.6	$23,515.6	$23,515.6	$23,515.6	$24,174.3	$23,515.6	$23,515.6	$23,515.6
	Fuel	$2,958.4	$2,958.4	$2,968.8	$2,968.8	$1,733.3	$1,680.5	$2,396.6	$3,317.9
	Maintenance	$4,793.8	$4,793.8	$4,846.9	$4,846.9	$4,591.7	$4,549.5	$4,968.8	$4,968.8
	sub-total	*$31,267.8*	*$31,267.8*	*$31,331.3*	*$31,331.3*	*$30,499.3*	*$29,745.6*	*$30,881.0*	*$31,802.2*
TOTAL		**$36,815.6**	**$36,815.6**	**$37,112.2**	**$37,112.2**	**$38,635.0**	**$37,579.3**	**$40,011.7**	**$40,933.0**
INCREASE		**NA**	**$0.00**	**$296.59**	**$296.59**	**$1,819.44**	**$763.73**	**$3,196.17**	**$4,117.40**

The transition to fuel cell buses is projected to increase total fleets costs by $3.2 - $4.1 billion over the next 40 years, an increase of 8.7% - 11.2% over projected baseline costs.

Fuel cell buses are projected to have slightly higher maintenance costs and significantly higher capital costs than the baseline. Fuel costs are projected to be either lower or higher than the baseline, depending on the method of hydrogen production; making hydrogen using electrolysis is projected to be significantly more expensive than making hydrogen using SMR.

Capital costs are higher due to the projected cost of fueling infrastructure, as well as significantly higher bus purchase and overhaul costs.

Figure 4. LACMTA Zero Emission Bus Estimated Incremental Fleet Costs 2015 - 2055 (nominal $)



3.2 Annual Fleet Costs After 2055

Table 7 summarizes the total estimated fleet costs in 2055 under each scenario in nominal dollars. Incremental costs for each scenario compared to baseline are also plotted in Figure 5. This data represents projected on-going annual costs for each bus/fuel technology after fully transitioning the fleet.

As shown, the use of RNG by itself is not projected to increase on-going annual fleet costs. The use of RNG and LNOx buses is projected to increase on-going annual fleet costs by $3.3 million (2055 $), an increase of 0.3% over projected baseline annual costs. The increased costs are due to slightly higher annual fuel costs, as well as slightly higher annual bus purchase and overhaul costs.

The use of electric buses with depot-only charging is projected to increase on-going annual fleet costs by $31 million, an increase of 2.5% over projected baseline costs. The use of electric buses with depot and in-route charging is projected to increase on-going annual fleet costs by $2.7 million, an increase of 0.2% over projected baseline costs.

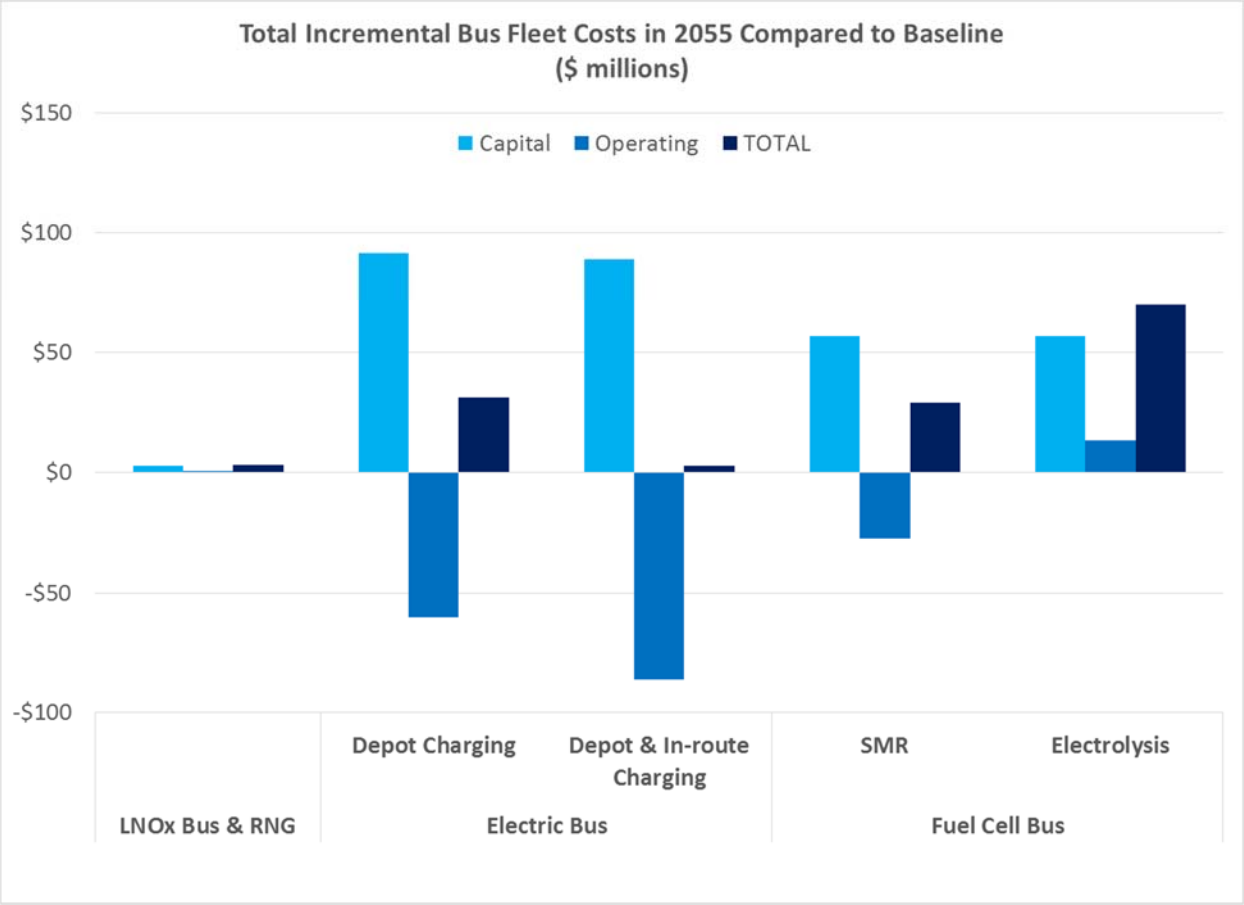
The electric bus scenarios have increased on-going annual costs relative to the baseline projection primarily due to continuing higher annual capital costs for bus purchase and overhaul. These scenarios

have significantly lower annual operating costs for fuel and maintenance, but these savings do not outweigh the increase in amortized capital costs.

Table 7. LACMTA Zero Emission Bus Estimated Annual Fleet Costs in 2055 (nominal $ million)

Cost Element		BASELINE	RENEW NG	LOW NOx CNG BUS & REPOWER		ELECTRIC BUS		FUEL CELL BUS	
		Std CNG Bus Conv NG	Std CNG Bus RNG	LNOx Bus Conv NG	LNOx Bus RNG	Depot Charging	Depot & In-Route Charging	H_2 by SMR	H_2 by Electrolysis
Capital	Bus Purchase	$175.3	$175.3	$177.1	$177.1	$243.6	$243.7	$213.9	$213.9
	Bus Repower			$0.0	$0.0				
	Bus mid-life OH	$12.5	$12.5	$13.6	$13.6	$35.8	$33.1	$30.4	$30.4
	Depot Mods					$0.0	$0.0	$0.0	$0.0
	Fuel Infra	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
	sub-total	*$187.8*	*$187.8*	*$190.6*	*$190.6*	*$279.3*	*$276.9*	*$244.3*	*$244.3*
Operating	BO Labor	$796.0	$796.0	$796.0	$796.0	$818.9	$796.0	$796.0	$796.0
	Fuel	$114.6	$114.6	$115.1	$115.1	$45.8	$43.8	$80.8	$121.5
	Maintenance	$162.3	$162.3	$162.3	$162.3	$147.7	$146.6	$168.8	$168.8
	sub-total	*$1,072.9*	*$1,072.9*	*$1,073.3*	*$1,073.3*	*$1,012.4*	*$986.5*	*$1,045.5*	*$1,086.2*
TOTAL		**$1,260.7**	**$1,260.7**	**$1,264.0**	**$1,264.0**	**$1,291.7**	**$1,263.3**	**$1,289.8**	**$1,330.5**
INCREASE		**NA**	**$0.00**	**$3.32**	**$3.32**	**$31.08**	**$2.67**	**$29.13**	**$69.88**

Figure 5. LACMTA Zero Emission Bus Estimated Incremental Annual Costs in 2055 (nominal $)



The use of fuel cell buses is projected to increase on-going annual fleet costs by $29 - $70 million, an increase of 2.3% - 5.5% over projected baseline costs.

The fuel cell bus scenarios have increased on-going annual costs relative to the baseline projection primarily due to continuing higher annual capital costs for bus purchase and overhaul, as well as slightly higher annual maintenance costs.

On-going annual fuel costs for fuel cell buses are projected to be lower than the baseline projection if hydrogen is produced using SMR, but higher than baseline fuel costs if hydrogen is produced using electrolysis.

3.3 Fleet Emissions 2015 - 2055

Annual estimated fleet emissions of in-basin NOx, out-of-basin NOx, in-basin PM, out-of-basin PM CH_4, CO_2, and GHG between 2015 and 2055 under each bus technology/fuel purchase scenario are shown in figures 6 – 12.

As shown in these figures, under the baseline scenario there is a significant reduction in annual in-basin NOx emissions, and a smaller reduction in CH_4 and GHG emissions, between 2015 and 2020, while CO_2, out-of-basin NOx, and in-basin and out-of-basin PM hold steady. This NOx and CH_4 reduction is due to the retirement of LACMTA's oldest CNG buses, which have significantly higher

tailpipe NOx and CH_4 emissions than the new CNG buses that will replace them under the baseline scenario. After 2020 the baseline scenario shows only minor year-to-year changes in annual emissions of all pollutants from the LACMTA bus fleet.

Figure 6. Estimated Annual Fleet Emissions of in-basin NOx (tons), 2015 – 2055

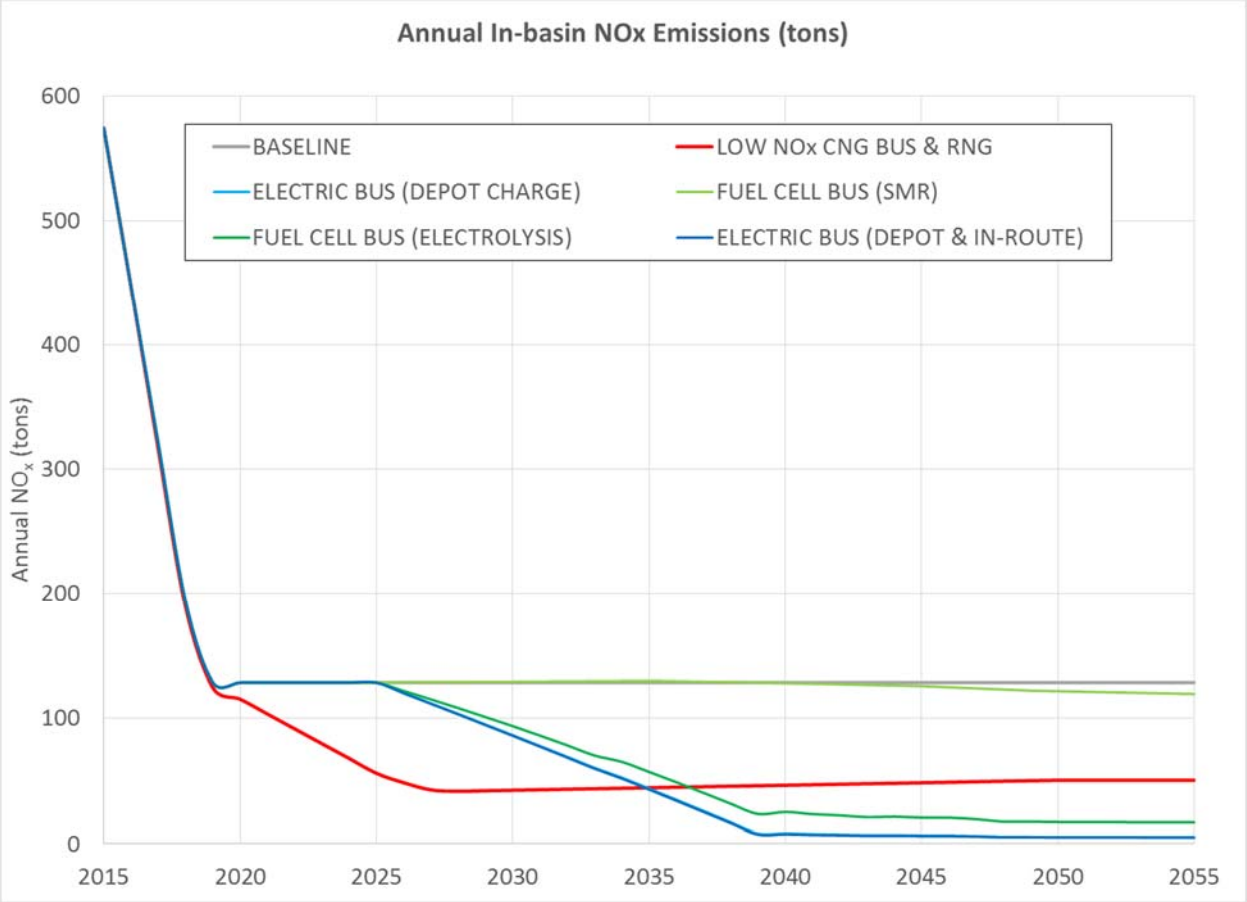


Figure 7. Estimated Annual Fleet Emissions of out-of-basin NOx (tons), 2015 – 2055

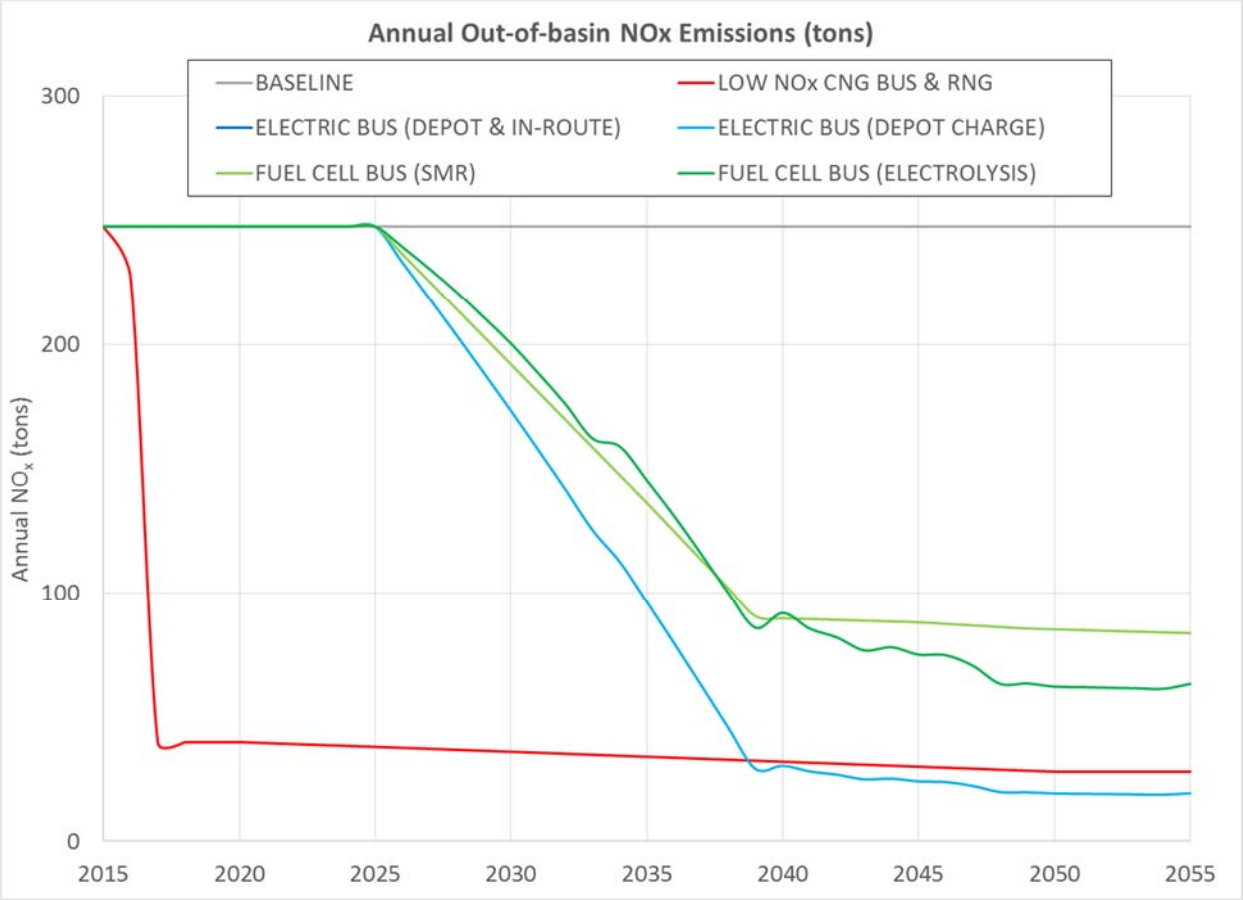


Figure 8. Estimated Annual Fleet Emissions of in-basin PM (tons), 2015 - 2055

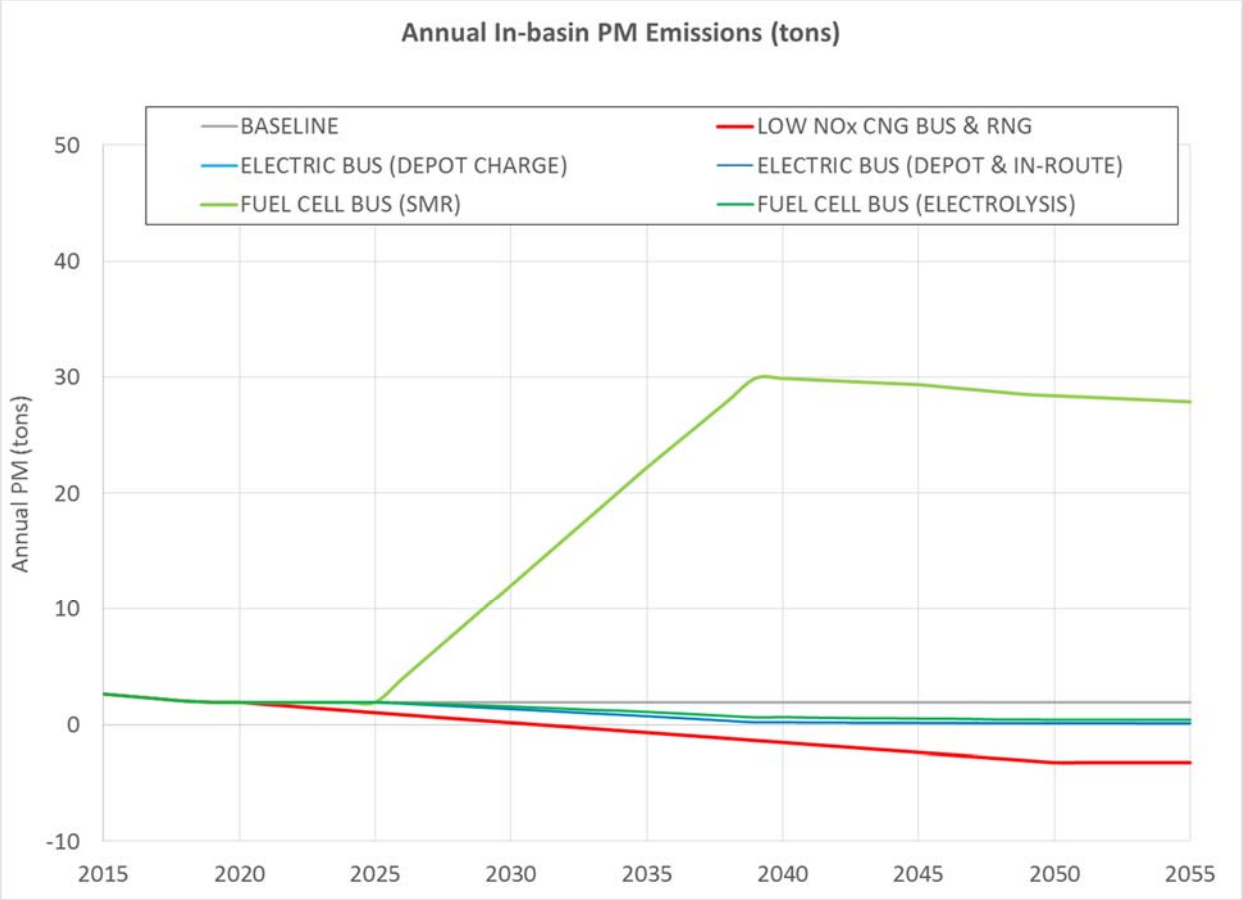


Figure 9. Estimated Annual Fleet Emissions of out-of-basin PM (tons), 2015 - 2055

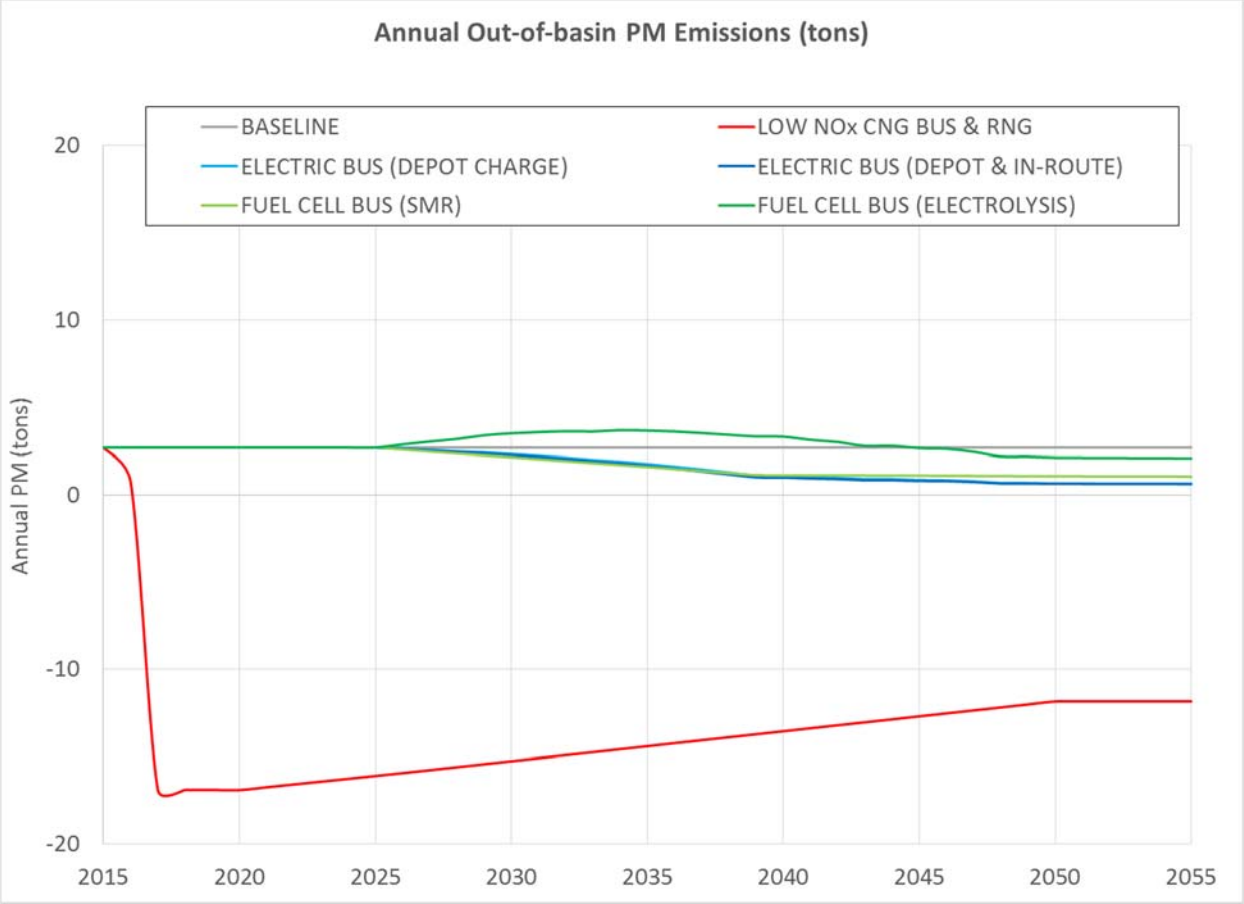


Figure 10. Estimated Annual Fleet Emissions of CH_4 (tons), 2015 - 2055

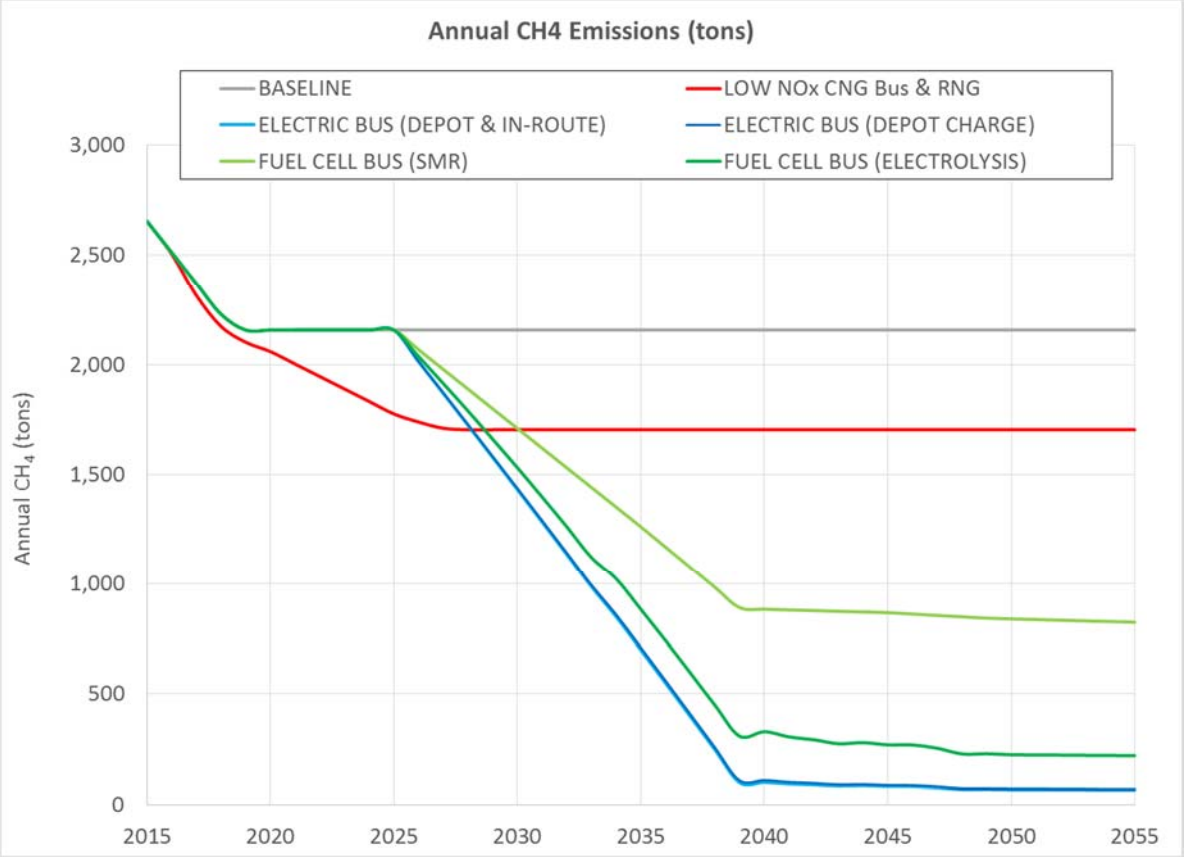


Figure 11. Estimated Annual Fleet Emissions of CO_2 (tons), 2015 - 2055

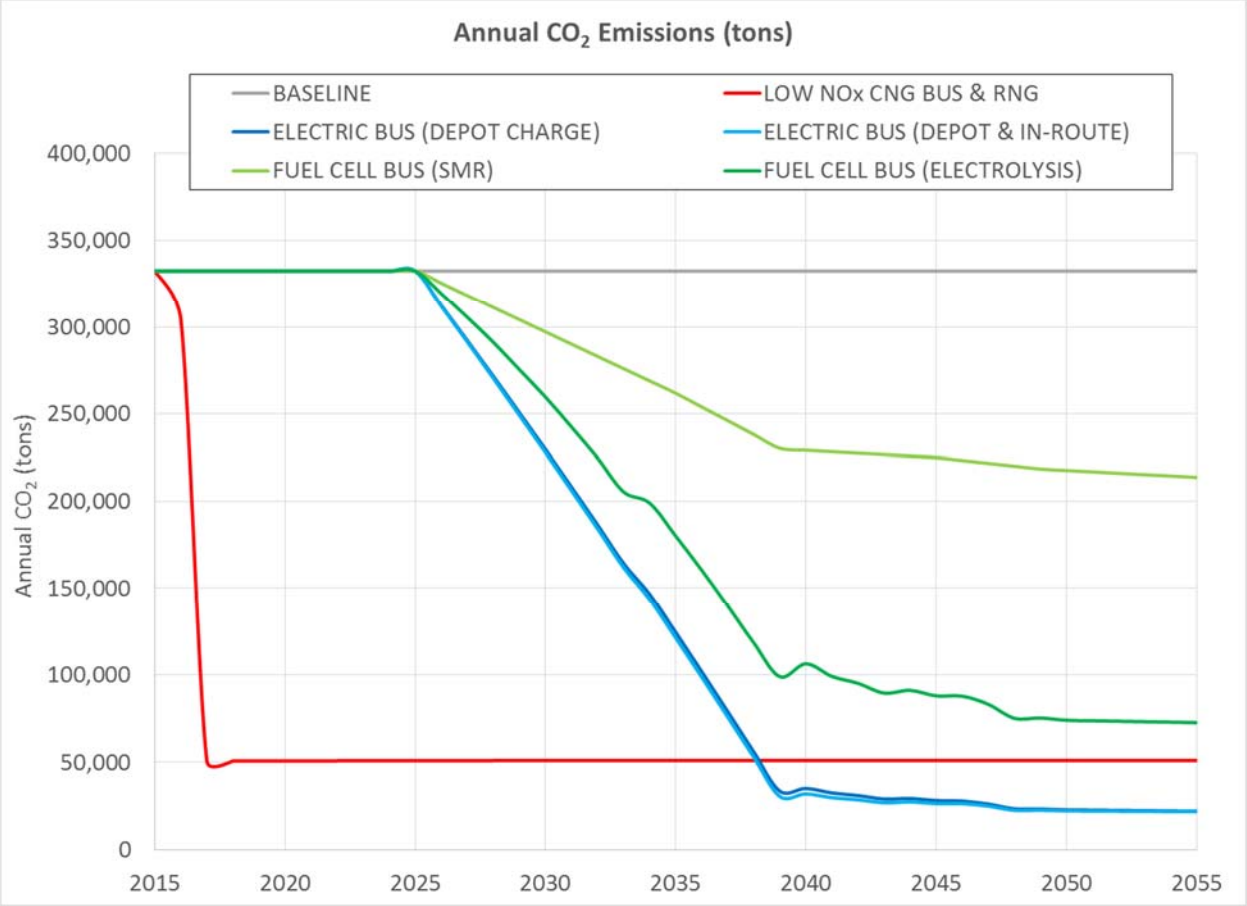
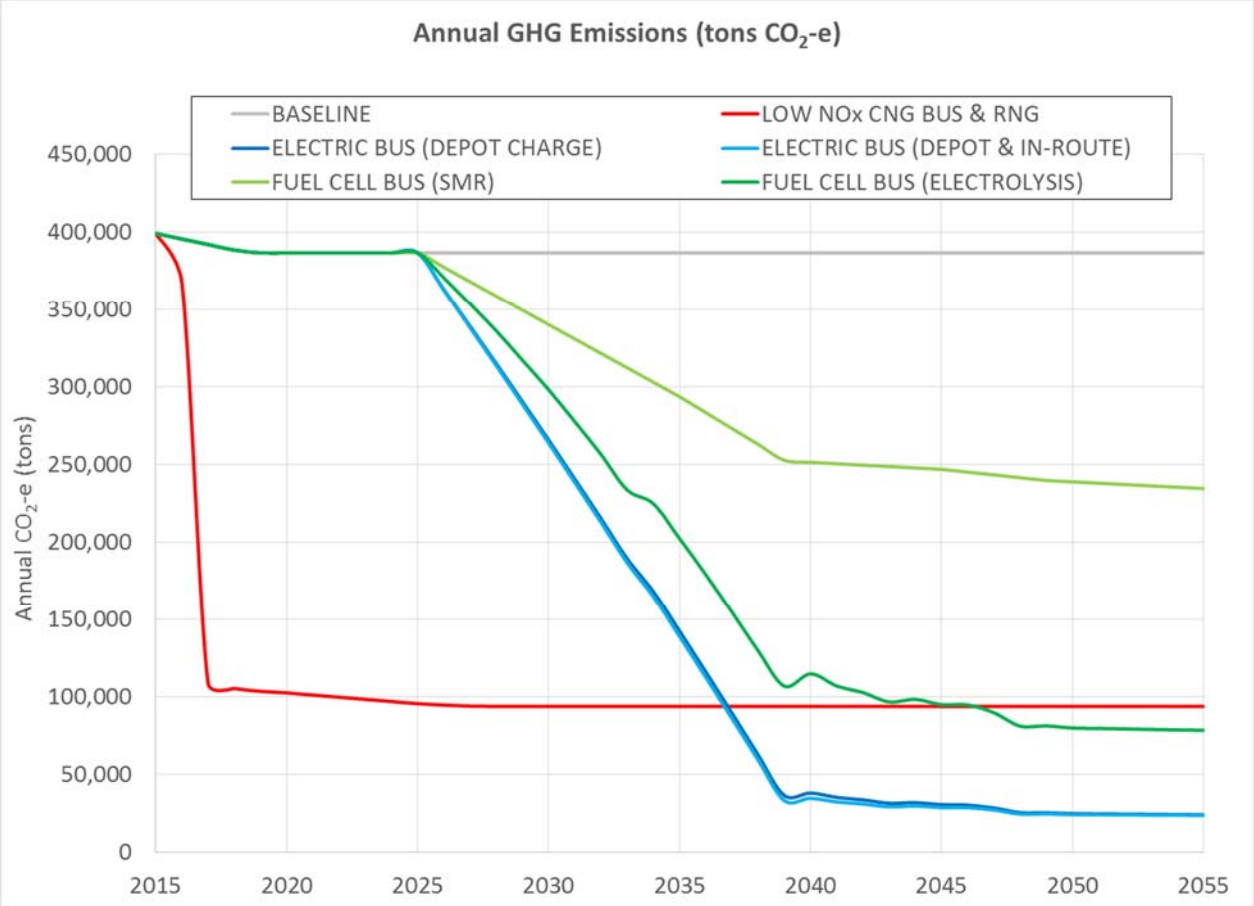


Figure 12. Estimated Annual Fleet Emissions of GHG (tons CO2-e), 2015 - 2055



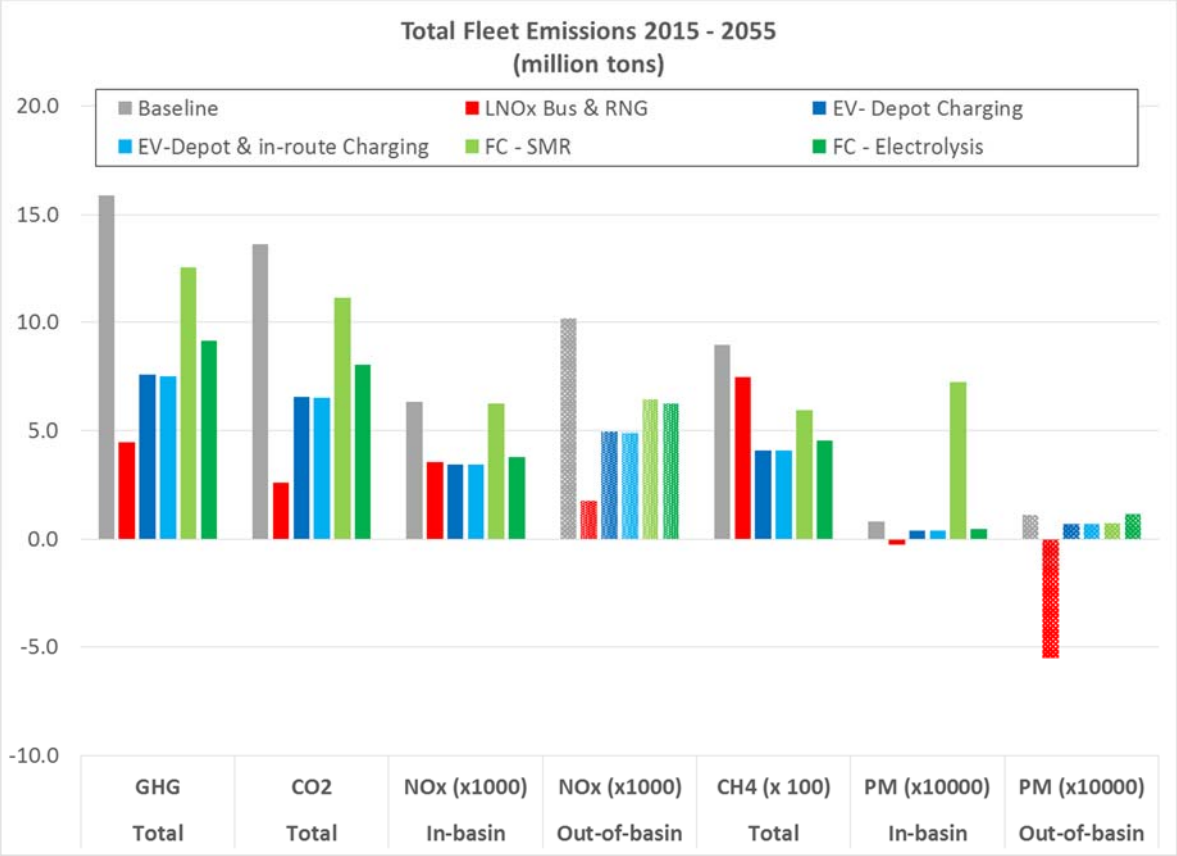
Under the LNOx Bus + RNG scenario annual estimated out-of-basin NOx and PM, CH_4, CO_2 and GHG emissions fall dramatically between 2016 and 2018 compared to the baseline, as the entire existing bus fleet is transitioned to RNG. These reductions are the result of lower upstream emissions from RNG production and transport compared to production and transport of standard natural gas. Annual out-of-basin PM emissions from this scenario are negative due to upstream PM credits for RNG production. Over the time period 2018 – 2028 annual in-basin NOx, in-basin PM, and CH_4 emissions continue to fall as the bus fleet transitions from standard natural gas engines to Low NOx natural gas engines with lower tailpipe emissions of NOx, PM, and CH_4. Between 2028 and 2055 in-basin PM and NOx under this scenario increase slightly year-to-year, while out-of-basin PM and NOx decrease slightly, due to assumed transition to a greater percentage of RNG produced by in-basin sources.

Under the electric bus and fuel cell bus scenarios annual NOx, CH_4, CO_2, and total GHG emissions start to fall in 2025 compared to the baseline, with significant year-to-year reductions through 2038 as the fleet transitions to electric or fuel cell buses. After 2038 annual emissions continue to fall, but at a lower rate. These continuing annual reductions after 2038 are due to continuing reductions in upstream emission rates (g/kWh) for electricity production, based on greater use of zero-emission renewable energy sources (solar, wind). With the exception of the fuel cell scenario with hydrogen fuel produced via SMR the electric and fuel cell scenarios produce significant reductions in both in-basin and out-of-basin NOx. When hydrogen is produced via SMR, out-of-basin NOx emissions fall

year-to-year, but annual in-basin NOx emissions are similar to those under the baseline scenario throughout the analysis period.

With the exception of the fuel cell scenario when hydrogen is produced via SMR the electric and fuel cell scenarios also show reduced in-basin and out-of-basin PM emission compared to the baseline. When hydrogen production is by SMR out-of-basin PM emissions fall relative to the baseline, but in-basin PM emission increase significantly year-to-year through 2039 and then start to fall slightly. These increased in-basin PM emissions are due to the upstream emissions from producing hydrogen via SMR at the depots, and they outweigh reductions in tailpipe PM emissions from CNG buses.

Figure 13. LACMTA Zero Emission Bus Total Fleet Emissions (million tons) 2015 -2055



Total fleet emissions from each scenario over the period 2015 – 2055 are summarized in Figure 13. As shown, over the next 40 years total estimated fleet emissions of in-basin and out-of-basin PM, out-of-basin NOx, CO_2, and GHG are projected to be lower from the use of RNG and transition to LNOx buses than from transition to electric or fuel cell buses, while total fleet emissions of in-basin NOx are projected to be slightly higher and total fleet emissions of CH_4 are projected to be moderately higher.

Note that this analysis assumes that the RNG purchased by LACMTA will be 100% landfill gas, with 100% sourced from outside of the South Coast Air Basin in the near term, transitioning to 30% sourced from within the basin after 2050. According to the California Air Resources Board[7] RNG produced from wastewater treatment plants or food waste would have lower NOx and lower GHG

[7] California Low Carbon Fuel Standard

emissions than landfill gas. The use of RNG from these sources could further reduce total GHG and NOx emissions for the LNOx Bus + RNG scenario, compared to the data shown in Figure 11. The proportion of total NOx emitted in-basin and out-of-basin under the LNOx Bus + RNG scenario would be affected by both the RNG source type and the RNG source location.

3.4 Fleet Emissions After 2055

Table 8 summarizes the total estimated fleet emissions in 2055 under each scenario; this data is also plotted in Figure 14. This data represents projected on-going annual LACMTA fleet emissions for each bus/fuel technology after fully transitioning the fleet.

Table 8. Projected LACMTA Annual Fleet Emissions in 2055 (tons)

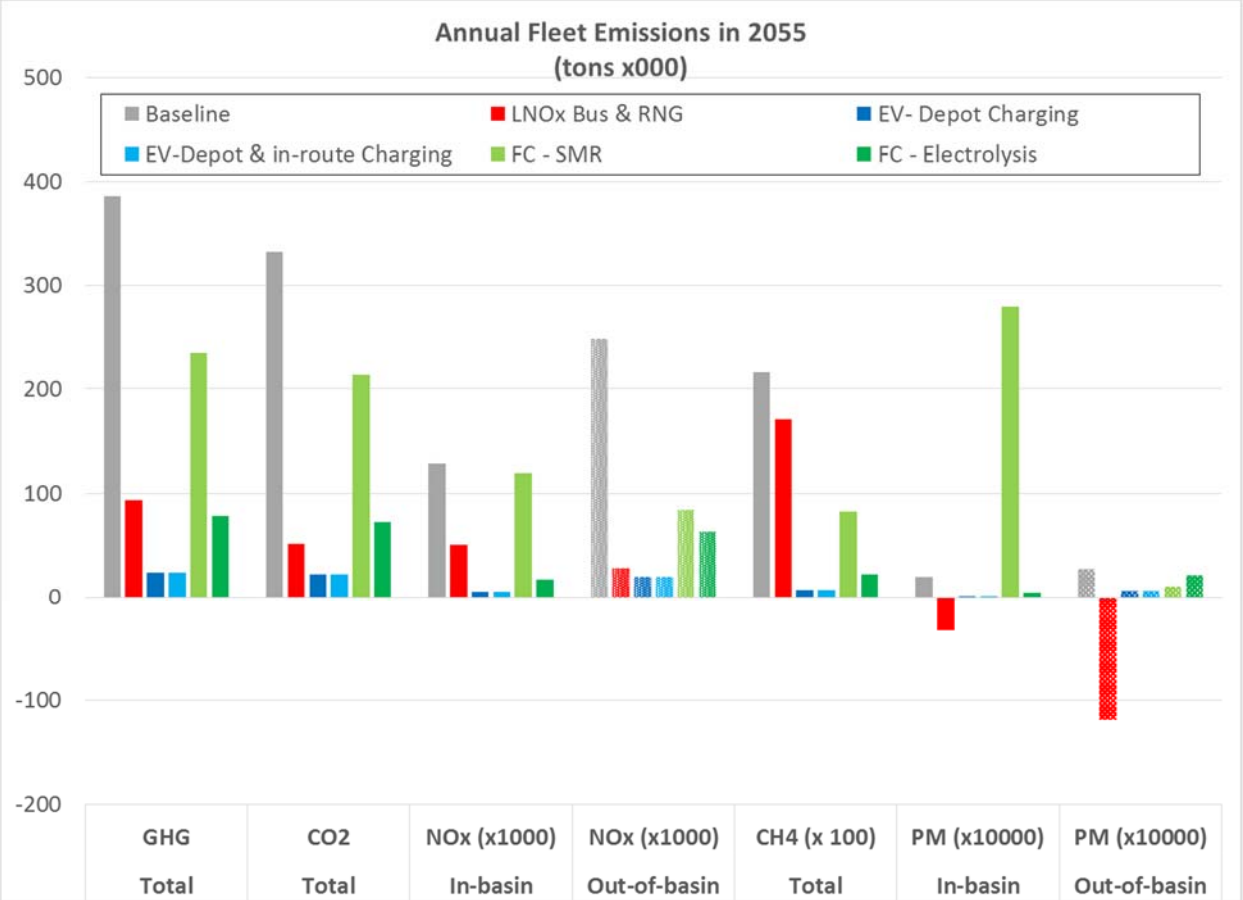
Pollutant	BASELINE	RENEW NG	LOW NOx CNG BUS & REPOWER		ELECTRIC BUS		FUEL CELL BUS	
	Std CNG Bus Conv NG	Std CNG Bus Renew NG	LNOx Bus Conv NG	LNOx Bus Renew NG	Depot Charging	Depot & In-Route Charging	H_2 by SMR	H_2 by Electrolysis
NOx (in-basin)	128.6	136.6	42.5	50.5	5.1	5.1	119.6	16.9
PM (in-basin)	1.94	-3.13	1.87	-3.22	0.13	0.13	27.87	0.42
CH_4	2,157.3	2,101.8	1,759.4	1,703.7	67.1	66.3	824.2	220.2
CO_2	332,622	50,795	333,958	50,999	22,151	21,896	213,790	72,708
GHG (CO_2-e)	386,554	103,340	377,942	93,591	23,829	23,554	234,395	78,213
NOx (Out-of-basin)	247.7	27.9	248.7	28.0	19.3	19.1	83.8	63.4
PM (out-of-basin)	2.69	-11.83	2.70	-11.88	0.63	0.63	1.05	2.08

In 2055 and later years electric buses are projected to have the lowest annual GHG emissions, approximately 94% lower than the baseline, and 75% lower than RNG plus LNOx buses. Fuel cell buses are projected to have GHG emissions 16% lower than RNG plus LNOx buses if the hydrogen fuel is produced by electrolysis, but 148% higher if the hydrogen fuel is produced by SMR.

Despite higher annual emissions after 2055, total cumulative GHG emissions would be lower from the transition to RNG and LNOx buses than from the transition to electric buses through 2099 due to lower emissions between 2015 and 2055. After 2099 electric buses would start to accrue net GHG reductions relative to RNG and LNOx buses.

Fuel cell buses would not start to accrue net GHG reductions relative to RNG and LNOx buses until 2358, even if hydrogen fuel was produced using electrolysis.

Figure 14. Projected LACMTA Fleet Emissions in 2055 (tons x000)



In 2055 and later years electric buses are projected to have the lowest annual in-basin and out-of-basin NOx emissions, approximately 96% and 92% lower than the baseline respectively. In 2055 in-basin NOx emissions from electric buses are projected to be 90% lower than from RNG plus LNOx buses. Fuel cell buses are projected to have in-basin NOx emissions 66% lower than RNG plus LNOx buses if the hydrogen fuel is produced by electrolysis, but 136% higher if the hydrogen fuel is produced by SMR.

Los Angeles County
Metropolitan Transportation Authority

Biomethane Implementation Plan

APRIL 2013

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1. Introduction and Background

Metro has several adopted policies that guide sustainability and energy related actions within the agency. The Metro Sustainability Implementation Plan (MSIP) demonstrates our continuing commitment to sustainability through fiscal responsibility, social equity, and environmental stewardship. Some of the initiatives addressed in the MSIP include energy and resource conservation and greenhouse gas (GHG) management. In 2010, Metro conducted a cost-effectiveness study on GHG reduction strategies which in particular investigated the GHG impacts of Metro operations and fuel use. Metro's comprehensive Energy Conservation and Management Plan (ECMP), developed in 2011, provides a blueprint to direct Metro's overall energy management in a sustainable and cost-effective manner. Metro adopted its Renewable Energy Policy in 2011 which outlines elements to implement comprehensive renewable energy programs including the exploration of creative renewable energy resources and the establishment of a stretch goal of an additional 13% renewable energy use above the current baseline usage of 20% by 2020. A recent report to the Metro Board dated June 29, 2012 includes an outline of Metro's current progress toward achieving such a goal.

These policies and plans make energy efficiency and environmental responsibility priorities in our agency and require us to continually evaluate viable options to use more renewable energy to power transit and facilities operations. Utilizing renewable energy presents opportunities to reduce GHG emissions and meet our adopted renewable energy policy goals.

Metro currently operates the largest alternatively fueled fleet in the nation (and has 100% of its fleet transitioned to compressed natural gas, or CNG). Staff is committed to explore ways that will further improve our operations and reduce our environmental impact, specifically via cost-effective methods. Staff has identified biomethane as a potentially viable alternative to CNG. Biomethane has the same chemical make-up and can be produced with the same fuel specifications as CNG. Biomethane currently has the lowest carbon intensity among alternative fuels included in the suite of options to comply with California's Low Carbon Fuel Standard (LCFS), including CNG. The carbon intensity of a fuel is a measure of its GHG emissions over the lifecycle of production – including processes such as extraction, transportation, and combustion or use in a vehicle.

Based on our current understanding of biomethane, use of this fuel has the potential to help Metro reach our renewable energy goals, reduce our agency's GHG emissions, and generate revenue without changing our current fueling infrastructure, bus fleet, or maintenance operations. However, because of the potentially complex nature of a transition to biomethane, there is a need to conduct a more detailed analysis to better understand the feasibility of the use of biomethane as an alternative form of fuel for our fleet.

2. Summary of Biomethane as a Transportation Fuel

Biomethane refers to pipeline quality natural gas that is conditioned from biogas, a renewable resource derived from a variety of sources including landfills and wastewater treatment plants. The biogas is subsequently upgraded and all impurities are removed before delivery to an end

user or injection into an existing natural gas pipeline. The biomethane delivered to an end user such as Metro will meet the same specifications of the natural gas that is currently delivered to our agency via utility pipelines. As a result, there are few infrastructure modifications and no vehicle modifications required if we shift to this fuel. Further, the operation and maintenance of Metro's existing fleet will be unaffected by the use of biomethane.

Metro will likely be an attractive customer for biomethane producers because of the size of its fleet and the predictability of its fuel demand. For instance, transit agencies in Sweden have established themselves as "anchor customers" because of the constant high demand for fuel – this is common with transit agencies and one of the reasons that the natural gas vehicle industry continues to target transit fleets for potential conversion to CNG from diesel. Based on initial research, Metro may have sufficient demand to help spur the investment of or invest in its own biomethane production facility, depending on a variety of factors.

Based on current information, while biomethane appears to be a viable fuel option for Metro, shifting from CNG to biomethane may be more challenging. Further research and analysis are warranted regarding the implications of switching from CNG to biomethane. The following subsections outline the major issues that Metro will consider moving forward to understand the implications of switching from biomethane to CNG for its bus fleet. These issues are highlighted as follows:

- **Biomethane sourcing**: Biogas can be derived from a variety of sources, including but not limited to waste resources such as from landfills, wastewater treatment plants, food processing waste, and manure (e.g., at dairy farms). Biogas can also be derived from purpose grown energy crops, or agriculture and forestry residue. Biogas is generally produced via anaerobic digestion, whereby microorganisms breakdown organic matter in the absence of oxygen. Facilities that are interested in producing biogas generally introduce an anaerobic digester and a collections system.
- **Operational impacts**: For an end-user like Metro, no operational changes to its CNG fueled buses will be required. Neither the fueling stations nor the buses will require any modifications to compress or combust biomethane. The only operational impact would occur if Metro moves away from using CNG buses.
- **Fiscal impacts**: There are multiple fiscal impacts that require consideration regarding biomethane:
  - **Biomethane pricing**: Biomethane is more expensive than the natural gas that Metro currently uses. Unless we have a deal with the provider to offset this price, then it may not make sense fiscally
  - **Procurement**: includes the relationship with the utility and biogas source.
  - **LCFS revenue**: Metro is currently opted into the LCFS as an obligated party dispensing CNG. Displacing CNG with biomethane will impact the potential revenue that could be earned from credits that Metro would generate in the future.

- **Environmental impacts**: There are significant environmental benefits of using biomethane – it has the same air quality benefits as natural gas; however, it also has significant GHG reduction potential, as noted previously. Biomethane is also a renewable resource that can help Metro increase its renewable portfolio. Based on the current suspension of using biomethane to comply with Renewable Portfolio Standards (RPS) in the electricity generation sector, this may be an optimal time for biomethane producers to seek out transportation markets for their product. This could work in Metro's favor, as it would increase its renewable energy profile, while also providing an opportunity to fuel providers seeking demand for their supply.
- **Policy impacts**: Metro has established internal goals and priorities related to renewable energy consumption that will be affected by a decision to transition to biomethane. Despite the many positives associated with switching to biomethane for the bus fleet, there is also the potential that switching could have an impact on Metro's relationship with its utility providers.

Based on Metro's initial review of the potential to transition to biomethane, we outlined three potential options:

- **A rapid transition to biomethane in the next 1-2 years**: A rapid transition to biomethane will likely offer Metro the most cost competitive biomethane purchasing – and enable us to maintain the potential for revenue from the LCFS; however, the potential impacts to other operational impacts within Metro requires advance planning that will delay the implementation of a rapid transition for at least one year based on our current best estimates.
- **A scheduled transition to biomethane over a defined time period**: Although this approach minimizes impacts to Metro operations, it reduces the potential for more competitive pricing. As noted previously, Metro's fleet is particularly attractive to biomethane producers because it has high volume demand. Through a measured transition, Metro would likely need to provide the appropriate assurances to the biomethane producer with a clearly defined schedule for increased consumption. Metro could also use the measured transition approach as a way to solicit multiple bids for the procurement of biomethane – this would help introduce cost control measures and potentially offset the higher costs of not transitioning more rapidly. A slower implementation schedule would allow Metro's operations staff to plan for the transition to biomethane, while also providing our procurement team to consider bids from multiple suppliers.
- **No transition to biomethane**: In this third pathway considered, Metro could continue to run its fleet of buses using conventional natural gas. Although this is the path of least resistance, Metro has a goal of reducing the environmental footprint of its operations through the introduction of renewable energy and achieving lower emissions from buses. In order to achieve these goals through its bus operations, and assuming that there are no changes to CNG buses, then Metro will have to explore alternatives that will reduce air quality pollutants and GHG emissions.

3. Biomethane Implementation Plan

3.1. Introduction

Metro's fleet of transit buses is a major part of the agency's operations. As such, fleet operations will be an important target in Metro's strategy to improve the sustainability of our operations. Although Metro already operates the largest fleet of alternative fuel buses in the United States, we continue to seek opportunities to reduce our GHG emissions. Metro staff have conservatively estimated that a transition to 10% biomethane consumption in our fleet of transit buses will reduce our GHG emissions by 12,000 MT CO_2e annually.[1]

In Fall 2012, Metro staff initiated research into the feasibility of transitioning Metro's fleet of buses to lower emitting alternatives, with a focus on biomethane. This report outlines the initial findings of Metro's research and outlines the next steps regarding the possibility of biomethane as a fuel for Metro's transit buses.

Metro staff have identified two likely pathways for Metro to transition to biomethane. These pathways, intended to position Metro at the forefront of innovative GHG reduction strategies amongst transit agencies, also provide flexibility and adaptability amidst a somewhat uncertain clean fuels market. These pathways are summarized as:

- Pathway 1: Metro purchases and conditions biogas
- Pathway 2: Pipeline injection of biomethane on Metro's behalf

These pathways are introduced in more detail in the following sections. For each pathway, Metro staff has outlined the following information:

  - Overview
  - Potential Sources / Partnerships
  - Impacts on Operations
  - Potential Costs

Following the discussion of the two main pathways considered for biomethane use in our transit fleet, Metro staff have outlined some of the potential ways to offset the costs associated with a transition to biomethane.

Overview of Metro's Demand for Natural Gas

Prior to the in-depth discussion of the likely pathways for Metro to introduce biogas, we provide a brief overview of Metro's demand for compressed natural gas (CNG). Metro currently consumes about 50 million therms of CNG annually to fuel its fleet of more than 2,200 buses.

[1] Metro staff assumed 10% of conventional natural gas consumption in transit buses would be displaced by biomethane. Metro staff also accounted for the electricity that would be required to operate the biogas conditioning and upgrading equipment. GHG emissions factors for electricity and natural gas were taken from climate registry data reported online at http://www.climateregistry.org/tools/carrot/carrot-public-reports.html.

Metro has 11 divisions around Los Angeles County that have fueling infrastructure; however, only 10 of these divisions use significant quantities of CNG. The consumption of each division is about 10% of the total fleet consumption, which is equivalent to about 420,000 therms monthly.

For the sake of reference, landfill gas collected from waste facilities has a lower content of methane (CH_4) than what is required for operating buses. The landfill gas needs to be upgraded and conditioned. For the purposes of this report, we assume that biogas has a methane content of 60% and that a facility has a methane capture rate after conditioning and upgrading of 87%. In other words, if a landfill is capturing 1,000 therms, then it can produce 522 therms of natural gas for compression and use in a transit bus.

3.2. Pathway 1: Metro Purchases and Conditions Biogas

Overview

In this pathway, Metro would purchase biogas from a local or regional facility that captures methane (e.g., a landfill or wastewater treatment plant). Moreover, Metro would assume responsibility to condition and to upgrade the biogas for pipeline injection or delivery and use as a transportation fuel. Metro staff identified several sub-pathways, as described here:

- **Pathway 1a: Biogas delivery to Metro / Biogas conditioned at Metro facility.** Metro builds pipeline and conditioning facility at a Metro-owned site (e.g., Division) to dispense biomethane. Additional considerations: Other equipment needed on-site such as storage tanks, alignment/interface with bus operations (e.g., compression facilities, fueling demands).
- **Pathway 1b: Biogas conditioned at collection site / Biomethane delivered to Metro.** In this scenario, Metro would build a conditioning facility at the biogas collection site to enable pipeline injection and delivery to Metro facilities. Additional considerations: By injecting into a pipeline, Metro becomes an Energy Service Provider (ESP) or must use broker who will sell biomethane at a premium and has agreements with SoCalGas to provide energy into pipeline (storage, contracts, etc).
- **Pathway 1c: Metro procures biogas / SoCalGas conditions biogas on Metro's behalf.** This pathway is similar to Pathway 1a; however, rather than Metro assuming responsibility for conditioning and upgrading the biogas, Metro opts into a special tariff. As part of the service, SoCalGas will design, install, own, operate, and maintain a biogas conditioning/upgrading facility on or adjacent to the tariff service customer's premises and charge the tariff service customer the fully allocated cost of providing the service under a long term (10 to 15 year) agreement. SoCalGas will not own the biogas entering the facility or the processed renewable natural gas leaving the facility.

Potential Sources and Partnerships

The focus of this pathway is identifying local or regional sources of biogas which could displace Metro's current consumption of fossil-based natural gas in our fleet of transit buses. Due to cost

concerns (as discussed in more detail later), Metro staff focused research on identifying potential biogas sources in close proximity to Metro's divisions that use CNG. To help filter the potential local sources of biomethane, we assumed that a landfill would need a potential of at least 1,390 standard cubic feet per minute (scfm).[2] We identified the landfill gas facilities that met this threshold using the Waste to Biogas Mapping Tool available through the US Environmental Protection Agency's website.[3] The mapping tool provides the operating company, address, and estimated biogas capacity of landfills in a given area.

The map below shows Metro divisions that have CNG refueling infrastructure (blue markers) and the location of the landfills that met the aforementioned threshold of 1,390 scfm (red markers).

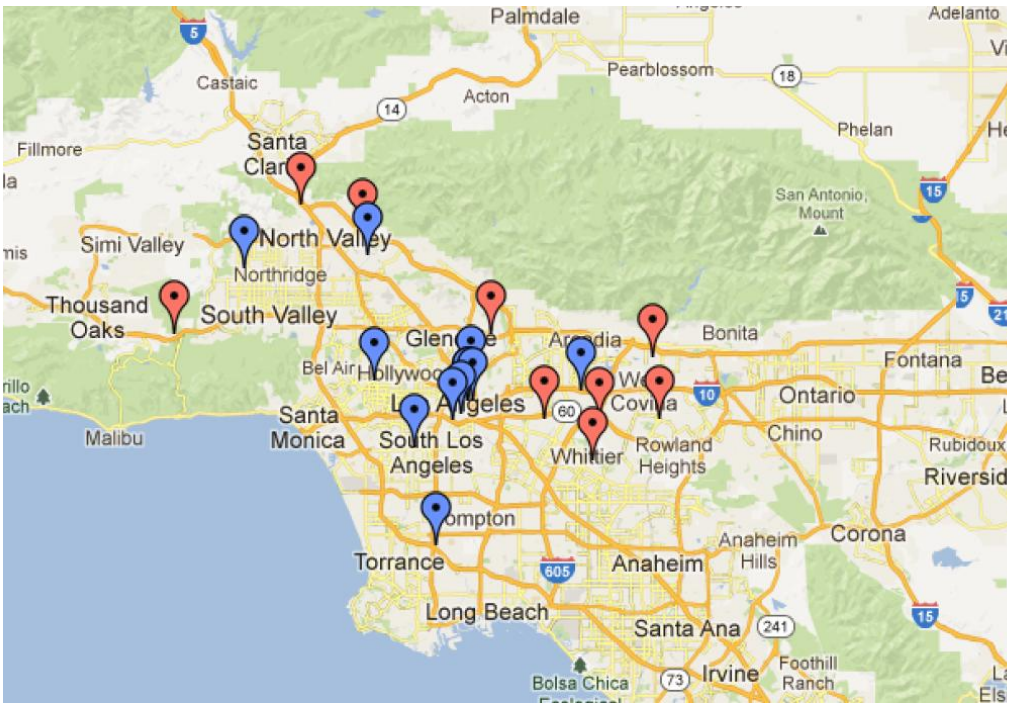


Figure 1. Metro Divisions (blue markers) and Nearby Landfills (red markers)

[2] Generally, biogas capture is measured in units of standard cubic feet per minute (scfm); this is more common than therms or other metrics.

[3] Available online at: http://epamap21.epa.gov/biogas/index.html. Accessed April 2013.

Company	Address	City	Biogas potential scfm/yr	Notes
Operating Industries Inc.	900 Potrero Grande Dr	Monterey Park	4,000	
Scholl Canyon Sanitary Landfill	3001 Scholl Canyon Rd	Glendale	6,242	
Azusa Land Reclamation Co. Landfill	1211 West Gladstone St	Azusa	2,270	
Lopez Canyon Sanitary Landfill	11950 Lopez Canyon Rd	San Fernando	2,150	Being used in microturbines; generation 6 MW
Sunshine Canyon City/County Landfill	14747 San Fernando Road	Sylmar	7,679	Partnering with DTE Energy to produce 20 MW energy (five turbines on-site planned)
Savage Canyon Landfill	13919 East Penn Street	Whittier	1,145	
Puente Hills Landfill	13130 Crossroads Pkwy South	Industry	28,220	Gas-to-energy project, produce 50 MW; biogas conditioning closed in 2007
BKK Sanitary Landfill	2210 South Azusa Avenue	West Covina	11,986	Closed; still have landfill gas collection in place
Calabasas Sanitary Landfill	5300 Lost Hills Road	Agoura	5,693	

Impacts on Operations

Transitioning Metro's bus fleet to biomethane under this pathway may require facility modifications. Although neither fueling stations nor buses will require any modifications, a biogas conditioning and upgrading facility may need to be sited on Metro property. Siting factors include size of the facility, hookups to existing utility connections and/or compression facilities, and associated storage tanks and other equipment. If for some reason the flow of biomethane or biogas is interrupted or cannot meet the demand of the bus fleet at that division, natural gas will still be available through existing utility hookups and Metro will be subsequently billed by the utility as occurs today.

Metro will likely have to incorporate on-site storage of biogas to accommodate a consistent flow of biogas. Under current conditions, when demand for natural gas ceases at a Metro facility, the flow from the pipeline ceases as well. This is optimal considering the non-linear nature of bus fueling operations. However, under the proposed pathway, the flow of biogas from the source and biomethane from the conditioning facility is constant. There is no off switch, although some landfills may have mechanisms for diverting captured biogas (note: generally, wastewater treatment plants do not). Therefore, the excess biomethane would need to be used or stored. Other options for this excess gas are co-generation plants and storage tanks. Currently, some biogas conditioning facilities have microturbines or fuel cell plants built in to utilize excess biogas. There will be additional costs and operational considerations such as heat and electrical

output as part of these scenarios, but benefits include electrical generation and useful heat output.

Potential Costs

The cost elements that we must consider for Pathways 1a, 1b, and 1c are generally similar, but have some differences.[4] Metro staff have identified the following cost elements:

- Biogas procurement
- Costs of biogas conditioning facility
- Potential pipeline costs
- SoCalGas tariff (applies only to Pathway 1c)

Biogas Procurement

For the sake of reference, natural gas spot prices are currently around $4/MMBtu today. Metro staff anticipate that we should be able to enter into a contract to procure biogas for less than the SoCal Border Wholesale Market price. The commodity cost of biogas (i.e., excluding any clean-up costs or delivery charges) from a landfill operation should be lower than the commodity cost of natural gas spot prices for several reasons.:

- Biogas has a lower methane content, thereby lowering the value of the fuel. Generally, landfill biogas has around 60% methane and requires conditioning and upgrading for consumption in a transit application or for pipeline injection. If Metro were to bear the costs of conditioning and upgrading the fuel (see next subsection), then Metro staff anticipate that we should be able to purchase the biogas at a significant discount.
- Metro is in a position to provide landfills with a revenue stream that are otherwise flaring captured gas. In California, landfills are required to capture biomethane. Landfills can use the captured gas or flare it. Today, the regulatory environment in Southern California makes it difficult for biogas collection facilities to use the gas in energy production. In the past, facilities have simply combusted the captured biogas in reciprocating engines; however, due to air quality regulations, it is increasingly expensive and often cost-prohibitive to install engines that meet emission requirements. Furthermore, landfills are prohibited from injecting biogas into the pipeline.[5] As a result, many landfills are simply flaring the captured product.
- Metro is also in a strong bargaining position because it has a large and consistent demand for natural gas to fuel our transit bus fleet. In other words, Metro can use a significant amount of biogas that landfills are producing, thereby limiting the administrative barriers of having multiple purchasers of biogas from a single source.
- Metro would also be in a position to work with the landfill producer to share the revenue associated with LCFS credits (discussed in more detail in the following section).

[4] It is important to note that we assume that any facility which Metro partners with will already have biogas recovery equipment installed.

[5] The CEC and CPUC are seeking to resolve the issue of biomethane quality for injection into the pipeline per Assembly Bill 1900.

- A landfill biogas to transit fuel project would be an appealing and innovative strategy to reduce transit-related *and* regional greenhouse gases while making use of the country's landfills.

Costs of Biogas Conditioning Facility

There are two main cost components for a biogas conditioning facility: 1) the initial capital costs of the facility and 2) the ongoing maintenance costs of a biogas conditioning facility.

- We estimate capital costs of about $3-5 million for a medium- to large-sized (i.e., about 1,400 scfm) biogas conditioning facility at a landfill or on-site at one of Metro's divisions.
- We estimate ongoing operational costs for the biogas conditioning facility of about $1-1.5 million annually

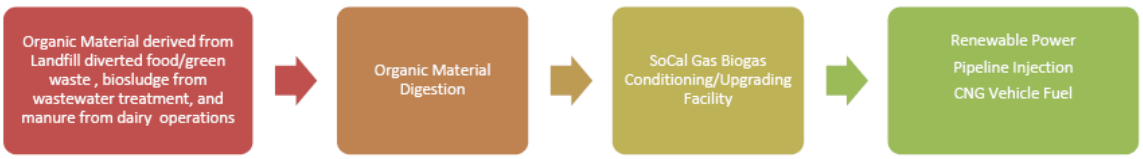
As noted previously, it is likely that Metro – in coordination with its biogas supplier – will have to install a storage facility because of the constant production of biogas from landfills. Conditioned biomethane can be stored in tanks designed for pressurized gas at an additional cost. For example, a 5,000 PSIG 3-pak storage tank costs about $75,000 and holds 36,000 scfm of gas.

Potential Pipeline Costs

The costs of building a pipeline can vary significantly depending on where the pipeline being installed. We use a general estimate of pipeline construction of $1 million per mile. Assuming that the delivery of biogas to Metro requires a pipeline, that there are no major configuration changes required at Metro Division facilities, and based on the proximity of landfills to Metro's facilities, we estimate potential costs of $2 million to $10 million.

Tariff through SoCalGas

SoCalGas has requested approval from the California Public Utilities Commission to establish a new tariff to offer Biogas Conditioning/Upgrading Services. Under this service, SoCalGas, will design, install, own, operate, and maintain a biogas conditioning/upgrading facility on or adjacent to the tariff service customer's premises and charge the tariff service customer the fully allocated cost of providing the service under a long term (10 to 15 year) agreement (as shown in the diagram below). SoCalGas will not own the biogas entering the facility or the processed renewable natural gas leaving the facility. SoCalGas' role will be to process the tariff service customer's biogas and condition/upgrade it to the gas quality level(s) contractually specified by the tariff service customer. SoCalGas will conduct an initial technical and economic feasibility analysis of the design, installation, operation and maintenance of the gas conditioning equipment. A site assessment and detailed information about the quality and quantity of biogas are included in this analysis as well. The potential tariff service customer will pay for this initial feasibility analysis. Approval for this tariff is expected by August 2013.



The deal is structured so that the tariff customer pays no capital costs upfront. The capital costs may include laying pipeline, building the facility, and projected operations and maintenance over the lifetime of the project. The tariff customer pays a monthly bill for the life of the project, with a CPI escalator (2-3%). The tariff customer also must pay for electricity to run the facility. In previous scenarios, the cost of electricity is about 2/3 of the entire cost to the tariff customer.

SoCalGas staff has provided Metro with rough estimates of the costs of these services. In order to take 1,400 scfm of raw biogas (estimated demand in previous section) and upgrade it to natural gas quality for expected biomethane output of about 375,000 MMBtu/Year costs about $165,000 per month over 15 years ($29.7 million). In addition, the parasitic load for the biogas conditioning facility is about 5.5 million kWh per year or an additional $660,000 annually in electricity costs. Therefore, the total monthly cost of dispensing biomethane is approximately $220,000 plus the cost of purchasing the raw biogas and associated pipeline extension costs. As a reference, the average monthly cost of dispensing CNG at a given bus division ranged from about $150,000 to $240,000.

3.3. Pathway 2: Biomethane Injected into Pipeline on Metro's Behalf

Overview

In this pathway, rather than dealing with a local provider of biogas, Metro would contract with a 3rd party Energy Service Provider (ESP) because SoCalGas does not offer biomethane. In this case, the biomethane would still be delivered to Metro via the natural gas transmission and delivery system of SoCalGas. As part of its contract with an ESP, Metro would stipulate a percentage of biomethane as part of the pro forma. This biomethane, like the natural gas, would be injected into the pipeline on Metro's behalf. Elements of this pathway include contracts terms with an ESP and administrative agreements with utility.

Potential Partnerships

SoCalGas maintains a list of participating ESPs pre-approved to supply "Core" customers such as Metro.[6] If Metro were to form an agreement with a non-listed ESP, that entity would have to go through an approval and agreement process with SoCalGas which can take several months.

In this scenario, Metro enters into an agreement with an ESP which can provide biomethane for injection directly into the pipeline. One of the primary differences between this pathway and the previously discussed pathway is the source of biogas. There are currently restrictions on injecting landfill-derived biogas into pipelines in California; however, these restrictions do not exist in other states. In other words, a biogas producer in another state (e.g., Texas or Washington) can capture landfill gas, condition it and inject it into the pipeline locally and have this gas delivered to California for use by a customer such as Metro.

[6] The list is available at http://www.socalgas.com/for-your-business/natural-gas-services/energy-service-providers/customer-core-list-of-esps.shtml.

This would require an agreement between the biomethane injector (Metro) and SoCalGas in order for this to occur, as well as an interconnection fee which can cost up to $2 million depending on where a local connection capable of receiving pipeline quality gas exists in relation to the site. At many sites, this local connection already exists due to previous installations of biogas conditioning and injection programs.

If Metro contracts with an ESP to inject biomethane into the pipeline on its behalf, there are protocols that must be followed, as outlined by SoCalGas. Generally, these include a number of contracts including a Master Services Agreement, ESP Agreement, Storage Contract, and others.

As part of the pro forma, Metro should insist on a minimum percentage of biomethane (equal to or greater than fuel demand of one bus division) to be injected into pipeline on our behalf. It is also recommended that Metro stipulate a percentage of ownership of RINs and LCFS credits as part of this deal.

Additionally, under Pathway 1, if Metro is injecting the biomethane into the pipeline rather than dispensing it at its bus divisions, it is recommended that Metro go through an experienced broker with contracts with SoCalGas already in place to buy, sell, and inject pipeline quality gas on the behalf of its customers.

Impacts on Operations

In Pathway 2, there are no impacts on operations or modifications to existing facilities. Further, there would be no discernible difference between the natural gas that would be delivered to Metro's facilities.

Potential Costs

If Metro were to contract with an ESP to inject biomethane on its behalf, Metro staff are operating under the assumption that the long-term contract with the ESP would link to the SoCal Border Wholesale Market price for natural gas. Apart from this, Metro does not anticipate any additional costs to procure biomethane.

3.4. Revenue/Cost Offsetting Potential

There are two fundamental strategies that Metro can employ to help offset the potential costs of transitioning to biomethane, particularly as they apply to Pathway 1 (and each subpathway):

- Revenue from regulatory markets i.e., LCFS market and the RFS2 market
- Grants from funding agencies e.g., CEC or SCAQMD

Revenue from Regulatory Markets

Low Carbon Fuel Standard

Metro currently has a LCFS credit balance of about 150,000 credits. At this point in time, Metro has not taken the steps to monetize these credits. However, credits are currently trading for

about $35-40/credit. Based on Metro's initial conversations with brokers and other market participants, it may be challenging to sell the entire balance of Metro's credits in the near-term future as a financing mechanism. In other words, the potential value of Metro's current account balance is upwards of $6 million; however, that is dependent on Metro's ability to move a large volume of credits.

The carbon intensity of biomethane is considerably lower than conventional fossil-based CNG. As a result, the consumption of biomethane as a transportation fuel has the potential to earn a significant number of LCFS credits.

As noted previously, Metro already has a credit balance of 150,000 LCFS credits based on its use of CNG in its fleet of transit buses. Biomethane in the transportation sector has significant potential to generate credits. Today, Metro earns credit as the owner of the fueling station that dispenses CNG. However, the entity that generates the credit for biomethane is the producer. In order for Metro to earn additional credits, we would have to enter an agreement with the biogas provider indicating what is called an obligation with transfer.

The table below highlights the potential LCFS credit generating opportunities under various scenarios:

- Under the business-as-usual (BAU) scenario, Metro continues to earn credits by dispensing natural gas.
- For Pathway 1, Metro staff assumed a 100% transition to biomethane by 2015 from a local in-state landfill. We assumed a carbon intensity of about 11 g/MJ.
- For Pathway 2, Metro staff assumed a 100% transition to biomethane by 2015 from an out-of-state landfill. We assumed a carbon intensity of about 29 g/MJ.

Year	CNG (BAU)	Pathway 1: Biogas (in California)	Pathway 2: Biogas (out-of-state)
2013	90,000		
2014	88,000		
2015	83,000	348,000	264,000
2016	79,000	343,000	260,000
2017	73,000	337,000	254,000
2018	67,000	331,000	248,000
2019	61,000	325,000	242,000
2020	53,000	317,000	233,000
Total (2015-2020)	**416,000**	**2,001,000**	**1,501,000**

Federal RFS2 Market: RIN Generation

Biogas also has the potential to generate Renewable Identification Numbers (RINs), the currency that the US Environmental Protection Agency (EPA) uses to administer the Federal Renewable Fuel Standard (RFS2). In order to generate RINs, the facility producing biogas needs to register as a RIN-generating entity with the US EPA. Biomethane is categorized as an Advanced Biofuel under the EPA's RFS2 program and can generate RINS in this category. Today, biodiesel and sugarcane ethanol are the most common fuels used to comply with the RFS2 requirements of the Advanced Biofuel category.

Potential Grant Funding

Metro staff have identified two potential sources of grant funding to help offset the additional costs of delivering and conditioning biogas that we would incur if we pursued Pathway 1:

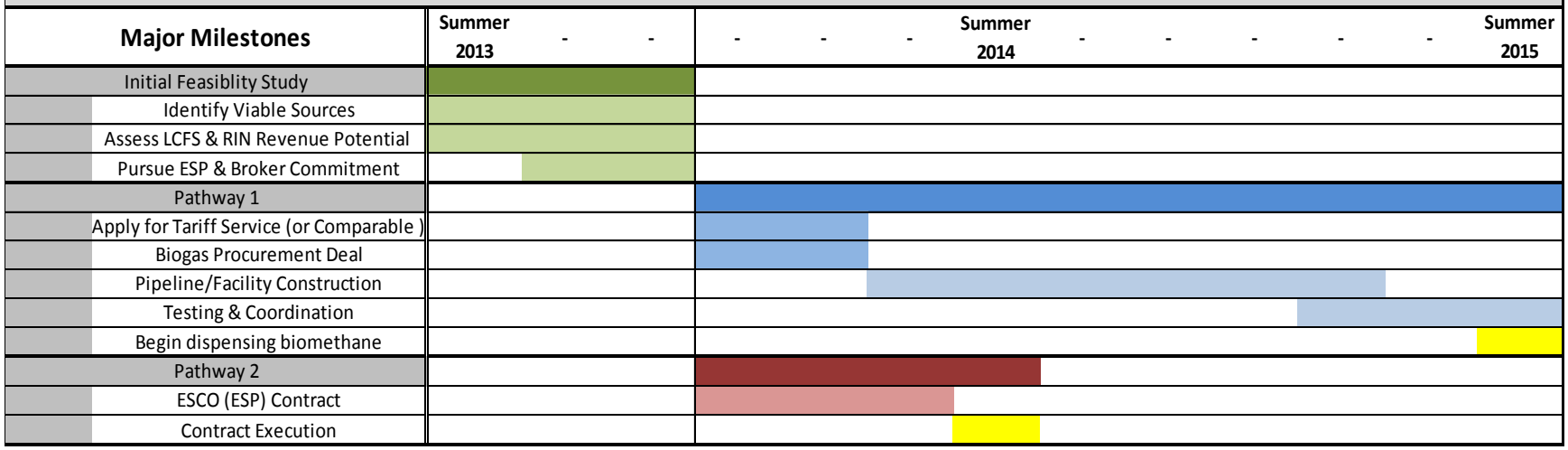
- Metro could collaborate with a partner and apply for money under the CEC's Alternative and Renewable Fuel and Vehicle Technology Program (funded via AB 118). Biomethane as a transportation fuel has received a significant amount of funding to date, which is likely to continue in the coming years.
- Metro could also seek opportunities to fund a biomethane project through the Clean Fuels Program, administered by SCAQMD's Technology Advancement Office.

4. Next Steps

The near-term focus of Metro staff is to conduct the following outreach:

- Engage potential local suppliers in substantive discussions regarding the potential to provide biogas to Metro. These discussions need to address the following items:
  - What is the potential supply to Metro? And what is the length of contract that the landfill can guarantee delivery of the biogas? Furthermore, what price is the biogas supplier seeking?
  - Would biogas conditioning occur at the landfill for injection? Or on-site at one of Metro's facilities?
  - What is the arrangement regarding LCFS credits or RINs?
- Based on the outcome of conversations with local suppliers regarding the potential to supply biogas to Metro, determine feasibility of Pathway 1. If Pathway 1 (and its sub-pathways) are not viable, then Metro can immediately engaged with a short list of ESPs that would be willing to supply us with biomethane.

Anticipated Timeline for Biomethane Implementation



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Board Report

File #: 2017-0201, **File Type:** Federal Legislation / State Legislation (Position) **Agenda Number:** 41.

..Meeting_Body

EXECUTIVE MANAGEMENT COMMITTEE
APRIL 20, 2017

SUBJECT: STATE LEGISLATION

ACTION: ADOPT STAFF RECOMMENDED POSITIONS

RECOMMENDATION

ADOPT staff recommended positions:

- **B. AB 91 (Cervantes)** - High -Occupancy vehicle lanes **OPPOSE**
- **C. AB 344 (Melendez)** - Toll Evasion Violations **OPPOSE**
- **D. AB 673 (Chu) -** Public transit operators: vehicle safety requirements ~~**OPPOSE UNLESS AMENDED**~~ **NEUTRAL**
- **E. AB 695 (Bocanegra)** - Avoidance of on-track equipment **SUPPORT**
- **F. AB 1454 (Bloom) / SB 768 (Allen)** - Transportation projects: lease agreements **SUPPORT**
- **G. SB 422 (Wilk)** - Transportation projects: comprehensive development lease agreements **SUPPORT (Sponsor)**

ATTACHMENTS

Attachment B - AB 91 (Cervantes) Legislative Analysis
Attachment C - AB 344 (Melendez) Legislative Analysis
Attachment D - AB 673 (Chu) Legislative Analysis
Attachment E - AB 695 (Bocanegra) Legislative Analysis
Attachment F - AB 1454 (Bloom)/ SB 768 (Allen) Legislative Analysis
Attachment G - SB 422 (Wilk) Legislative Analysis

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Chief Executive Officer

ATTACHMENT B

BILL: **ASSEMBLY BILL 91**
AS AMENDED MARCH 22, 2017

AUTHOR: **ASSEMBLYMEMBER SABRINA CERVANTES (D-RIVERSIDE)**

SUBJECT: **HIGH-OCCUPANCY VEHICLE LANES**

STATUS: **ASSEMBLY APPROPRIATIONS COMMITTEE**
SCHEDULED HEARING: APRIL 5, 2017

PASSED ASSEMBLY TRANSPORTATION COMMITTEE
MARCH 21, 2017 (11-2)

ACTION: **OPPOSE**

RECOMMENDATION

Staff recommends that the Board of Directors adopt an OPPOSE position on Assembly Bill 91 (Cervantes) as amended on March 22, 2017.

ISSUE

Assemblymember Sabrina Cervantes introduced AB 91 which would amend existing law related to the operation of High-Occupancy vehicle (HOV) lanes in Riverside County.

Specifically the bill would:

- Prohibit, beginning July 1, 2018 a high-occupancy vehicle (HOV) lane from being established in the County of Riverside, unless the lane is established to be operational only during peak hours;
- Require any existing HOV lane in the County in Riverside that is not a toll lane to be converted to be operational only during peak hours;
- Authorize Caltrans on or after May 1, 2019 to reinstate 24-hour HOV lanes in Riverside County if specified findings are made, and would require a report to be submitted to the Legislature regarding impacts to traffic as a result of the prescribed provisions.
- Provide that these provisions apply only to the extent that they do not endanger federal funding.

DISCUSSION

AB 91 (Cervantes) would require that high-occupancy vehicle (HOV) lanes be converted to be enforced only during peak hours. HOV lanes, also known as “carpool lanes,” are restricted-access lanes intended to increase the capacity of California’s highways,

provide incentives for carpooling, and protect the environment. The lanes are identified by diamond symbols painted on the pavement and their use is limited to the restrictions indicated by signs posted along the freeway.

In Northern California, HOV lane restrictions are in place Monday through Friday during the posted peak hours, permitting other vehicles to access the lanes during off-peak hours; however, in Southern California, HOV lane restrictions are in place 24-hours a day, seven days a week. Currently, AB 91 applies only to Riverside County; however, staff finds that this could set a precedent for other counties in Southern California, should it go into effect. A 2015 Caltrans report cites that Los Angeles County is unique in its highway congestion; with peak hours lasting beyond the normal commuter am and pm peak hours.

If the measure is passed, in its current form, it would be highly detrimental to Riverside County Transportation Commission (RCTC) which operates HOV lanes and High-Occupancy Toll (HOT) lanes. This bill is precedent setting, and its implementation could have potential unforeseen impacts on traffic congestion and HOV lane operation if expanded to Los Angeles County.

In its current form, AB 91 excludes HOT lanes from the peak only provision. Currently Metro operates ExpressLanes on the I-10 and I-110 corridors, with plans to expand the HOT lane network in the county. This could impact Caltrans and Metro's plans for future expansion of HOV/HOT lane network to address the congestion in Los Angeles County.

Staff recommends that the Board adopt an OPPOSE position on the measure AB 91 (Cervantes).

DETERMINATION OF SAFETY IMPACT

There is no determined safety impact due to the enactment of the proposed legislation.

FINANCIAL IMPACT

Staff has determined that there is no direct financial impact to Metro due to the enactment of the proposed legislation. Short-term impacts to Caltrans in Riverside County would include costs for new signage and lane re-striping to implement the new provisions, and the costs would be incurred again, upon lifting the peak-only provisions.

ALTERNATIVES CONSIDERED

Staff has considered adopting either a support or neutral position on the bill. A support or neutral position would be inconsistent with Metro's Board approved 2017 State Legislative Program Goal #9, which is to oppose any legislation that could negatively impact Metro's ability to operate the ExpressLanes program. A support position on this legislation would be contrary to our agency's goal of preserving Metro's ExpressLanes operation and cost-effectively building highway and transit projects funded under Measure R and Measure M.

NEXT STEPS

Should the Board decide to adopt an OPPOSE position on this measure, staff will communicate the Board's position to the author and work to oppose the bill. Staff will continue to keep the Board informed as this issue is addressed throughout the legislative session.

ATTACHMENT C

BILL: **ASSEMBLY BILL 344**

AUTHOR: **ASSEMBLYMEMBER MELISSA MELENDEZ (R-LAKE ELSINORE)**

SUBJECT: **TOLL EVASION VIOLATIONS**

STATUS: **ASSEMBLY THIRD READING FILE APRIL 4, 2017**

PASSED ASSEMBLY TRANSPORTATION COMMITTEE MARCH 28, 2017 (14-0)

ACTION: **OPPOSE**

RECOMMENDATION

Staff recommends that the Board of Directors adopt an OPPOSE position on Assembly Bill 344 (Melendez).

ISSUE

Assemblymember Melissa Melendez introduced legislation that would amend existing law related to the operation of High-Occupancy vehicle toll (HOT) lanes.

Specifically the bill would:

- Not require a person contesting a notice of toll evasion violation to pay the toll evasion penalty until after the processing or issuing agency finds as the result of an administrative review or court finds that the contestant did not commit the violation.

DISCUSSION

Staff recommends that the Board adopt an oppose position on the measure, AB 344 (Melendez), the bill would require that agencies administering toll lanes make substantial changes to the program administration regarding collection of fees associated with toll violations. Existing law provides that toll evasion is a civil offense, similar to the provisions related to parking citations. Existing law also prescribes the administrative appeals procedures, including that a person contesting a violation must deposit the toll evasion penalty amount at the time an appeal is requested via administrative hearing or court review. Unpaid toll evasion citations can result in DMV holds being issued to a repeat violator.

Currently Los Angeles Metro operates toll lanes (ExpressLanes) on the I-10 and I-110 freeway corridors. The current process in place for toll violations allows customers ample time and opportunity to contest a toll violation and to have the violation reviewed prior to elevating to the level of administrative review. If the toll was issued in error, Metro makes accommodations to ensure that the user is not incorrectly noticed. Metro investigates the accuracy of the violation, and if an error is found, the violation is dismissed and the customer is notified that they are not responsible for payment of the toll or any penalties incurred. If the toll violation is, in fact, verified, the customer is informed that they are responsible, and depending on whether the user has a FasTrak account, is encouraged to sign up for an account to have the penalty amount dismissed. The customer, if found responsible, would only be required to submit payment for the amount of the toll and any associated penalties. If the individual is not satisfied with the result of the investigation, they may request an administrative review.

The Assembly Transportation Committee bill analysis for AB 344 cites that the bill is consistent with actions taken by the Judicial Council of California in 2015, noting that payment of parking citations and other vehicle code violations is not required before contesting a ticket. The first opportunity for a potential violator, in the case of parking and moving vehicle citations is to contest the violation. This provision does not directly align with Metro's current ExpressLanes operations, as customers are given opportunities for review and contesting a violation prior to elevating to the level of administrative review. To-date, since the ExpressLanes program's inception, no issued violations have been elevated to the level of Administrative Review.

The Transportation Corridor Agencies (TCA) which operates toll facilities in Orange County opposes AB 344 (Melendez), stating that existing law includes a dispute process where the violation can be contested without any payment being remitted. Existing legislation requires that the issuing agency investigate any contested violation to ensure the accuracy of the transaction, lack of payment and the registered owner of the vehicle. This review process for a toll evasion is fair and thorough and therefore the legislation is unnecessary and duplicative. AB 344 encourages delay by those wishing to avoid payment of tolls on non-factual grounds, significantly increasing the administrative burden on local agencies which would be costly and would likely result in no meaningful difference in outcomes.

The bill establishes that a customer would not be required to pay the violation prior to requesting an administrative review. Staff finds that amending the vehicle code to postpone payments until after the administrative review may directly impact Metro's ability to operate the ExpressLanes, in effect, encouraging users to request an administrative level review to avoid or delay payments.

Staff recommends that the Board adopt an OPPOSE position on the measure AB 344 (Melendez).

DETERMINATION OF SAFETY IMPACT

There is no determined safety impact due to the enactment of the proposed legislation.

FINANCIAL IMPACT

Staff is reviewing potential impacts to Metro's ExpressLanes operations.

ALTERNATIVES CONSIDERED

Staff has considered adopting either a support or neutral position on the bill. A support or neutral position would be inconsistent with Metro's Board approved 2017 State Legislative Program goals. A support position on this legislation would also be contrary to our agency's goal of preserving Metro's ExpressLanes current operations.

NEXT STEPS

Should the Board decide to adopt an OPPOSE position on this measure, staff will communicate the Board's position to the author and work to oppose the bill. Staff will continue to keep the Board informed as this issue is addressed throughout the legislative session.

ATTACHMENT D

BILL: **ASSEMBLY BILL 673**

AUTHOR: **ASSEMBLYMEMBER KANSEN CHU (D-SAN JOSE)**

SUBJECT: **PUBLIC TRANSIT OPERATORS: VEHICLE SAFETY REQUIREMENTS**

STATUS: **REFERRED TO COMMITTEE ON TRANSPORTATION**

ACTION: ~~**OPPOSE UNLESS AMENDED**~~ **NEUTRAL**

RECOMMENDATION

Staff recommends that the Board of Directors adopt ~~an OPPOSE UNLESS AMENDED~~ a NEUTRAL position on Assembly Bill 673 (Chu).

ISSUE

Assemblymember Kansen Chu introduced AB 673, which would make substantial changes to provisions related to equipment vehicle standards for public transit operators.

Specifically the bill would:

- Require a public transit operator, before placing a new bus into revenue operations, to take into consideration recommendations of, and best practices standards developed by, the exclusive representative of the recognized organization representing bus operators of the transit operator for the purpose of protecting bus operators from the risk of assault from persons and by removing blind spots; and
- Require a public transit operator, before placing a new bus into revenue operations, to ensure that the bus is equipped, at a minimum, with specified features, including, among others, transparent, glare-free, accessible partition enclosures around the bus operator seating area capable of withstanding gun fire, a door or window to the left of the bus operator seating area that allows for safe and rapid emergency egress from the vehicle, and mirrors and pillars that allow the bus operator to adequately view pedestrians crossing in front of the bus, as specified.
- Require these standards to be implemented only to the extent that they comply with the Federal Motor Vehicle Safety Standards. By creating a new crime and imposing new duties or public transit operators; and
- Impose a state-mandated local program without provisions for reimbursement for public transit operators.

DISCUSSION

Staff recommends that the Board adopt ~~an oppose unless amended~~ a neutral position on the measure, AB 673 (Chu). As introduced, the bill would require LA Metro, along with other public transit agencies to adhere to strict regulations related to vehicle equipment and barrier installation before placing buses into revenue service. Metro's Operations Department is retrofitting buses that are currently in the fleet and installing barrier equipment for operator safety on new buses that addresses the concerns related to bus operator safety.

AB 673 (Chu), in its current form, makes certain assumptions and requirements related to vehicle procurements for public transit operators. The bill would require Metro and other transit operators to confer with bus operators labor unions to take into consideration best practices and recommendations for improving bus operator safety. The bill would also require public transit operators to ensure that all buses are equipped at the minimum with all of the following:

(1) Transparent, glare-free, accessible partition enclosures around the bus operator seating area capable of withstanding gun fire.
(2) A door or window, at least the same size as a passenger emergency window, to the left of the bus operator seating area that allows for safe and rapid emergency egress from the vehicle.
(3) A mechanism that allows for direct connection to local law enforcement, such as a panic button.
(4) Low-mounted, reasonably sized left-side mirrors that allow the bus operator, regardless of size, to adequately view pedestrians crossing in front of the bus.
(5) Reasonably sized "A" pillars that allow the bus operator, regardless of size, to adequately view pedestrians crossing in front of the bus.
(6) An overall bus operator seating area that eliminates blind spots to the greatest extent feasible.

Pursuant to the 2017 Board adopted State Legislative Program, staff is supportive of the intent of this legislation, which is to reduce assaults on operators. Staff recommends that the following amendments be sought:

(1) Remove provisions of the bill related to adding "Section 24019 of the Vehicle Code" which makes specifications (as outlined above) related to bus procurements, vehicle equipment and barriers for public agencies.

With the proposed amendments, the bill would then only require Metro to consult with representatives of the bus operators to ensure that bus safety standards are prioritized in future bus procurements.

Staff recommends that the Board adopt an ~~OPPOSE UNLESS AMENDED~~ NEUTRAL position on the measure AB 673 (Chu).

DETERMINATION OF SAFETY IMPACT

There is no determined safety impact due to the enactment of the proposed legislation.

FINANCIAL IMPACT

The estimated financial impact has yet to be determined. This bill would likely increase potential costs to the agency related to vehicle procurement and vehicle equipment procurement, while increasing the risk for litigation.

ALTERNATIVES CONSIDERED

Staff has considered adopting either a support or neutral position on the bill. Adopting a support position on the bill would be counter to the advocacy efforts of the California Transit Association, which represents public transit agencies statewide.

NEXT STEPS

Should the Board decide to adopt ~~an OPPOSE UNLESS AMENDED~~ a NEUTRAL position on this measure; staff will communicate the Board's position to the author and work to ensure inclusion of the Board approved amendments in the final version of the bill. Staff will continue to keep the Board informed as this issue is addressed throughout the legislative session.

ATTACHMENT E

BILL: **ASSEMBLY BILL 695**

AUTHOR: **ASSEMBLYMEMBER RAUL BOCANEGRA (D-SAN FERNANDO)**

SUBJECT: **AVOIDANCE OF ON-TRACK EQUIPMENT**

STATUS: **ASSEMBLY APPROPRIATIONS COMMITTEE HEARING: APRIL 5, 2017**

PASSED ASSEMBLY TRANSPORTATION COMMITTEE MARCH 21, 2017 (14-0)

ACTION: **SUPPORT**

RECOMMENDATION

Staff recommends that the Board of Directors adopt a SUPPORT position on Assembly Bill 695 (Bocanegra).

ISSUE

Assemblymember Raul Bocanegra introduced AB 695 which would make changes related to safety provisions at rail crossings.

Specifically the bill would:

- Make it a violation for vehicles and pedestrian failure to yield safely to on-track equipment at a railroad or transit grade crossing.

DISCUSSION

As introduced, the bill would require that vehicles or pedestrians approaching a railroad or rail transit grade crossing yield to on-track equipment.

Existing law requires motorists to stop for trains at grade crossings but does not include on-track equipment. AB 695 (Bocanegra), in its current form, aims to address pedestrian and vehicle safety at grade crossings and railroads by adding on-track maintenance equipment to the code section. Motorists and pedestrians will be required to stop at a safe distance and observe safety precautions for maintenance equipment, which is not currently required under existing law.

This measure will increase safety for maintenance workers, pedestrians and motor vehicles at Metro's many grade crossings, countywide. The bill could also have a potential positive impact to safety at grade crossings for freight corridors.

Staff recommends that the Board adopt a SUPPORT position on the measure AB 695 (Bocanegra).

DETERMINATION OF SAFETY IMPACT

There is no determined safety impact due to the enactment of the proposed legislation. Safety may be improved at Metro's specified transit grade crossings due to added enforcement for vehicles and pedestrians who are in violation of the regulation when on-track maintenance equipment is present.

FINANCIAL IMPACT

The estimated financial impact has yet to be determined.

ALTERNATIVES CONSIDERED

Staff has considered adopting either an oppose or neutral position on the bill. Adopting an oppose position on the bill would be counter to the agency's efforts to improve safety system-wide for patrons and employees.

NEXT STEPS

Should the Board decide to adopt a SUPPORT position on this measure; staff will communicate the Board's position to the author and work to ensure the measure's passage. Staff will continue to keep the Board informed as this issue is addressed throughout the legislative session.

ATTACHMENT F

BILL: **ASSEMBLY BILL 1454 (BLOOM)**
&
SENATE BILL 768 (ALLEN)

AUTHOR: **ASSEMBLYMEMBER RICHARD BLOOM (D-WEST HOLLYWOOD)**

SENATOR BEN ALLEN (D-SANTA MONICA)

SUBJECT: **TRANSPORTATION PROJECTS: COMPREHENSIVE DEVELOPMENT LEASE AGREEMENTS**

STATUS: **AB 1454 - ASSEMBLY TRANSPORTATION COMMITTEE HEARING: APRIL 17, 2017**

SB 768 – REFERRED TO SENATE TRANSPORTATION AND HOUSING COMMITTE

ACTION: **SUPPORT**

RECOMMENDATION

Staff recommends that the Board of Directors adopt a SUPPORT position on the measures, Assembly Bill 1454 (Bloom) and Senate Bill 768 (Allen).

ISSUE

Assemblymember Richard Bloom and Senator Ben Allen have introduced AB 1454 and SB 768 which would make changes to provisions that grant Caltrans and regional transportation agencies the authority to enter into public-private partnerships under Section 143 of the Streets and Highways code.

Specifically AB 1454 and SB 768 would:

- Extend the authorization indefinitely for Caltrans and regional transportation agencies to enter into comprehensive development lease agreements with public and private entities (public-private partnerships or P3's).

DISCUSSION

Under Section 143 of the Streets and Highways Code, Caltrans and regional transportation agencies were granted authorization to enter into public-private partnerships. This authorization expired on January 1, 2017. AB 1454 (Bloom) and SB 768 (Allen) would extend indefinitely the authorization for Caltrans and regional transportation agencies to enter into public-private partnerships (P3's).

A public-private partnership is a collaboration between a public agency and a private partner to deliver an infrastructure project, public service or facility. Current law authorizes Caltrans and regional transportation planning agencies to utilize the "Design-Build" method to deliver infrastructure projects and separately authorizes each entity to collect tolls or user-fees.

The P3 authorization would expand that authority to allow Caltrans and transportation planning agencies to enter comprehensive lease agreements to design, build, finance, operate and maintain facilities on the state highway system. The P3 model can reduce risk exposure for the public sector by allocating more risk to private sector. Private partners are financially accountable for meeting performance standards, ensuring cost certainty, service quality, and state of good repair. P3's are a tool that can be used to accelerate project delivery.

Staff recommends that the Board adopt a SUPPORT position on the measures AB 1454 (Bloom) and SB 768 (Allen).

DETERMINATION OF SAFETY IMPACT

There is no determined safety impact due to the enactment of the proposed legislation.

FINANCIAL IMPACT

The estimated financial impact has yet to be determined.

ALTERNATIVES CONSIDERED

Staff has considered adopting either a oppose or neutral positions on the bills. Adopting an oppose position on the bills would be counter to the Board adopted State Legislative Program Goal #3 to work to ensure implementation of Metro's Board adopted LRTP. This goal contains activities related to pursuing public-private partnerships and other innovative opportunities to advance projects in the LRTP.

NEXT STEPS

Should the Board decide to adopt a SUPPORT position on these measures; staff will communicate the Board's position to the authors and work to ensure passage. Staff will continue to keep the Board informed as this issue is addressed throughout the legislative session.

ATTACHMENT G

BILL: **SENATE BILL 422**

AUTHOR: **SENATOR SCOTT WILK (SANTA CLARITA)**

SUBJECT: **TRANSPORTATION PROJECTS: COMPREHENSIVE DEVELOPMENT LEASE AGREEMENTS**

STATUS: **SENATE TRANSPORTATION AND HOUSING COMMITTEE HEARING: APRIL 25, 2017**

ACTION: **SUPPORT - SPONSOR**

RECOMMENDATION

Staff recommends that the Board of Directors adopt a SUPPORT position on the Metro Sponsored bill, Senate Bill 422.

ISSUE

Senator Scott Wilk has introduced SB 422, a Metro sponsored bill that would make changes to provisions granting Caltrans and regional transportation agencies the authority to enter into public-private partnerships under Section 143 of the Streets and Highways code. The bill was amended on March 20, 2017 to extend the authority to Santa Clara Valley Transportation Authority.

Specifically, SB 422 would:

- Extend the authorization indefinitely for Caltrans and regional transportation agencies to enter into comprehensive development lease agreements with public and private entities (public-private partnerships or P3's); and,
- Include within the definition of "regional transportation agency" the Santa Clara Valley Transportation Authority.

DISCUSSION

Under Section 143 of the Streets and Highways Code, Caltrans and regional transportation agencies were granted authorization to enter into public-private partnerships. This authorization expired on January 1, 2017. SB 422 (Wilk) would extend indefinitely the authorization for Caltrans and regional transportation agencies to enter into public-private partnerships (P3's). The measure would also clarify the definition of "regional transportation agency" to include the Santa Clara Valley Transportation Authority, thereby authorizing the authority to enter into P3's under these provisions. The legislation re-instates the public-private partnership.

A public-private partnership is a collaboration between a public agency and a private partner to deliver an infrastructure project, public service or facility. Existing law authorizes Caltrans and regional transportation planning agencies to utilize the "Design-Build" method to deliver infrastructure projects and separately authorizes each entity to collect tolls or user-fees.

The P3 authorization would expand that authority to allow Caltrans and regional transportation planning agencies to enter comprehensive lease agreements to design, build, finance, operate and maintain facilities on the state highway system. The P3 model can reduce risk exposure for the public sector by allocating more risk to private sector. Private partners are financially accountable for meeting performance standards, ensuring cost certainty, service quality, and state of good repair. P3's are a tool that can be used to accelerate project delivery.

Staff recommends that the Board adopt a SUPPORT – SPONSOR position on the measure SB 422 (Wilk).

DETERMINATION OF SAFETY IMPACT

There is no determined safety impact due to the enactment of the proposed legislation.

FINANCIAL IMPACT

The estimated financial impact has yet to be determined.

ALTERNATIVES CONSIDERED

Staff has considered adopting either a oppose or neutral positions on the bill. Adopting an oppose position on the bill would be counter to the Board adopted State Legislative Program Goal #3 to work to ensure implementation of Metro's Board adopted LRTP. This goal contains activities related to pursuing public-private partnerships and other innovative opportunities to advance projects in the LRTP.

NEXT STEPS

Should the Board decide to adopt a SUPPORT - SPONSOR position on this measure; staff will communicate the Board's position to the author and work to ensure the measure's passage. Staff will continue to keep the Board informed as this issue is addressed throughout the legislative session.

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Board Report

File #: 2017-0275, **File Type:** Oral Report / Presentation **Agenda Number:** 4.

REGULAR BOARD MEETING
APRIL 27, 2017

Report by the **Chief Executive Officer.**

Metro's Measure M

– Implementation Game Plan

April 27, 2017

Metro

Measure M Execution

- Metro is proactively moving toward massive execution of Measure M
- We are positioned to meet our own aggressive delivery schedule through progress on the Operation Shovel Ready plan, briefed to the Board in January 2016

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Restructuring and Reshaping for Implementation

- Metro is restructuring to adapt to Measure M execution
  - Building and presenting to the Board an efficient plan for staffing and financial resources through the FY18 budget process
  - Implementing OIG recommendations to strengthen program management
  - Innovating the procurement process
  - Increasing small business opportunities
  - Launching the WIN-LA Program to train the local workforce for transportation-related jobs

Metro

Implementation Framework

- Developing Measure M Guidelines
- Facilitating the Policy Advisory Council
- Establishing the Independent Taxpayer Oversight Committee
- Crafting robust public Information and community engagement
- Strengthening third-party relationships to accelerate project delivery
- Challenging all potential project delays

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Progress Out of the Gate Since November

Following projects are on schedule or ahead of schedule

PROJECT	PROGRESS	TIMEFRAME	MODE
Airport Metro Connector	Complete Enviro Study	Spring 2017	Light Rail
Purple Line Section 3	Release Tunneling Contract RFP Release Stations Contract RFP	Spring 2017 Summer 2017	Subway
I-5 North Capacity Enhancements (SR-14-Parker Rd)	Complete Final Design	Winter 2018	Highway
Gold Line Foothill Extension	Develop Funding Agreement	Spring 2017	Light Rail
Orange Line Grade Separations	Release Enviro/Eng. RFP	Summer 2017	BRT
NoHo to Pasadena BRT	Initiate Enviro Study	Winter 2018	BRT
East San Fernando Valley Transit	Release Draft EIS/EIR Release Prelim. Eng. RFP	Summer 2017 Summer 2017	BRT
West Santa Ana Branch	Initiate Enviro Study Decision to Pursue P3	Spring 2017 Summer 2017	Light Rail
SR-71 Gap from I-10 to Rio Rancho	Complete Final Design for Mission to SR-60/Rio Rancho Complete Final Design for Mission to I-10	Spring 2019 Spring 2020	Highway

Progress Out of the Gate Since November

Following projects are on schedule or ahead of schedule

PROJECT	PROGRESS	TIMEFRAME	MODE
LA River Bike Path	Release Enviro and Design RFP	Summer 2017	Bike
Sepulveda Pass	Release Study RFP Decision to Pursue P3	Spring 2017 Summer 2017	Highway/Transit
Vermont Transit Corridor	Release BRT/Rail Tech. Study RFP	Fall 2017	BRT
Green Line Ext. to Torrance	Complete Technical Study	Winter 2018	Light Rail
I-710 South	Complete Prelim. Eng. and Enviro Process Begin Final Design for Early Action Projects	Fall 2018 Spring 2019	Highway
Gold Line Eastside Extension	Complete Tech. Study Reinitiate Enviro	Spring 2017 Fall 2017	Light Rail
I-5 South Capacity Enhancements from I-605 to Orange County Line	Complete Construction	Summer 2022	Highway
Crenshaw Northern Extension	Complete Feasibility Study	Summer 2017	Light Rail
I-605 Hot Spots Early Action Projects	Begin Enviro Studies and Final Design; Consultant Selection	Summer 2017	Highway

Public-Private Partnerships (P3s)

- P3s offer the potential to accelerate Measure M mega projects
- Metro evaluating four unsolicited proposals for two mega projects
  - West Santa Ana Branch and Sepulveda Pass
- Both are going through a detailed second phase analysis, taking them closer to a decision on whether to pursue a P3

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Forging the Path Forward

- As custodians of taxpayer dollars, we are committed to being frugal, responsible, practical and accountable
- The extensive work already underway on Measure M is an example of that commitment
- We are ready for Measure M
- We're not only thinking OUTSIDE the box; there IS NO box
- The transportation revolution has begun

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Questions?

Los Angeles County
Metropolitan Transportation
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3rd Floor Board Room
Los Angeles, CA

File #: 2017-0098, **File Type:** Program **Agenda Number:** 9.

AD-HOC CONGESTION, HIGHWAY AND ROADS COMMITTEE
APRIL 19, 2017

SUBJECT: MEASURE R HIGHWAY SUBREGIONAL PROGRAM SEMI-ANNUAL UPDATE

ACTION: APPROVE ADOPTION OF UPDATED SUBREGIONAL PROJECT LIST

RECOMMENDATION

CONSIDER:

A. APPROVING $11.8 million of additional programming within the capacity of the **Measure R Highway Subregional Programs** and funding changes via the updated project list, as shown in Attachment A;

- Highway Operational Improvements in Arroyo Verdugo
- Highway Operational Improvements in Las Virgenes Malibu
- I-405, I-110, I-105 and SR-91 Ramp and Interchange Imp. (South Bay)
- I-605 Corridor “Hot Spots” Interchange Imp. in Gateway Cities
- I-710 South and/or Early Action Projects in Gateway Cities

B. AUTHORIZING the CEO or his designee to negotiate and execute all necessary agreements for approved projects; and

C. RECEIVING AND FILING the **SR-138 Capacity Enhancements** (North County) project list as shown in Attachment B.

ISSUE

The Measure R Highway Subregional Program update allows the Highway Program and each subregion or lead agency, to revise delivery priorities and project budgets for the proposed implementation plan of the Measure R Highway subregional projects. The attached updated project lists include projects which have already received prior Board approval, as well as proposed changes related to schedule, scope, funding allocation and the addition or removal of projects. The Board’s approval is required as the updated project lists serve as the basis for Metro to enter into agreements with the respective implementing agencies.

DISCUSSION

The Measure R Expenditure Plan included the following Highway Capital Project Subfunds:

- Highway Operational Improvements in Arroyo Verdugo subregion
- Highway Operational Improvements in Las Virgenes Malibu subregion
- I-405, I-110, I-105 and SR-91 Ramp and Interchange Improvements (South Bay)
- State Route 138 Capacity Enhancements in North County
- I-605 Corridor “Hot Spots” Interchange in Gateway Cities
- I-710 South and/or Early Action Projects in Gateway Cities

These Highway Capital Projects are not fully defined in the Measure R Expenditure Plan. Definition, development, and implementation of specific projects with independent utility are advanced through collaborative efforts by Metro’s Highway Program staff, the subregional authorities/Council of Government for the subfund, the project sponsor, and Caltrans for projects on their facilities.

At the December 2016 Board meeting (File#2016-0589), revised project lists and funding allocations for the Highway Capital Subfunds were approved. This update recommends changes requested by each subregion.

The changes in this update include $11.8 million in additional programming for 9 projects which are either new or existing, in two subregions - Arroyo Verdugo and Gateway Cities Subregions - as detailed in Attachment A. Highway Program staff will continue to work closely with each subregion and/or lead agency to identify and deliver Highway Operational Improvement Projects.

A nexus determination has been completed for each new project added to the list. All of the projects on the attached project list provide highway operational benefits and meet the Highway Operational and ramp/interchange improvements definition approved by the Board.

Highway Operational Improvements in Arroyo Verdugo Subregion

Through Measure R, the subregion has completed 10 projects and expended $24 million. The subregion has identified 44 projects and currently has agreements executed for 17 active projects which are in planning, design, or construction phases. The updated subregional project list includes funding adjustments for 5 existing projects and includes 5 new projects recommended by the Arroyo Verdugo Subregion.

City of Burbank

- Reprogram $250,000 previously programmed in Prior Years to FY17-18 and $3,717,000 programmed in FY 18/19 to FY20/21 for MR310.07 - the Widen Magnolia Blvd/I-5 Bridge project. The total project budget of $3,967,000 remains unchanged. The City is reprogramming the funds for this project into later fiscal years due to the Caltrans I-5 HOV project currently in construction. Upon completion of the I-5 HOV project, the City will start work on this project.

- Reprogram $250,000 previously programmed in Prior Years to FY17-18 and $3,647,000

programmed in FY18/19 to FY20-21 for MR310.10 - the Widen Olive Ave/I-5 Bridge. The total project budget of $3,897,000 remains unchanged. The City is reprogramming the funds for this project into later fiscal years due to the Caltrans I-5 HOV project currently in construction. Upon completion of the I-5 HOV project, the City will start work on this project.

- Program an additional $59,821 and reprogram $600,000 previously programmed in FY18/19 into the following fiscal years: $185,790 in FY16-17 and $474,031 in FY17-18 for MR310.23 - the Chandler Bikeway Extension (Call Match) F7506. The total revised project budget is $659,821. The funds are being reprogrammed into two fiscal years to align with the Call for Projects programmed years.

New Measure R Projects and Funding for City of Burbank:

- Program $1,300,000 in FY17-18 for the SR-134 Corridor Arterial Signal Improvements Project (Riverside Dr, Magnolia Blvd, Alameda Ave), Phase 1. The total project budget is $1,300,000 for construction support and capital. The project consists of upgrades to seven existing traffic signals: (Riverside Dr/Bob Hope Dr, Riverside Dr/Reese Pl, Riverside Dr/Main St, Magnolia Blvd/Avon St, Magnolia Blvd/Pass Ave, Alameda Ave/Bob Hope Dr and Alameda/Ave/Naomi St. The existing signal equipment is Caltrans 1964 standard poles which will be upgraded to Caltrans 2015 standard poles. These intersections are currently operating at Level of Service D or E due to high pedestrian crossing counts and high arterial volumes from diverted freeway traffic. These signals will be synchronized with adjacent signals once fiber optic connections are installed. The project will improve Level of Service on these arterials parallel to State Route 134, and will enable City streets to be used as a freeway detour.

  Measure R NEXUS to Highway Operational Definition: This is a traffic signal system upgrade/timing/synchronization project which will improve level of services on these arterials which are parallel to SR-134. This is an eligible Measure R Highway Operational Improvement Project.

- Program $1,400,000 in FY 17-18 for the Media District Traffic Signal Improvements (Olive Ave, Riverside Dr. and Alameda St) project. The total programmed budget is $1,400,000 for construction capital and support. The project consists of upgrades to eight existing traffic signals and vehicle detectors at: Olive/Hollywood Way, Olive/Lakeside Dr, Riverside Dr/California St, Riverside Dr/Avon St, Riverside Dr/Olive, Riverside Dr/Hollywood Way, Riverside Dr/Pass Ave, and Alameda Ave/Pass Ave. These intersections are currently operating at Level of Service D or E due to high pedestrian crossing counts and high arterial volumes from diverted freeway traffic. These signals will be synchronized with adjacent signals once fiber optic connections are installed. Traffic surveillance equipment will also be installed and roadway work will be undertaken to modify center medians for increased left turn storage at three intersections.

  Measure R NEXUS to Highway Operational Definition : This is a traffic signal system upgrade/timing/synchronization improvement project and will improve Level of Service for these arterials which are parallel to State Route 134. The proposed signal synchronization will

allow for the use of City streets as a freeway detour. This is an eligible Measure R Highway Operational Improvement Project.

- Program $800,000 in FY 17-18 for the I-5 Corridor Signal Improvements (Third St, Buena Vista St, Olive Ave and Magnolia Blvd), Phase 1 project. The total programmed budget is $800,000 for construction support and capital. The project consists of upgrades to five existing traffic signals at: 3rd St/Angeleno Ave, Buena Vista St/Tulare, Buena Vista/ Thornton, Olive Ave/Virginia and Magnolia Bl/Reese Pl. The existing signal equipment is Caltrans 1964 standard poles which will be upgraded to Caltrans 2015 standard poles. The project will also add left turn phasing at 3rd St/Angeleano Ave and Buena Vista St/Thorton, key arterials serving I-5 on/off ramps. These intersections are currently operating between Level of Service C and D due to high traffic volumes to and from Interstate 5. The project will upgrade and synchronize these signals once fiber optic connections are installed. These improvements will reduce congestion for vehicles traveling to and from I-5.

  Measure R NEXUS to Highway Operational Definition : This is a traffic signal system upgrade/timing/synchronization project, which will reduce congestion for vehicles traveling to and from I-5, an eligible Measure R Highway Operational Improvement Project.

- Program $500,000 in FY 17-18 and $1,400,000 in FY 18-19 for the Glenoaks Ave Arterial and First Street Signal Improvements project. The total programmed budget is $1,900,000 for PS&E and construction support and capital. The project consists of upgrading existing traffic signals and providing left-turn phasing at 11 intersections along Glenoaks Blvd (Reese Pl, Bethany Rd, Deleware Rd, Fairmont Rd, Grinell Dr, Cypress Ave, Magnolia Bl, Orange Grove Ave, Angeleno Ave, Verdugo Ave, and Alameda Ave) and an intersection on First St/Orange Grove Ave. The existing signal equipment is Caltrans 1964 standard poles, which will be upgraded to Caltrans 2015 standard poles. Glenoaks Blvd is a key arterial that is parallel to Interstate 5 and serves Burbank, Glendale, and Los Angeles. These intersections are currently operating between Level of Service C and E due to high traffic volumes, left-turn queues and the distance between the closely spaced intersections. The project will reduce left -turn vehicle queues to enhance existing synchronization during peak periods. These improvements will reduce congestion for vehicles using Glenoaks Blvd as an alternative to Interstate 5.

  Measure R NEXUS to Highway Operational Definition : This is a traffic signal system upgrade/timing/synchronization project, which will synchronize Glenoaks Blvd, a key arterial that is parallel to Interstate 5 and serves Burbank, Glendale, and Los Angeles. This is an eligible Measure R Highway Operational Improvement Project.

City of Glendale

- Program an additional $17,123 for MR310.34 - Regional Bike Stations (Call Match) F7709. The funds will be programmed in FY17/18 for a total project budget of $332,123. This project is a local match to F7709 and funds are being reprogrammed to align with the Call for Projects

programmed year.

- Amend the project definition for the previously titled Traffic Signal Installation and Modifications at various locations project, programmed under the November 16, 2016 Board Report to the Planning and Programming Committee. The project title is being revised to Traffic Signal Installation on Glenwood Road and Signal Modifications on La Crescenta Ave and Central Ave. The project will now consist of Installation of Signals at Glenwood Rd/Pacific Ave, and signal modifications at La Crescenta Ave/Montrose Ave, La Crescenta Ave/Honolulu Ave and Central Ave/Chevy Chase. There is no change to the programmed budget or the program year.

New Measure R Project and Funding for City of Glendale:

- Program $400,000 in FY 17-18 for the San Fernando Road/Los Angeles St Traffic Signal Installation and Intersection Modification project. The project includes the installation of a new traffic signal and intersection modifications (realignment). San Fernando Rd is a regional arterial in Glendale, runs parallel to I-5, and is used as an alternate route when the freeway is congested. Due to pedestrians jay walking across San Fernando Rd at the Los Angeles St intersection, vehicles brake suddenly on San Fernando interrupting traffic flow and causing risk of rear-end accidents. The intersection will be redesigned and signalized to shorten pedestrian walking distance and reduce conflicts on San Fernando Rd. These improvements will reduce incident delays and provide more green time to San Fernando Rd traffic.

  Measure R NEXUS to Highway Operational Definition: This is a traffic signal/ safety improvements project that reduces incident delay, and accidents on San Fernando Rd, an eligible Measure R Highway Operational Improvement Project.

Highway Operational Improvements in Las Virgenes Malibu Subregion

Through Measure R, the subregion has completed 5 projects and expended $81 million. The subregion has identified 24 projects and currently has agreements executed for 17 active projects which are in planning, design, or construction phases. The updated subregional project list includes funding adjustments to 5 projects currently pursued by the Las Virgenes Malibu Subregion.

City of Agoura Hills

- Deobligate $3,350,000 in Prior Years from the Palo Comado Interchange Project (MR311.03). The total revised project budget is $4,000,000 programmed in Prior Years. The deobligated funds will be reprogrammed to complete construction of the Agoura Road Widening Project (MR311.05).

- Program an additional $3,350,000 in FY16-17 for the Agoura Road Widening Project (MR311.05). The revised total project budget has increased to $36,850,000. The City is programming additional funds to this project due to increased construction cost estimate

because of environmental mitigation costs, costs associated with issues requiring further legal counsel related to multiple purchase and sale agreements established as part of the right-of-way phase, the installation of fiber optic communication lines, completing final punch list items and a need to address field condition variances identified during construction.

City of Westlake Village

- Deobligate $410,000 in Prior Years from the Rte 101/Lindero Cyn. Rd. Interchange Improvements Project (MR311.10). The deobligate funds are not required to complete the traffic signal, bridge widening or turning lane improvements on Agoura Rd and Lindero Canyon Rd. The revised project budget is $3,251,000. The deobligated funds will be reprogrammed into MR311.18 to complete construction of U.S.101/Lindero Canyon Rd Interchange Improvements from Thousand Oaks Blvd to Aguora Rd.

- Deobligate $40,000 in Prior Years from the Highway 101 Park and Ride Lot Construction (MR311.19). The total revised project budget is $4,943,605 programmed in Prior Years. The deobligated funds will be reprogrammed to complete construction of the Rte. 101/Lindero Cyn. Rd. Interchange Improvements, Phase 3A Construction (MR311.18).

- Program an additional $450,000 in FY 16-17 for Rte. 101/Lindero Cyn. Rd. Interchange Improvements, Phase 3A Construction (MR311.18). The revised project budget is $9,419,000. The city is programming additional funds for this project to complete the remaining Lindero Canyon Rd widening improvements between Thousand Oaks Blvd and Agoura Rd.

I-405, I-110, I-105 and SR-91 Ramp and Interchange Improvements (South Bay)

Through Measure R, the subregion has completed 11 projects and expended $58 million. The subregion has identified 66 projects and currently has agreements executed for 32 active projects which are in planning, design or construction phases. The updated subregional project list includes funding adjustments for 8 projects and includes 3 new projects recommended by the South Bay Subregion.

Caltrans

- Program an additional $357,003 in FY16-17 for MR312.11, the ITS: I-405, I-110, I-105, SR-91 at Freeway Ramp/Arterial Signalized Intersections Improvement Project. The revised project budget is $5,357,000. This project is currently in construction and should be completed Spring of 2017. Additional funds have been requested for construction support/management. The budget increase will ensure that the project and its scope are completely delivered on time.

City of El Segundo

- Deobligate $342,424 from MR312.22 - Maple Ave. Improvements from Sepulveda Blvd to Parkview Ave. This project has been completed and project charges have been audited by Metro. Project savings are being deobligated and will be repurposed for other projects funded under line 33 of the Measure R Ordinance/Expenditure Plan.

City of Gardena

- Deobligate $173,013 from MR312.17 - Rosecrans Ave. Improvements from Vermont Ave to Crenshaw Blvd. This project has been completed and project charges have been audited by Metro. Project savings are being deobligated and will be repurposed for other projects funded by line 33 of the Measure R Ordinance/Expenditure Plan.

- Deobligate $282,025 from MR312.19 - Artesia Blvd at Western Ave Intersection Improvements. This project has been completed and project charges have been audited by Metro. Project savings are being deobligated and will be repurposed for other projects funded by line 33 of the Measure R Ordinance/Expenditure Plan.

- Deobligate $259,657 from MR312.21 - Vermont Ave. Improvements from Rosecrans Ave to 182nd St. This project has been completed and project charges have been audited by Metro. Project savings are being deobligated and will be repurposed for other projects funded by line 33 of the Measure R Ordinance/Expenditure Plan.

City of Lawndale

- Reprogram $1,039,262 for MR312.49 - Redondo Beach Blvd Mobility Improvements from Prairie to Artesia (Call Match) F9101. The funds will be programmed as follows: $272,890 in FY16-17, and $766,308 in FY17-18. This project is a local match to F9101 and funds are being reprogrammed to align with the Call for Projects programmed year.

New Measure R Project and Funding for City of Lawndale

- Program $507,799 for the Manhattan Beach Blvd and Hawthorne Blvd left-turn Traffic Signal Improvements project. This project will replace and relocate existing east and westbound traffic signal support assemblies and footings, for extended mast arms with signal heads for left turn protected phasing on Manhattan Beach Blvd at Hawthorne Blvd SR-107. Due to the limited visibility of the signal heads, the configuration of the intersection, and lack of left-turn permissive phasing, motorist are being stranded in the intersection causing delays and safety issues for vehicles trying to go NB and SB on Hawthorne Blvd.

Measure R NEXUS to Highway Operational Definition: This project is signal and intersection improvements project which will install new mast arms and signal heads for left turn phasing on SR-107. This is an eligible Measure R Highway Operational Improvement.

City of Los Angeles

- Reprogram $1,313,041 for MR312.51 - Improvements on Anaheim St. from Farragut Ave. to Dominguez Channel (Call Match) F7207. The funds will be programmed as follows: $262,608 in FY16-17, and $1,050,433 in FY17-18. This project is a local match to F7207 and funds are being reprogrammed to align with the Call for Projects programmed year.

New Measure R Project and Funding for City of Los Angeles

- Program $2,875,000 in FY17-18 for the Alameda St. South widening from Anaheim St. to Harry Bridges Blvd. The project proposes to widen Alameda St on the West Side to a Major Highway Class II. Currently, Alameda St. south is a 50' 4 lane roadway, which will be widened to an 80' 6 lane facility. Alameda St. provides connections to PCH (SR-1), SR-47 and is currently operating at a deficient level of service D or F in peak hour traffic.

Measure R NEXUS to Highway Operational Definition: This project is an intersection and street widening project which provides direct access to SR-1 and SR-47. This is an eligible Measure R Highway Operational Improvement.

County of Los Angeles

- Deobligate $3,322,000 from FY19/20 for the Del Amo Blvd Improvements Project (frm. Western Ave to Vermont Ave) MR312.16. The revised project budget is $23,498,000. The project is wrapping up a planning study and the deobligated funds are not required for the project at this time. The funds will be reprogrammed into other projects which will commence work in the upcoming fiscal year.

City of Manhattan Beach

- Deobligate $18,531 from MR312.04 - Sepulveda Blvd at Marine Ave Intersection Improvements. This project has been completed and project charges have been audited by Metro. Project saving are being deobligated and will be repurposed for other projects funded by line 33 of the Measure R Ordinance/Expenditure Plan.

Port of Los Angeles

New Measure R Project and Funding for Port of Los Angeles

- Program $900,000 for the Port of Los Angeles SR-47/Vincent Thomas Bridge and Harbor Blvd/Front Street Improvements. The project proposes to improve safety and operations for vehicles entering and exiting SR-47 from the Harbor Blvd / Front St. Interchange. The on/off ramps at Harbor Blvd / Front St. interchange routinely back up during peak periods due to vehicles slowing and weaving on the ramp because of the shared terminus with I-110 and SR-47.

Measure R NEXUS to Highway Operational Definition: This project is an on/off ramps improvement project for the SR-47 and I-110 at Harbor Blvd / Frontage Rd. This is an eligible Measure R Highway Operational Improvement.

City of Torrance

- Deobligate $280,130 from MR312.18 - Maple Ave at Sepulveda Blvd Intersection Improvements. This project has been completed and project charges have been audited by Metro. Project saving are being deobligated and will be repurposed for other projects funded by line 33 of the Measure R Ordinance/Expenditure Plan.

State Route 138 Capacity Enhancements

Through Measure R, the subregion has expended $21 million and identified and executed 11 agreements for projects which are in planning, design or construction phases. The subregional project list (Attachment B) does not include any funding or schedule adjustments.

I-605 Corridor "Hot Spots" Interchanges

Through Measure R, the Gateway Cities subregion has expended $36 million, identified 34 projects and currently has agreements executed for 24 active projects, which are in planning, design or construction phases. The updated subregional project list includes funding adjustments to 1 project and the addition of 2 new projects recommended by the 91/605/405 Technical Advisory Committee.

Metro

- Deobligate $9,500,000 from MR312.50 - The Freeway Early Action Projects strategic reserve line item. Funds are being deobligated to complete the project approval/environmental document and project specifications and estimates of two projects on I-605.

New Measure R Projects for Metro

- Program $3,000,000 for the I-605 Southbound Beverly Blvd on/off ramp Interchange Improvements Project. This project will complete a Project Report (PR) and Plans, Specifications, and Estimates (PS&E) for the Beverly Blvd Interchange Improvements. The funds will be programmed over two fiscal years: $100,000 in FY16-17 and $2,900,000 in FY17 -18. The total project budget for the PR and PS&E is $3,000,000.

  Measure R NEXUS to Highway Operational Definition : This project will environmentally clear and reconfiguring the I-605 Southbound Beverly Blvd Interchange on/off ramps. This is an eligible Measure R Highway Operational Improvement.

- Program $5,500,000 for the I-605 Southbound from SR-91 to South Street Improvements Project. This project will develop a Project Report (PR) and Plans, Specifications, and Estimates (PS&E) for the improvements. The funds will be programmed over two fiscal years: $200,000 in FY16-17 and $5,400,000 in FY17-18. The total project budget for PR and PS&E is $5,500,000.

  Measure R NEXUS to Highway Operational Definition : This project will environmentally clear

and design an auxiliary lane to allow for additional merging distance for vehicles entering southbound I-605 from both WB and EB SR-91. The project will reduce congestion and improve freeway operations (both mainline and ramps), improve safety and the local and system interchange operations. This is an eligible Measure R Highway Operational Improvement.

Caltrans

New Measure R Projects for Caltrans

- Program $500,000 for the I-605 Southbound Beverly on/off ramp Interchange Improvements Project. Caltrans will prepare the environmental clearance documentation for the Beverly Blvd on/off ramp improvements. The funds will be programmed over two fiscal years, $100,000 in FY16-17 and $400,000 in FY17-18. The total project budget is $500,000.

  Measure R NEXUS to Highway Operational Definition: This project will environmentally clear and reconfiguring the I-605 Southbound Beverly Blvd Interchange on/off ramps. This is an eligible Measure R Highway Operational Improvement.

- Program $500,000 for the I-605 Southbound from SR-91 to South Street Improvements Project. Caltrans will prepare the environmental clearance documentation for the I-605 Southbound from SR-91 to South Street Improvements. The funds will be programmed over two fiscal years, $100,000 in FY16-17 and $400,000 in FY17-18. The total project budget is $500,000.

  Measure R NEXUS to Highway Operational Definition: This project will environmentally clear and design an auxiliary lane to allow for additional merging distance for vehicles entering southbound I-605 from both WB and EB SR-91. The project will reduce congestion and improve freeway operations (both mainline and ramps), improve safety and the local and system interchange operations. This is an eligible Measure R Highway Operational Improvement.

County of Los Angeles

- Reprogram $800,000 into two fiscal years for the South Whittier Bikeway Access Improvements Project (Call Match) F9511. Funds will be programmed as follows: $155,000 in FY17/18 and $645,000 in FY19/20. This project is a local match to F9511 and funds are being reprogrammed to align with the Call for Projects programmed year.

City of Long Beach

- Program an additional $53,000 for the Park or Ride project (Call Match) F9808. The revised project budget will be $213,000 and will be programmed as follows: $14,900 in FY16-17, $49,341 in FY17-18, $62,486 in FY18/19, $71,780 in FY19/20 and $14,097 in FY20/21. This

project is a local match to F9808 and funds are being reprogrammed to align with the Call for Projects programmed year.

I-710 South and/or Early Action Project

Through Measure R, the Gateway Cities subregion has completed 2 projects and expended $71 million. The subregion has identified 14 projects and currently has agreements executed for 9 active projects which are in planning, design, or construction phases. The updated subregional project list includes funding adjustments for 3 projects and includes 2 new projects recommended by the I-710 Technical Advisory Committee.

City of Bell

- Program an additional $23,602 for MR306.37 - Eastern Ave. At Bandini Rickenbacker Project (Call Match) F9200. The funds will be programmed in FY16/17 for a total project budget of $178,602. This project is a local match to F9200 and funds are being reprogrammed to align with the Call for Projects programmed year.

City of Bell Gardens

- Reprogram $258,000 into two fiscal years for MR306.35 - Florence/Jaboneria Intersection Project (Call Match) F9111. Funds will be programmed as follows: $100,403 in FY19/20 and $183,045 in FY20/21. The project budget remains unchanged. This project is a local match to F9111 and funds are being reprogrammed to align with the Call for Projects programmed year.

City of Downey

- Deobligate $223,000 from MR306.20 - the Paramount Blvd/Firestone Blvd Improvements Project. The revised project budget is $3,169,000. The project has been completed and project savings are being deobligate and reprogrammed into another Operational Improvements Project.

New Measure R Project for Downey

- Program $223,000 for Firestone Blvd Improvement Project (Old River Road and west city limit). These funds are direct savings from the Paramount Blvd/Firestone Blvd Improvements Project. Funds will be used for PS&E and construction of Firestone Improvements, which will increase the number of arterial lanes from two to three in each direction; construct a raised median island to increase vehicle throughput; and, installation a new traffic signal. This project addresses long term traffic projections identified in the I-710 South EIR/EIS.

Measure R Nexus to Highway Operational Definition

This is a street widening project which will improve operations on Firestone Blvd, a major east/west arterial and one of the most important truck routes in the Gateway Cities. The

improvements are located within a mile of I-710 and are eligible Measure R Highway Operational Improvements.

City of South Gate

New Measure R Project and Funding for South Gate

- Program $5,700,000 for construction of the I-710 Soundwalls Early Action Projects, Package 1: Outside of Caltrans right-of-way. The design is expected to be complete early summer with advertising of the project this fall. The funds will be programmed over three fiscal years, $200,000 in FY16-17, $4,500,000 in FY17-18, and $1,000,000 in FY 18-19. The total project budget is $5,700,000.

Measure R Nexus to Highway Operational Definition:

This is an early action soundwall project of the I-710 Corridor Project, currently in PA&ED phase. The improvements are located in the City of South Gate and within a mile of I-710 Freeway. This is an eligible Measure R Highway Operational Improvement Project.

Metro

- Deobligate $3,000,000 from the I-710 ITS/Air Quality Early Action (grant match) strategic reserve project line. Funds have been deobligated and reprogrammed for grants that have been awarded to Metro. The revised project budget is $8,760,000.

New Measure R Project for Metro

- Program $3,000,000 in FY17-18 for the FRATIS Modernization Project. Metro was successful in obtaining a grant for this project from the Advanced Transportation and Congestion Management Technology Deployment (ATCMTD) Program through the Federal Highway Administration (FHWA). The project will provide a transparent optimization method for truck and terminal operations. FRATIS will exchange information between drayage operators and marine terminal operators regarding container and truck status to enhance truck and terminal efficiencies. The project will build upon past and current FRATIS projects in Los Angeles County. This project would enable FRATIS to be scaled beyond a pilot phase into actual implementation and commercialization. The project entails integration for 500 existing drayage trucks serving the Ports of Los Angeles and Long Beach (POLA/POLB). Measure R funds will be used as matching funds for the ATCMTD grant as outlined in the I-710 ITS/Air Quality Early Action Project.

Measure R Nexus to Highway Operational Definition: The project will improve the movement of people, goods, reduce congestion, and improve air quality on I-710 and adjacent arterials. Also, this project will demonstrate advanced freight transportation information systems for drayage trucks.

Port of Los Angeles

- Amend the assigned project sponsor from Metro to the Port of Los Angeles for the Port of Los Angeles' I-710 Eco-FRATIS Drayage Truck Efficiency Project (MR306.40). POLA and Metro were successful in obtaining a grant for this project through the California Energy Commission (CEC). Measure R funds will be used as matching funds for the CEC grant. The project will reduce truck fuel consumption and greenhouse gas emissions by using the most eco-friendly truck routes, increase marine terminal throughput and optimize truck dispatch and arrival times at the marine terminal. The project entails integration for 100 existing drayage trucks serving the Ports of Los Angeles and Long Beach (POLA/POLB).

Measure R Nexus to Highway Operational Definition: The project will improve the movement of people, goods, reduce congestion, and improve air quality on I-710 freeway and adjacent arterials. This project will demonstrate advanced freight transportation information systems for drayage trucks.

DETERMINATION OF SAFETY IMPACT

The recertification of the project lists and funding allocations will have no adverse impact on the safety of Metro's patrons and employees and the users of the referenced transportation facilities.

FINANCIAL IMPACT

Funding for the Highway projects is from the Measure R 20% Highway Capital Subfund earmarked for the subregions. Funds are available for Arroyo Verdugo (Project No. 460310), LasVirgenes/Malibu (Project No. 460311), and South Bay (Project No. 460312) subregions in the FY17 budget. These three programs are under Cost Center 0442 in Account 54001 (Subsidies to Others).

Funding for the SR-138 Project Approval and Environmental Document (September 2012 Board Action) is included in the FY17 budget under project No. 461330, Cost Center 4720 in Account 50316. The remaining funds are distributed from the Measure R 20% Highway Capital Subfund via funding agreements to Caltrans, and the Cities of Palmdale and Lancaster under Cost Center 0442 in (Project No. 460330), Account 54001 (Subsidies to Others).

Funding for Projects in the I-605 Corridor "Hot Spots" (Project No. 460314) is included in Cost Center 0442, account 54001, and under 461314, task 5.2.100, 462314, task 5.2.100, 463314, task 5.2.100, 464314, task 5.1.100, 467314, task 5.2.100, 468314, task 5.3.100, 469314, task 5.3.100, I-710 Early Action Projects (Project No. 460316) and also under 462316, task 5.2.100, 463316, task 5.3.100, 463416, task 5.3.100 and 463516, task 5.3.100 are included in the FY17 budget.

Moreover, programmed funds are based on estimated revenues. Since each MRSHP is a multi-year program with various projects, the cost center managers and the Senior Executive Officer of the Highway Program will be responsible for budgeting the costs in current and future years. Adjustments in programmed funds, as necessary, will be made for future years if required.

Impact to Budget

The source of funds for these projects is Measure R 20% Highway. This fund sources is not eligible for Bus and Rail Operations or Capital expenses and will have no impact on the FY17 budget.

ALTERNATIVES CONSIDERED

The Board may choose to not approve the revised project lists and funding allocations. However, this option is not recommended as it will be inconsistent with Board direction given at the time of the 2009 LRTP adoption and may delay the development and delivery of projects.

NEXT STEPS

Metro Highway Program Staff will continue to work with the subregions to identify new and deliver existing projects. As work progresses, updates will be provided to the Board on a semi-annual basis and as necessary.

ATTACHMENTS

Attachment A - Measure R Highway Subregional Project List
Attachment B - SR-138 Capacity Enhancements Project List

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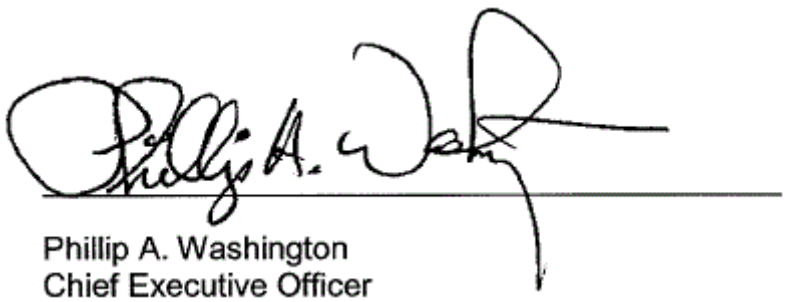

Phillip A. Washington
Chief Executive Officer

ATTACHMENT A

Measure R Highway Operational Improvements Project List

Arroyo Verdugo Subregion Measure R Highway Operational Improvements Project List

(Programmed Dollars in Thousands)

(C)hange (A)dd (D)elete	Lead Agency	Funding Agreement (FA) No.	PROJECT/LOCATION	Total Allocation	Prior Years	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
		Arroyo Verdugo Operational Improvements (44 projects - 5 new)		**67,051**	**39,566**	**3,721**	**14,700**	**1,400**	**0**	**7,364**
	Burbank	MR310.06	San Fernando Blvd. / Burbank Blvd. Intersection	2,325	2,325					
C	Burbank	MR310.07	Widen Magnolia Blvd / I-5 Bridge for center-turn lane	3,967			250			3,717
	Burbank	MR310.08	I-5 Corridor Arterial Signal Improvements	2,600	2,600					
	Burbank	MR310.09	SR-134 Corridor Arterial Signal Improvements	2,975	2,975					
C	Burbank	MR310.10	Widen Olive Ave / I-5 Bridge for center-turn lane	3,897			250			3,647
	Burbank	MR310.11	Olive Ave. / Verdugo Ave. Intersection Improvement	1,600	1,600					
C	Burbank	MR310.23	Chandler Bikeway Extension **(call match) F7506**	659.821		185.790	474.031			
A	Burbank	TBD	SR-134 Corridor Arterial Signal Improvements - Phase 1	1,300			1,300			
A	Burbank	TBD	Media District Traffic Signal Improvments	1,400			1,400			
A	Burbank	TBD	I-5 Corridor Arterial Signal Improvements - Phase 1	800			800			
A	Burbank	TBD	Glenoaks Blvd Arterial and First St Signal Improvements	1,900			500	1,400		
			TOTAL BURBANK	**23,424**	**9,500**	**186**	**4,974**	**1,400**	**0**	**7,364**
	Glendale	MR310.01	Fairmont Ave. Grade Separation at San Fernando Rd. (Construction) **(Completed)**	1658.7	1,659					
	Glendale	MR310.02	Fairmont Ave. Grade Sep. at San Fernando -- Design **(FA canceled and funds previously moved to MR310.01)**	0						
	Glendale	MR310.04	San Fernando/Grandview At-Grade Rail Crossing Imp. **(Completed)**	1,850	1,850					
	Glendale	MR310.05	Central Ave Improvements / Broadway to SR-134 EB Offramp **(Completed)**	3,250	3,250					
	Glendale	MR310.13	Glendale Narrows Bikeway Culvert	876.5	876.50					
	Glendale	MR310.14	Verdugo Road Signal Upgrades **(Completed)**	557	557					
	Glendale	MR310.16	SR-134 / Glendale Ave. Interchange Modification	1,585	1,585					
	Glendale	MR310.17	Ocean Blvd. Project -- from Verdugo Rd. to N'ly City Boundaries	1,000	1,000					
	Glendale	MR310.18	Sonora Avenue At-Grade Rail Crossing Safety Upgrade **(Completed)**	2,700	2,700					
	Glendale	MR310.19	Traffic Signal Sync Brand / Colorado-San Fernando / Glendale-Verdugo **(Completed)**	1,250	1,250					
	Glendale	MR310.20	Verdugo Rd / Honolulu Ave / Verdugo Blvd Intersection Modification **(Completed)**	400	400					
	Glendale	MR310.21	Colorado St. Widening between Brand Blvd. and East of Brand Blvd. **(Completed)**	350	350					
	Glendale	MR310.22	Glendale Narrows Riverwalk Bridge	600	600					

ATTACHMENT A

(C)hange (A)dd (D)elete	Lead Agency	Funding Agreement (FA) No.	PROJECT/LOCATION	Total Allocation	Prior Years	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
	Glendale	MR310.24	Construction of Bicycle Facilities	300	300					
	Glendale	MR310.25	210 Soundwalls Project	4,520		1,520	3,000			
	Glendale	MR310.26	Bicycle Facilities, Phase 2 (Class III Bike Routes)	165		165				
	Glendale	MR310.28	Pennsylvania Ave Signal at I-210 On/Off-Ramps	400		400				
	Glendale	MR310.32	Regional Arterial Performance Measures	100			100			
C	Glendale	MR310.34	Regional Bike Stations **(Call Match) F7709**	332.123			332.123			
	Glendale	MR310.36	Signalizations of SR-2 Fwy Ramps @ Holly	600		100	500			
	Glendale	MR310.35	Signal Installations at Various Locations	1,500	1,500					
	Glendale	MR310.37	Verdugo Boulevard Traffic Signal Modification at Vahili Way and SR-2	600		600				
	Glendale	MR310.39	Widening of SR-2 Fwy Ramps @ Mountain	1,200	0	150	1,050			
	Glendale	MR310.40	Pacific Ave: Colorado to Glenoaks & Burchett St: Pacific To Central Street Improve	3,315	3,315					
	Glendale	MR310.41	Doran St. (From Brand Bold. To Adams St.)	1,200	1,200					
	Glendale	MR310.42	Arden Ave. (From Highland Ave. to Kenilworth St.) **(Completed)**	900	900					
	Glendale	MR310.43	Verdugo Rd. Street Improvements Project (Traffic Signal Modification)	585	585					
C	Glendale	TBD	Traffic Signals on Glenwood Rd. and Modificaitons on La Crescenta and Central Ave.	1,200			1,200			
A	Glendale	TBD	San Frenando Rd and Los Angeles Street Traffic Signal Installation & Intersection Modification	400			400			
			TOTAL GLENDALE	**33,395**	**23,878**	**2,935**	**6,582**	**0**	**0**	**0**
	La Canada Flintridge	MR310.03	Soundwalls on Interstate I-210 **(Completed)**	4,588	4,588					
	La Canada Flintridge	MR310.45	Soundwalls on Interstate I-210 in La Canada-Flintridge (phase 2)	1,800	600	600	600			
			TOTAL LA CANADA FLINTRIDGE	**6,388**	**5,188**	**600**	**600**	**0**	**0**	**0**
	LA County	MR310.44	Soudwalls on Interstate I-210 in LA Crescenta-Montrose	3,044	1,000		2,044			
			TOTAL LA COUNTY	**3,044**	**1,000**	**0**	**2,044**	**0**	**0**	**0**
	Metro	MR310.29	NBSSR Soundwalls on I-210 Glendale/La Crescenta-Montrose	800	0	300	500			
			METRO	**800**	**0**	**300**	**500**	**0**	**0**	**0**
			TOTAL ARROYO VERDUGO	**67,051**	**39,566**	**4,021**	**14,700**	**1,400**	**0**	**7,364**

Legend (C)hange (A)dd (D)elete*

Change = project budget adjustment, reprogramming, scope adjustment

Add = addittion of new project to the subregional list

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ATTACHMENT A

Measure R Highway Operational Improvements Project List

Las Virgenes/Malibu Operational Improvements

(Programmed Dollars in Thousands)

(C)hange (A)dd (D)elete	Lead Agency	Funding Agreement (FA) No.	PROJECT/LOCATION	Total Allocation	Prior Years	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
		Las Virgenes/Malibu Operational Improvements (24 projects)		**141,851**	**104,901**	**21,550**	**10,400**			
	Westlake Village	MR311.01	Lindero Canyon Road Interchange, Phase 3A Design	343.745	343.745					
	Westlake Village	MR311.02	Highway 101 Park and Ride Lot (Design)	243.650	243.650					
C	Westlake Village	MR311.10	Rte 101/ Lindero Cyn. Rd. Interchange Improvements, Phase 3B,4B Construction **(completed)**	3,251	3,251					
C	Westlake Village	MR311.18	Rte 101/ Lindero Cyn. Rd. Interchange Improvements, Phase 3A Construction	9,419	8,969.000	450				
C	Westlake Village	MR311.19	Highway 101 Park and Ride Lot (Construction)	4,943.605	4,943.605					
			TOTAL WESTLAKE VILLAGE	**18,201.000**	**17,751.00**	**450**	**0**	**0**	**0**	**0**
C	Agoura Hills	MR311.03	Palo Comando Interchange	4,000	4,000					
	Agoura Hills	MR311.04	Aguora Road/Kanan Road Intersection Improvements	1,000	1,000					
C	Agoura Hills	MR311.05	Agoura Road Widening **(completed)**	36,850	32,000.000	4,850				
	Agoura Hills	MR311.14	Kanan Road Overpass Expansion -- PSR, PR, PS&E	150	150.000					
	Agoura Hills	MR311.15	Agoura Hills Multi-Modal Center	100	0.000	100				
			TOTAL AGOURA HILLS	**42,100**	**37,150**	**4,950**	**0**	**0**	**0**	**0**
	Calabasas	MR311.06	Lost Hills Overpass and Interchange	33,000	26,000.000	7,000				
	Calabasas	MR311.07	Mulholland Highway Scenic Corridor Completion **(completed)**	4,389.8	4,389.800					
	Calabasas	MR311.08	Las Virgenes Scenic Corridor Widening	5,746.2	5,746.200					
	Calabasas	MR311.09	Parkway Calabasas/US 101 SB Offramp	214	214.000					
	Calabasas	MR311.20	Off-Ramp for US 101 at Las Virgenes Road	500	500.000					
	Calabasas	MR311.33	Park and Ride Lot on or about 23577 Calabasas Road (near Route 101) **(completed)**	3,700	3,700.000					
			TOTAL CALABASAS	**47,550**	**40,550**	**7,000**	**0**	**0**	**0**	**0**
	Malibu	MR311.24	Malibu/Civic Center Way Widening	3,000	2,250.000	750				
	Malibu	MR311.26	PCH-Raised Median and Channelization from Webb Way to Corral Canyon Road	6,950	3,050.000	900	3,000			
	Malibu	MR311.27	PCH Intersections Improvements	1,000	0.000	1,000				
	Malibu	MR311.28	Kanan Dume Road Arrestor Bed Improvements and Intersection with PCH (Construction) **(completed)**	900	900.000					
	Malibu	MR311.29	PCH Regional Traffic Message System (CMS)	2,500	500.000	500	1,000	500		
	Malibu	MR311.30	PCH Roadway and Bike Route Improvements fr. Busch Dr. to Western City Limits	500	500.000					
	Malibu	MR311.32	PCH and Big Rock Dr. Intersection and at La Costa Area Pedestrian Improvements	950	950.000					
	Malibu	MR311.35	Pacific Coast Highway Shoulder Improvements (Various Locations)	3,500	500.000	1,500	1,500			
	Malibu	MR311.11	PCH Signal System Improvements from John Tyler Drive to Topanga Canyon Blvd	13,700	300.000	4,000	4,900	4,500		
			TOTAL MALIBU	**33,000**	**8,950**	**8,650**	**10,400**	**5,000**	**0**	**0**
	Hidden Hills	MR311.34	Long Valley Road/Valley Circle/US-101 On-Ramp Improvements	1,000	500.000	500				
			TOTAL HIDDEN HILLS	**1,000**	**500**	**500**	**0**	**0**	**0**	**0**
			TOTAL LAS VIRGENES/MALIBU	**141,851**	**104,901**	**21,550**	**10,400**	**5,000**	**0**	**0**

Legend (C)hange (A)dd (D)elete

Change = project budget adjustment, reprogramming, scope adjustment

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ATTACHMENT A

Measure R Highway Operational Improvements Project List

Interstate 405, I-110, I-105, and SR-91 Ramp and Interchange Improvements (SOUTH BAY)

(Programmed Dollars in Thousands)

(C)hange (A)dd (D)elete	Lead Agency	Funding Agreement (FA) No.	PROJECT/LOCATION	Total Allocation	Prior Years	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
I-405, I-110, I-105, and SR-91 RAMP and INTERCHANGE IMPROVEMENTS (SOUTH BAY) (66 projects - 3 new)				**233,024**	**140,588**	**25,008**	**36,078**	**23,946**	**6,415**	**0**
	SBCCOG	MR312.01	South Bay Cities COG Program Development & Oversight and Program Administration ***(Project Development Budget Included)***	13,375	9,764	1,900	500	594	617	
			TOTAL SBCCOG	13,375	9,764	1,900	500	594	617	0
C	Caltrans	MR312.11	ITS: I-405, I-110, I-105, SR-91 at Freeway Ramp/Arterial Signalized Intersections	5,357	5,000	357				
	Metro/ Caltrans	MR312.24	I-110 Aux lane from SR-91 to Torrance Blvd Aux lane & I-405/I-110 Connector	20,000	3,450	5,900	5,900	4,750	0	
	Metro/ Caltrans	MR312.25	I-405 at 182nd St. / Crenshaw Blvd Improvements	20,000	2,000	2,000	5,900	5,900	4,200	
	Caltrans	MR312.29	ITS: Pacific Coast Highway and Parallel Arterials From I-105 to I-110	9,000	9,000					
	Caltrans	MR312.45	PAED Integrated Corridor Management System (ICMS) on I-110 from Artesia Blvd and I-405	1,000	0			1,000		
			TOTAL CALTRANS	55,357	19,450	8,257	11,800	11,650	4,200	0
	Carson	MR312.37	Sepulveda Blvd widening from Alameda Street to ICTF Driveway	1,158	1,158					
	Carson	MR312.46	Upgrade Traffic Control Signals at the Intersection of Figueroa St and 234th St. and Figueroa and 228th st.	150	0	65	85			
	Carson	MR312.41	Traffic Signal Upgrades at 10 Intersections	1,400	0	500	900			
			TOTAL CARSON	2,708	1,158	565	985	0	0	0
C	El Segundo	MR312.22	Maple Ave Improvements from Sepulveda Blvd to Parkview Ave. **(Completed)**	2,500	2,500					
	El Segundo	MR312.27	PCH Improvements from Imperial Highway to El Segundo Boulevard	400	400					
	El Segundo	MR312.57	Park Place Roadway Extension and Railroad Grade Separation Project	350	350					
			TOTAL EL SEGUNDO	3,250	3,250	0	0	0	0	0
C	Gardena	MR312.17	Rosecrans Ave Improvements from Vermont Ave to Crenshaw Blvd **(Completed)**	4,967	4,967					
C	Gardena	MR312.19	Artesia Blvd at Western Ave Intersection Improvements (Westbound left turn lanes) **(Completed)**	393	393					
C	Gardena	MR312.21	Vermont Ave Improvements from Rosecrans Ave to 182nd Street **(Completed)**	2,090	2,090					
	Gardena	MR312.02	Traffic Signal Reconstruction on Vermont at Redondo Beach Blvd and at Rosecrans Ave.	1,500		40	1,460			
	Gardena	MR312.09	Artesia Blvd Arterial Improvements from Western Ave to Vermont Ave	2,523		80	180	2,263		
			TOTAL GARDENA	11,473	7,450	120	1,640	2,263	0	0

ATTACHMENT A

(C)hange (A)dd (D)elete	Lead Agency	Funding Agreement (FA) No.	PROJECT/LOCATION	Total Allocation	Prior Years	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
	Hawthorne	MR312.03	Rosecrans Ave Widening from I-405 SB off ramp to Isis Ave **(Completed)**	2,100	2,100					
	Hawthorne	MR312.33	Aviation Blvd at Marine Ave Intersection Improvements (Westbound right turn lane)	3,600	3,600					
	Hawthorne	MR312.44	Hawthorne Blvd Improvements from El Segundo Blvd to Rosecrans Ave **(Completed)**	7,551	7,551					
	Hawthorne	MR312.47	Signal Improvements on Prairie Ave from 118th St. to Marine Ave.	1,237	0	200	418	619		
	Hawthorne	MR312.54	Intersection Widening & Traffic Signal Modifications on Inglewood Ave at El Segundo Blvd; on Crenshaw Blvd At Rocket Road; on Crenshaw at Jack Northop; and on 120th St. from Prairie Ave to Felton Ave	2,000	0	1,000	1,000			
	Hawthorne	MR312.61	Hawthorne Blvd Arterial Improvements, from 126th St to 111th St.	4,400	0	600	1,000	2,800		
			TOTAL HAWTHRONE	20,888	13,251	1,800	2,418	3,419	0	0
	Hermosa Beach	MR312.05	PCH (SR-1/PCH) Improvements between Anita St. and Artesia Boulevard	304	304					
	Hermosa Beach	MR312.38	Pacific Coast Highway at Aviation Blvd Intersection Improvements (Southbound left turn lanes)	872	872					
	Hermosa Beach	MR312.63	PA/ED on PCH from Aviation Blvd to Prospect Ave	1,800	0	400	1,400			
			TOTAL HERMOSA BEACH	2,976	1,176	400	1,400	0	0	0
	Inglewood	MR312.12	Intelligent Transportation System (ITS): City of Inglewood Citywide ITS Master Plan	3,500	3,500					
	Inglewood	MR312.50	ITS: Phase V - Communication Gap Closure on Various Locations, ITS Upgrade and Arterial Detection	384			192	192		
			TOTAL INGLEWOOD	3,884	3,500	0	192	192	0	0
	LA City	MR312.56	Del Amo Blvd Improvements from Western Ave to Vermont Ave Project Oversight	100	100					
C	LA City	MR312.51	Improve Anaheim St. from Farragut Ave. to Dominguez Channel **(Call Match)** ***F7207***	1,313.04		262.608	1050.433			
A	LA City	TBD	Alameda St. (South) Widening frm. Anaheim St. to Harry Bridges Blvd	2,875			2875			
			TOTAL LA CITY	4,288	100	263	3,925	0	0	0
C	LA County	MR312.16	Del Amo Blvd improvements from Western Ave to Vermont Ave	23,498	6,900	5,000	5,000	5,000	1,598	
	LA County	MR312.52	ITS: Improvements on South Bay Arterials	1,021	0		401	620		
			TOTAL LA COUNTY	24,519	6,900	5,000	5,401	5,620	1,598	0

ATTACHMENT A

(C)hange (A)dd (D)elete	Lead Agency	Funding Agreement (FA) No.	PROJECT/LOCATION	Total Allocation	Prior Years	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
	Lawndale	MR312.15	Inglewood Ave Widening from 156th Street to I-405 Southbound on-ramp	500	500					
	Lawndale	MR312.36	ITS: City of Lawndale Citywide Improvements **(completed)**	1,500	1,500					
C	Lawndale	MR312.49	Redondo Beach Blvd Mobility Improvements from Prairie to Artesia **(Call Match)** *F9101*	1,039.262		272.954	766.308			
A	Lawndale	TBD	Manhattan Bch Blvd at Hawthorne Blvd Left Turn Signal Improvements	508			300	208		
			TOTAL LAWNDALE	3,547	2,000	273	1,066	208	0	0
	Lomita	MR312.43	Intersection Improvements at Western/Palos Verdes Dr and PCH/Walnut	900	900					
			TOTAL LOMITA	900	900	0	0	0	0	0
C	Manhattan Beach	MR312.04	Sepulveda Blvd at Marine Ave Intersection Improvements (West Bound left turn lanes) **(Completed)**	346	346					
	Manhattan Beach	MR312.28	Seismic retrofit of widened Bridge 53-62 from Sepulveda Blvd from 33rd Street to south of Rosecrans Ave	9,100	9,100					
	Manhattan Beach	MR312.34	Aviation Blvd at Artesia Blvd Intersection Improvements (Southbound right turn lane)	1,500	1,500					
	Manhattan Beach	MR312.35	Sepulveda Blvd at Manhattan Beach Blvd Intersection Improvements (NB, WB, EB left turn lanes and SB right turn lane)	980	980					
	Manhattan Beach	MR312.62	Sepulveda Blvd Operational Improvements at Rosecrans Ave, 33rd St, Cedar Ave, 14th St and 2nd St.	900	0	50	850			
			TOTAL MANHATTAN BEACH	12,826	11,926	50	850	0	0	0
	Metro/ Caltran	MR312.30	Feasibility Study for I-405 from I-110 to I-105 and I-105 from I-405 to I-110	400			400			
	Metro/Caltrans	TBD	Feasibility Study for I-405 from I-110 to I-105 and I-105 from I-405 to I-110	300			300			
	Metro/ Caltran	MR312.48	Western Ave. (SR-213) from Palos Verdes Drive North to Gardena – PSR	170		70	100			
	Metro/ Caltran	MR312.32	SR-1 from Eastern Boundary of Carson to Eastern Boundary of Torrance – PSR	170		70	100			
	Metro	PS4010-2540	South Bay Arterial Baseline Conditions Analysis **(Completed)**	250	250					
	Metro	MR312.31	Inglewood Transit Center at Florence/La Brea	1,500	260	1,240				
			TOTAL METRO	2,790	510	1,380	900	0	0	0

ATTACHMENT A

(C)hange (A)dd (D)elete	Lead Agency	Funding Agreement (FA) No.	PROJECT/LOCATION	Total Allocation	Prior Years	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
	Rancho Palos Verdes	MR312.39	Western Ave. (SR-213) from Palos Verdes Drive North to 25th street -- PSR	90		30	60			
			TOTAL RANCHO PALOS VERDES	90		30	60			
A	POLA	TBD	SR-47/Vincent Thomas Bridge on/off ramp Improvements at Harbor Blvd	900		900				
			PORT OF LOS ANGELES	900		900				
	Redondo Beach	MR312.06	Pacific Coast Highway improvements from Anita Street to Palos Verdes Blvd	1,400	1,400					
	Redondo Beach	MR312.07	Pacific Coast Highway at Torrance Blvd intersection improvements (Northbound right turn lane)	586	586					
	Redondo Beach	MR312.08	Pacific Coast Highway at Palos Verdes Blvd intersection improvements (WB right turn lane)	320	320					
	Redondo Beach	MR312.13	Aviation Blvd at Artesia Blvd intersection improvements **(Completed)** (Eastbound right turn lane)	22	22					
	Redondo Beach	MR312.14	Inglewood Ave at Manhattan Beach Blvd intersection improvements (Eastbound right turn lane) **(Completed)**	30	30					
	Redondo Beach	MR312.20	Aviation Blvd at Artesia Blvd intersection improvements (Northbound right turn lane)	847	847					
	Redondo Beach	MR312.42	Inglewood Ave at Manhattan Beach Blvd intersection improvements (Southbound right turn lane)	5,175	5,175					
			TOTAL REDONDO BEACH	8,380	8,380	0	0	0	0	0
	Torrance	MR312.10	Pacific Coast Highway at Hawthorne Blvd intersection improvements	19,600	19,600					
	Torrance	MR312.18	Maple Ave at Sepulveda Blvd Intersection Improvements **(Completed)** (Southbound right turn lane)	320	320					
	Torrance	MR312.23	Torrance Transit Park and Ride Regional Terminal Project 465 Crenshaw Blvd	18,100	18,100					
	Torrance	MR312.26	I-405 at 182nd St. / Crenshaw Blvd Operational Improvements	15,300	5,300	5,000	5,000			
	Torrance	MR312.40	Pacific Coast Highway at Vista Montana/Anza Ave Intersection Improvements	2,900	2,900					
	Torrance	MR312.58	Pacific Coast Highway from Calle Mayor to Janet Lane Safety Improvements	852	852					
	Torrance	MR312.59	Pacific Coast Highway at Madison Ave Signal upgrades to provide left-turn phasing	500	500					
	Torrance	MR312.60	Crenshaw from Del Amo to Dominguez - 3 SB turn lanes at Del Amo Blvd, 208th St., Transit Center Entrance, Signal Improvements at 2 new signal at Transit Center	3,300	3,300					
			TOTAL TORRANCE	60,872	50,872	5,000	5,000	0	0	0
			TOTAL SOUTH BAY	**233,024**	**140,588**	**25,008**	**36,078**	**23,946**	**6,415**	**0**

Legend (C)hange (A)dd (D)elete

Change = project budget adjustment, reprogramming, scope adjustment

Add = addition of new project to the subregional list

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ATTACHMENT A

Measure R Highway Operational Improvements Project List

I-605/SR-91/I-405 Corridors "Hot Spots" (Gateway Cities)

(Programmed Dollars in Thousands)

(C)hange (A)dd (D)elete	Lead Agency	Funding Agreement (FA) No.	PROJECT/LOCATION	Total Allocation	Prior Years	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
INTERSTATE 605/STATE ROUTE 91/INTERSTATE 405 CORRIDOR "HOT SPOTS" (34 projects -- 1 new)				**191,713**	**88,074**	**45,803**	**27,664**	**18,940**	**9,517**	**1,714**
	GCCOG	MOU.306.03	GCCOG Engineering Support Services	300	300					
	GCCOG	MR315.29	Gateway Cities Third Party Support	100	100					
			TOTAL GCCOG	400	400					
	Metro	PS4720-3334	Program/Project Management Support of Measure R Funds	200	200					
	Metro	PS4720-3252	I-605 Arterial Hot Spots in the City of Whittier: PAED for Santa Fe Springs/ Whittier, Painter/Whittier, & Colima Whittier Intersection Improvements	680	680					
	Metro	PS4720-3250	Arterial Hot Spots in the Cities of Long Beach, Bellflower, and Paramount: PAED for Lakewood/Alondra, Lakewood/Spring, and Bellflower Spring Intersection & PS&E for Lakewood/Alondra Intersection Improvements Improvements	573	573					
	Metro	PS4720-3251	Arterial Hot Spots in the Cities of Cerritos, La Mirada, and Santa Fe Springs: PAED for Valley View/Rosecrans, Valley View/Alondra, Carmenita/South, and Bloomfield/Artesia Intersection Improvements	561	561					
	Metro	AE25081	Arterial Hot Spots in the Cities of Cerritos: PS&E for Carmenita/South and Bloomfield/Artesia Intersection Improvements	100	100					
	Metro	AE25083	Arterial Hot Spots in the Cities of La Mirada and Santa Fe Springs: PS&E for Valley View/Rosecrans and Valley View/Alondra Intersection Improvements	100	100					
	Metro	PS4603-2582	Professional Services for I-605 Feasibility Study **(Completed)**	6,170	6,170					
	Metro	PS4603-2582	Professional Services for PSR/PDS: I-5/I-605 and I-605/SR-91 **(Completed)**	3,121	3,121					
	Metro	PS4720-3235	Professional Services for 605/60 PSR/PDS	3,040	3,040					
	Metro	AE2259	Professional Services for 605/60 PA/ED	34,000	3,000	7,000	8,000	8,000	8,000	
	Metro	PS47203004	Professional Services for the Gateway Cities Strategic Transportation Plan	10,430	9,339	1,091				
	Metro	AE333410011375	Professional Services for the I-605/I-5 PA/ED	20,698	3,000	5,000	5,000	7,698		
	Metro	AE476110012334	Professional Services for the I-605/SR-91 PA/ED	8,026	263	3,200	3,100	1,463		
	Metro	AE322940011372	Professional Services for 710/91 PSR/PDS	2,340	1,590	750				
	Metro	MR315.49	Third Party Support for the I-605 Corridor "Hot Spots" Interchanges Program Development (Gateway Cities, SCE, LA County)	300	300					
C	Metro	MR315.50	Freeway Early Action Projects (PA/ED & PS&E)	14,500		14,500				
A	Metro	TBD	I-605 Beverly Interchange Improvements (PR & PS&E)	3,000		100	2,900			
A	Metro	TBD	I-605 from SR-91 to South Street Improvements Project (PR & PS&E)	5,500		100	5,400			
			TOTAL METRO	113,338	32,036	31,741	24,400	17,161	8,000	0

ATTACHMENT A

(C)hange (A)dd (D)elete	Lead Agency	Funding Agreement (FA) No.	PROJECT/LOCATION	Total Allocation	Prior Years	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
	Caltrans	MR315.28	Third Party Support for the I-605 Corridor "Hot Spots" Interchanges Program Development, I-605/SR-60 PSR-PDS	260	260					
	Caltrans	MR315.47	Third Party Support for the I-605 Corridor "Hot Spots" Interchanges Program Development, I-605/SR-60 PA/ED	3,650	400	850	800	800	800	
	Caltrans	MR315.24	Third Party Support for the I-605 Corridor "Hot Spots" Interchanges Program Development, I-605/I-5 PA/ED	2,070	300	500	500	770		
	Caltrans	MR315.08	Third Party Support for the I-605 Corridor "Hot Spots" Interchanges Program Development, I-605/SR-91 PA/ED	803	26	320	310	146		
	Caltrans	MR315.48	Third Party Support for the I-605 Corridor "Hot Spots" Interchanges Program Development, I-605 Intersection Improvements	60	60					
	Caltrans	MR315.13	Third Party Support for the I-605 Corridor "Hot Spots" Interchanges Program Development, I-710/SR-91 PSR-PDS	234	159	75				
A	Caltrans	TBD	I-605 Beverly Interchange Improvements (Env. Doc.)	500		100	400			
A	Caltrans	TBD	I-605 from SR-91 to South Street Improvements Project (Env. Doc.)	500		100	400			
			TOTAL CALTRANS	8,076	1,205	1,945	2,410	1,716	800	0
	Bellflower	MR315.16	Bellflower Blvd- Artesia Blvd Intersection Improvement Project	7,310	6,210	1,100				
	Bellflower	MR315.33	Lakewood - Alondra Intersection Improvements: Construction	644	644					
			TOTAL BELLFLOWER	7,954	6,854	1,100	0	0	0	0
	Cerritos	MR315.38	Carmenita - South Intersection Improvements, Construction	292	292					
	Cerritos	MR315.39	Bloomfield - Artesia Intersection Improvements, ROW & Construction	1,756	1,756					
			TOTAL CERRITOS	2,048	2,048	0	0	0	0	0
	Downey	MR315.03	Lakewood - Telegraph Intersection Improvements	2,120	2,120					
	Downey	MR315.14	Lakewood - Imperial Intersection Improvements	2,760	2,760					
	Downey	MR315.27	Lakewood - Florence Intersection Improvements	1,310	1,310					
	Downey	MR315.18	Bellflower - Imperial Highway Intersection Improvements	2,740	2,740					
			TOTAL DOWNEY	8,930	8,930	0	0	0	0	0
	LA County	MR315.07	Painter - Mulberry Intersection Improvements	2,410	760	1,650				
	LA County	MR315.11	Valley View - Imperial Intersection Improvements	1,640	1,640					
	LA County	MR315.15	Norwalk-Whittier Intersection Improvements	2,830	1,050	1,780				
	LA County	MR315.23	Carmenita - Telegraph Intersection Improvements	1,400	800	600				
	LA County	MR315.22	Norwalk-Washington Intersection Improvements	550	550					
C	LA County	TBD	South Whittier Bikeway Access Improvements **(Call Match) F9511**	800			155		645	
			TOTAL LA COUNTY	9,630	4,800	4,030	155	0	645	0
	Lakewood	MR315.36	Lakewood Blvd Regional Capacity Enhancement	3,600	1,000	2,600				
	Lakewood	MR315.04	Lakewood - Del Amo Intersection Improvements	5,504	5,504					
			TOTAL LAKEWOOD	9,104	6,504	2,600	0	0	0	0

ATTACHMENT A

(C)hange (A)dd (D)elete	Lead Agency	Funding Agreement (FA) No.	PROJECT/LOCATION	Total Allocation	Prior Years	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
	Long Beach	TBD	2015 CFP - Artesia Complete Blvd **(Call Match) F9130**	900						900
	Long Beach	TBD	2015 CFP - Atherton Bridge & Campus Connection **(Call Match) F9532**	800						800
C	Long Beach	TBD	Park or Ride **(Call Match) F9808**	213		15	49	62	72	14
	Long Beach	MR315.60	Soundwall on I-605 near Spring Street, PAED and PSE	250	50	100	100			
	Long Beach	MR315.61	Lakewood - Spring Intersction Improvements, PSE and Construction	454	454					
	Long Beach	MR315.62	Bellflower - Spring Intersection Improvements, PSE and Construction	493	493					
			TOTAL LONG BEACH	3,110	997	115	149	62	72	1,714
	Norwalk	MR315.06	Studebaker - Rosecrans Intersection Improvements	1,670	1,670					
	Norwalk	MR315.10	Bloomfield - Imperial Intersection Improvements	920	920					
	Norwalk	MR315.17	Pioneer - Imperial Intersection Improvements	1,509	1,509					
	Norwalk	MR315.26	Studebaker - Alondra Intersection Improvements	480	480					
	Norwalk	MR315.43	Imperial Highway ITS Project, from San Gabriel River to Shoemaker Rd. (PAED, PS&E, CON)	3,380	3,380					
			TOTAL NORWALK	7,959	7,959	0	0	0	0	0
	Pico Rivera	MR315.05	Rosemead - Beverly Intersection Improvements	8,474	4,251	4,223				
	Pico Rivera	MR315.09	Rosemead - Whittier Intersection Improvements	1,388	1,388					
	Pico Rivera	MR315.21	Rosemead - Washington Intersection Improvements	40	40					
	Pico Rivera	MR315.19	Rosemead - Slauson Intersection Improvements	2,195	2,195					
			TOTAL PICO RIVERA	12,097	7,874	4,223	0	0	0	0
	Santa Fe Springs	MR315.40	Valley View - Rosecrans Intersection Improvements, Construction	524	524					
	Santa Fe Springs	MR315.41	Valley View - Alondra Intersection Improvements, ROW & Construction	2,967	2,967					
	Santa Fe Springs	MR315.42	Florence Avenue Widening Project, from Orr & Day to Pioneer Blvd (PAED, PSE, ROW)	600	0	50	550			
			TOTAL SANTA FE SPRINGS	4,091	3,491	50	550	0	0	0
	Whittier	MR315.44	Santa Fe Springs Whittier Intersection Improvements: PSE, ROW, Construction	1,568	1,568					
	Whittier	MR315.45	Painter Ave - Whittier Intersection Improvements: PSE, ROW, Construction	1,760	1,760					
	Whittier	MR315.46	Colima Ave - Whittier Intersection Improvements: PSE, ROW, Construction	1,646	1,646					
			TOTAL WHITTIER	4,974	4,974	0	0	0	0	0
			TOTAL I-605/SR-91/I-405 CORRIDORS "HOT SPOTS"	**191,713**	**88,074**	**45,803**	**27,664**	**18,940**	**9,517**	**1,714**

Legend (C)hange (A)dd (D)elete

Change = project budget adjustment, reprogramming, scope adjustment

Add = addittion of new project to the subregional list

Delete = removal of project from subregional list

ATTACHMENT A

Measure R Highway Operational Improvements Project List

I-710 South and/or Early Action Project List (Gateway Cities)

(Programmed Dollars in Thousands)

(C)hange (A)dd (D)elete	Lead Agency	Funding Agreement (FA) No.	PROJECT/LOCATION	Total Allocation	Prior Years	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
	INTERSTATE 710 SOUTH EARLY ACTION PROJECT (14 projects -- 2 new)			**148,082**	**97,788**	**41,256**	**7,500**	**0**	**0**	**183**
	GCCOG	MOU.306.03	GCCOG Engineering Support Services	1,700	1,600	100				
			TOTAL GCCOG	1,700	1,600	100				
	Metro	PS4720-3334	Program/Project Management Support of Measure R Funds	200	200					
	Metro	PS-4010-2540-02-17	I-710/I-5 Interchange Project Development	600	600					
	Metro	various	Professional Services contracts for I-710 Utility Studies (North, Central, South)	25,046	16,237	8,809				
	Metro	PS4340-1939	Professional Services contract for I-710 Corridor Project EIR/EIS	32,521	18,750	13,771				
	Metro	PS4710-2744	Professional Services contract for I-710 Soundwall Project Development	10,878	8,678	2,200				
	Metro	MOU.Calstart2010	Professional Services contract for development of zero emission technology report	150	150					
C	Metro	TBD	I-710 ITS/Air Quality Early Action **(Grant Match)**	8,760		8,760				
A	Metro	TBD	FRATIS Modernization **(Grant Match)**	3,000			3,000			
	Metro	MR306.38	Sustainable Transportation Planning Grant **(Grant Match)**	64.78		64.78				
			TOTAL METRO	81,220	44,615	33,605	3,000			
C	POLA	MR306.40	I-710 Eco-FRATIS Drayage Truck Efficiency Project **(Grant Match)**	240		240				
			TOTAL POLA	240		240				
	Metro	USACE	Third Party Support Services for I-710 Corridor Project (US Army Corp of Eng)	100	100					
			TOTAL USACE	100	100					
	Metro	MR306.5B	Third Party Support Services for I-710 Corridor Project (So Cal Edison)	1,623	1,223	400				
	Metro	MR306.39	I-710 Soundwall Project - SCE Utility Relocation Engineering Advance	75	0	75				
			TOTAL SCE	1,698	1,223	475				
	Caltrans	MR306.24	Reconfiguration of Firestone Blvd On-Ramp to I-710 S/B Freeway	1,450	1,450					
	Caltrans	MR306.27	Third Pary Support for I-710 Corridor Project EIR/EIS Enhanced IQA	3,500	2,500	1,000				

ATTACHMENT A

(C)hange (A)dd (D)elete	Lead Agency	Funding Agreement (FA) No.	PROJECT/LOCATION	Total Allocation	Prior Years	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
	Caltrans	MR306.29	I-710 Early Action Project - Soundwall PA/ED Phase - Noise Study Only	100	100					
			TOTAL CALTRANS	5,050	4,050	1,000				
	LA County	MR306.16	Staff Support for the Review of the Draft I-710 South EIR/EIS	98	98					
			TOTAL LA COUNTY	98	98					
C	Bell	MR306.37	Eastern at Bandini Rickenbacker Project **(Call Match)** *F9200*	178.602		178.602				
	Bell	MR306.07	Staff Support for the Review of the Draft I-710 South EIR/EIS	150	150					
			TOTAL BELL	329	150	179				
	Bell Gardens	MR306.08	Staff Support for the Review of the Draft I-710 South EIR/EIS	154	154					
C	Bell Gardens	MR306.35	Florence/Jaboneria Intersection Project ***(Call Match)*** *F9111*	283	0				100	183
	Bell Gardens	MR306.30	Florence Ave/Eastern Ave Intersection Widening ***(Call Match)*** *F7120*	348	0	348				
			TOTAL BELL GARDENS	785	154	348			100	183
	Commerce	MR306.23	Washington Blvd Widening and Reconstruction Project	13,500	10,500	3,000				
	Commerce	MR306.09	Staff Support for the Review of the Draft I-710 South EIR/EIS	75	75					
			TOTAL COMMERCE	13,575	10,575	3,000				
	Compton	MR306.10	Staff Support for the Review of the Draft I-710 South EIR/EIS	35	35					
			TOTAL COMPTON	35	35					
	Downey	MR306.18	Staff Support for the Review of the Draft I-710 South EIR/EIS	130	130					
C	Downey	MR306.20	Paramount Blvd/Firestone Intersection Improvements **(Complete)**	3,169	3,169					
A	Downey	TBD	Firestone Blvd Improvement Project (Old River Rd. to West City Limits)	223	223					
	Downey	MR306.31	Lakewood Blvd Improvement Project	5,000	5,000					
			TOTAL DOWNEY	8,522	8,522					
	Huntington Park	MR306.36	Staff Support for the Review of the Draft I-710 South EIR/EIS	15	15					
			TOTAL HUNTINGTON PARK	15	15					
	Long Beach	MR306.19	Shoemaker Bridge Replacement Project	5,500	4,000	1,500				
	Long Beach	MR306.11	Staff Support for the Review of the Draft I-710 South EIR/EIS	200	200					
	Long Beach	MR306.22	Atlantic Ave/Willow St Intersection Improvements	300	300					
			TOTAL LONG BEACH	6,000	4,500	1,500				
	Maywood	MR306.12	Staff Support for the Review of the Draft I-710 South EIR/EIS	65	65					
			TOTAL MAYWOOD	65	65					

ATTACHMENT A

(C)hange (A)dd (D)elete	Lead Agency	Funding Agreement (FA) No.	PROJECT/LOCATION	Total Allocation	Prior Years	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
	Paramount	MR306.13	Staff Support for the Review of the Draft I-710 South EIR/EIS	130	130					
	Paramount	MR306.32	Garfield Ave Improvements	2,075	2,075					
			TOTAL PARAMOUNT	2,205	2,205					
	South Gate	MR306.14	Staff Support for the Review of the Draft I-710 South EIR/EIS	200	200					
	South Gate	MR306.17	Atlantic Ave/Firestone Blvd Intersection Improvements **(Complete)**	12,400	12,400					
	South Gate	MR306.33	Firestone Blvd Regional Corridor Capacity Enhancement Project	6,000	6,000					
A	South Gate	TBD	I-710 Soundwall Project - Package 1 Construction Phase	5,700		200	4,500	1,000		
			TOTAL SOUTH GATE	24,300	18,600	200	4,500	1,000		
	Vernon	MR306.15	Staff Support for the Review of the Draft I-710 South EIR/EIS	75	75					
	Vernon	MR306.25	Atlantic Blvd Bridge Widening and Rehabilitation	2,070	1,220	850				
			TOTAL VERNON	2,145	1,295	850				
			TOTAL I-710 SOUTH AND EARLY ACTION PROJECTS	**148,082**	**97,788**	**41,256**	**7,500**			**183**

Legend (C)hange (A)dd (D)elete

Change = project budget adjustment, reprogramming, scope adjustment

Add = addittion of new project to the subregional list

Delete = removal of project from subregional list

ATTACHMENT B

Measure R Highway Operational Improvements Project List

SR-138 Capacity Enhancements (North County)

(Programmed Dollars in Thousands)

(C)hange (A)dd (D)elete	Lead Agency	Funding Agreement (FA) No.	PROJECT/LOCATION	Total Allocation	Prior Years	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21
SR-138 Capacity Enhancements (11 projects)				**200,000**	**72,900**	**33,800**	**20,100**	**28,000**	**45,200**	
10 Year Forecasted Funds In Long Range Plan (cumulative)				**200,000**						
	Metro	MR330.01	SR-138 (AvenueD) PA/ED (I-5 to SR-14)	19,400	18,000	1,400				
	Caltrans	MR330.12	SR 138 Segment 6 Construction	5,600				5,600		
			TOTAL METRO	**25,000**	**18,000**	**1,400**	**0**	**5,600**	**0**	**0**
	Lancaster	MR330.02	SR-138 (SR-14) Avenue K Interchange	15,000	5,000	10,000				
	Lancaster	MR330.03	SR-138 (SR-14) Avenue G Interchange	15,000	3,100				11,900	
	Lancaster	MR330.04	SR-138 (SR-14) Avenue J Interchange	10,000	2,300	1,000			6,700	
	Lancaster	MR330.05	SR-138 (SR-14) Avenue L Interchange	5,000	200	100	900		3,800	
	Lancaster	MR330.06	SR-138 (SR-14) Avenue M Interchange	20,000	3,900	500		15,600		
			TOTAL LANCASTER	**65,000**	**14,500**	**11,600**	**900**	**15,600**	**22,400**	
	Palmdale	MR330.07	SR-138 Palmdale Blvd. (SR-138) 5th to 10th St. East	25,000	25,000					
	Palmdale	MR330.08	SR-138 Palmdale Blvd. SB 14 Ramps	25,000	4,100	2,500		6,800	11,600	
	Palmdale	MR330.09	SR-138 10th St. West Interchange	15,000	3,900	7,000	4,100			
	Palmdale	MR330.10	SR-138 (SR-14) Widening Rancho Vista Blvd. to Palmdale Blvd	25,000	6,600	8,800	9,600			
	Palmdale	MR330.11	SR-138 Avenue N Overcrossing	20,000	800	2,500	5,500		11,200	
			TOTAL PALMDALE	**110,000**	**40,400**	**20,800**	**19,200**	**6,800**	**22,800**	
			TOTAL SR-138 CAPACITY ENHANCEMENTS	**200,000**	**72,900**	**33,800**	**20,100**	**28,000**	**45,200**	

Change = project budget adjustment, reprogramming, scope adjustment
Add = addittion of new project to the subregional list
Delete = removal of project from subregional list

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

File #: 2017-0137, **File Type:** Contract **Agenda Number:** 33

CONSTRUCTION COMMITTEE
MAY 18, 2017

SUBJECT: METRO RED LINE (MRL) METRO ORANGE LINE (MOL) NORTH HOLLYWOOD STATION WEST ENTRANCE

ACTION: AUTHORIZATION FOR CONTRACT MODIFICATION

RECOMMENDATION

AUTHORIZE the Chief Executive Officer (CEO) to execute a final Modification to Contract C1013R, with Skanska USA Civil West California District Inc., for the **design and construction of the west entrance at the North Hollywood Station on the Metro Red Line**, in the amount $1,261,770, adjusting the total current contract price from $15,743,901.61 to $17,005,671.61 within the life of project budget.

ISSUE

This action is necessary to execute a final Contract Modification with Skanska USA. This final Modification represents staff's efforts through negotiations to settle various unforeseen field conditions and construction changes encountered on the project that impacted both scope and schedule. This Contract Modification is required to close-out the Contract, and does not affect the Life of Project (LOP) budget. Through aggressive management and partnership with the contractor, staff delivered this project on-time and under the LOP budget.

DISCUSSION

Findings

Metro issued the Notice to Proceed (NTP) for Design-Build (DB) Contract No. C1013R for the Metro Red Line - Metro Orange Line North Hollywood West Entrance on February 11, 2014. The west entrance was opened to public on August 15, 2016.

During the course of construction, the Contractor requested numerous design and construction changes. Significant changes included design provisions and inclusion of a knock out panel for future escalator expansion, additional communications or SCADA system design and construction

required to improve the safety functions of the existing North Hollywood system, increase in scope for procurement and installation of Metro Furnished Equipment, differing site conditions encountered during excavation, and time extension and related overhead due to compensable delays encountered.

Considerations

Staff has evaluated the merit of the requested changes and has followed Metro processes and procedures to validate and negotiate the change requests. A list of executed (approved) and unexecuted (pending) modifications is included in Attachment B.

There is no change in the approved LOP amount of $23,077,401.

DETERMINATION OF SAFETY IMPACT

There is no safety impact associated with this action.

FINANCIAL IMPACT

This action requires an additional $1.26 million in FY17 for the Metro Orange Line to Metro Red Line Hollywood Pedestrian Underpass in project 204122 due to staff closing out the contract earlier than expected. Upon Board approval, staff will re-allocate funds from a project with fungible funding source underutilizing its FY17 budget. No increase to the Agency's FY17 budget is sought at this point. This increase in the yearly project cashflow does not impact the approved project LOP for 204122 of $23,077,401.

Impact to Budget

Prop A 35% bond will used to fund the Contract Modification. This source is appropriate, and is eligible for capital improvements to rail operations.

ALTERNATIVES CONSIDERED

The Board may choose not to authorize the increase in contract price. This alternative is not recommended, as staff would be unable to issue the final Contract Modification and close out the contract.

NEXT STEPS

Upon obtaining Board approval, Metro will issue the final Contract Modification and proceed with Contract closeout.

ATTACHMENTS

Attachment A - Procurement Summary
Attachment B - Contract Modification/Change Order Log
Attachment C - DEOD Summary

Prepared by:

Milind Joshi, Sr. Director, Project Engineering, (213) 922-7985

Brad Owen, Deputy Executive Officer, Construction Management, (213) 922-7384

Tim Lindholm, Executive Officer, Capital Projects (213) 922-7297

Reviewed by:

Debra Avila, Chief Vendor/Contract Management Officer, (213) 418-3051

Richard Clarke, Chief Program Management Officer, (213) 922-7557

Phillip A. Washington
Chief Executive Officer

ATTACHMENT A

PROCUREMENT SUMMARY

MRL/MOL NORTH HOLLYWOOD STATION WEST ENTRANCE CONTRACT NO. C1013R

1.	**Contract Number**: C1013R			
2.	**Contractor**: Skanska USA Civil West California District Inc.			
3.	**Mod. Work Description**: Settlement of various Requests for Change, Change Notices, Change Orders, and Time Related Overhead, for close-out of Contract.			
4.	**Contract Work Description**: Provide the final design and construction of an approximately 150-foot underground pedestrian passage (under Lankershim Boulevard) from the west mezzanine level of the existing Metro Red Line North Hollywood subway station at Lankershim Boulevard to the platform of the existing Orange Line BRT station west of Lankershim Boulevard.			
5.	**The following data is current as of**: 3/2/17			
6.	**Contract Completion Status**:			
	Bids/Proposals Opened:	10/14/13	**% Completion $s**:	99.68%
	Contract Awarded:	12/30/13	**% Completion time**:	100%
	NTP:	2/11/14	**Original Contract Days**:	730
	Original Complete Date:	2/11/16	**Change Order Days**:	243
	Current Est. Complete Date:	10/11/16	**Suspended Days:**	0
			Total Revised Days:	973
7.	**Financial Status**:			
	Contract Award:		$14,825,000	
	Total Contract Modifications Approved:		$918,901.61	
	Current Contract Value:		$15,743,901.61	
	Contract Administrator: Diana Sogomonyan		**Telephone Number**: 213.922.7243	
8.	**Project Manager**: Milind Joshi		**Telephone Number**: 213.922.7985	

A. Contract Action Summary

This Board Action is to approve authorization for Metro Chief Executive Officer (CEO) to execute Modification No. 20 to Contract No. C1013R, for the settlement of various Requests for Change, Change Notices, Change Orders, and Time Related Overhead, for closing out the subject contract. This Contract Modification will be processed in accordance with Metro's Acquisition Policy. This is a firm fixed price Contract.

On September 22, 2011, the Board of Directors authorized the CEO to solicit and award design-build contracts for renovation, repair and construction at Metro rail facilities, pursuant to Public Utilities Code Section 130242. On December 12, 2013, Metro CEO authorized the award of firm fixed price Contract No. C1013R to

Skanska USA Civil West California District Inc., the lowest price, responsive and responsible bidder, for the period of performance of 730 calendar days after Notice to Proceed, in the total contract amount of $14,825,000. Notice to Proceed was issued on February 11, 2014.

Seventeen Contract Modifications and three Contract Change Orders have been executed on the Contract to date. Modification No. 20, in the amount of $1,261,770 will allow the settlement of various issues on the Contract and close-out the Contract. Refer to Attachment B for further details on modifications issued to date adding work, and the proposed Modification currently pending authorization.

B. Cost/Price Analysis

The recommended price has been determined to be fair and reasonable based upon a cost analysis, technical analysis, fact finding, and negotiations. This recommendation is a settlement agreement of various Requests for Change, Change Notices, Change Orders, and Time Related Overhead, for closing out the subject contract where no one item was greater than the audit threshold requirements of $1,000,000 for construction changes.

Item No.	Changes	Proposal amount	Metro ICE	Negotiated amount
1	Mod No. 20	$1,317,280	$803,825	$1,261,770

ATTACHMENT B

CONTRACT MODIFICATION/CHANGE ORDER LOG

MRL/MOL NORTH HOLLYWOOD STATION WEST ENTRANCE
CONTRACT NO. C1013R

Mod./CO No.	Description	Status (approved or pending)	Cost		
			Contract Value	Mods.	Board Approved CMA
N/A	Initial Contract Award	Approved	$14,825,000		$1,482,500
Mod 1	Removal of Lead Abatement	Approved	$14,837,736	$12,736	
Mod 2	Additional Excavation Decking	Approved	$14,883,352	$45,616	
Mod 3	Artwork Removal and Reinstallation	Approved	$14,955,575	$72,223	
Mod 4	Additional "Down" Escalator Design Options	Approved	$15,129,961.61	$174,386.61	
Mod 5	Design Directive Drawings for CSS	Approved	$15,164,498.61	$34,537	
Mod 6	Additional Spec Sections to be Added to the Contract	Approved	$15,167,090.61	$2,592	
Mod 7	Milestone Revision	Approved	$15,198,590.61	$31,500	
Mod 8	Revise DEOD Contract Compliance Manual (RC-FTA)	Canceled	$15,198,590.61	$0.00	
Mod 9	Additional Existing Coupler Testing Program at KOP	Approved	$15,209,308.61	$10,718	
Mod 10	Milestone Revision Due to Critical Days for Mods 2 and 4	Approved	$15,222,808.61	$13,500	
Mod 11	Reinstallation of Art Mural at New Location	Approved	$15,258,493.61	$35,685	
Mod 12	Milestone Revision Due to LADWP and DSC (CN #00016.1)	Approved	$15,314,695.61	$56,202	
Mod 13	Location of Condensing Unit 1	Approved	$15,396,722.61	$82,027	
Mod 14	Revised Metro Grand Pylon (Station Marker) to Metro Pin	Approved	$15,429,949.61	$33,227	
Mod 15	Additional Design Work for Support of Excavation due to Addnl. LABOE Comments	Approved	$15,441,360.61	$11,411	
Mod 16	Contract Mod to SP (Exhibit SA-1 and SA-2) and GC (Sections GC 33.4, 34.7.3, and 34.10)	Approved	$15,441,360.61	$0.00	
Mod 17	Differing Site Conditions Due to Location of KOP Formsavers and Conduit (CN #00022)	Approved	$15,551,335.61	$109,975	
Mod 18	Add Abrasive Striping on Nosings for Granite Stairs	Approved	$15,562,001.61	$10,666	
Mod 19	Haul Off Excess Soil Material	Canceled	$15,622,001.61	$0.00	
CO 3	Additional SCADA Point Connections	Approved	$15,622,001.61	$60,000	

CO 4	Additional Intersection Improvements	Approved	$15,623,901.61	$1,900	
CO 5	Added Scope - Contractor to Furnish/Install Equipment Identified as Metro Furnished Items	Approved	$15,743,901.61	$120,000	
Mod 20	Settlement of Various Issue Leading to Close Out	Pending	$17,005,671.61	$1,261,770	
		Subtotal – Approved Modifications		$918,901.61	
		Subtotal – Pending Changes/Modifications		$1,261,770	
		Subtotal Totals: Mods. + Pending Changes/Modifications	**$2,180,671.61**		
		Subtotal – Pending Claims	$0.00		
		Total: Mods + Pending Changes/Mods + Possible Claims	**$2,180,671.61**		
		Previous Authorized CMA	$1,482,500		
		CMA Necessary to Execute Pending Changes/Mods + Possible Claims	$698,172		
		Total CMA including this Action	**$2,180,672**		
		CMA Remaining for Future Changes/Mods after this Action	**$0.00**		

ATTACHMENT C

DEOD SUMMARY

MRL/MOL NORTH HOLLYWOOD STATION WEST ENTRANCE / C1013R

A. Small Business Participation

Skanska West made a 10.57% Disadvantaged Business Enterprise (DBE) commitment. The project is 92% complete. Skanska is exceeding their goal commitment with a current DBE participation of 11.78%.

Small Business Commitment	10.57% DBE	Small Business Participation	11.78% DBE

	DBE Subcontractors	Ethnicity/Gender	% Committed	Current Participation1
1.	Anil Verma	Asian Subcontinent/Male	0.27%	0.27%
2.	LIN Consulting	Asian Pacific/Male	0.54%	0.47%
3.	Coast Surveying	Hispanic/Male	0.06%	0.16%
4.	Morgner Construction	Hispanic/Female	0.64%	0.74%
5.	The Solis Group (TSG)	Hispanic/Female	0.49%	0.45%
6.	MTGL, Inc.	Hispanic/Female	1.82%	2.82%
7.	Excelsior Elevator	Asian Pacific/Female	5.07%	4.70%
8.	Lucas Builders	Asian Subcontinent/Female	0.24%	0.59%
9.	CGO Construction	African American/Male	0.12%	0.10%
10.	Clean Up America	African American/Male	0.08%	0.19%
11.	ACE Fence Company	Asian Pacific/Female	0.11%	0.14%
12.	Hammer Down Transp.	African American/Male	0.30%	0.31%
13.	Pre-Con Products	Hispanic/Male	0.00%	0.02%
14.	Coleman Construction	African American/Female	0.60%	0.59%
15.	Force 1 & Associates	Hispanic/Male	0.23%	0.23%
		Total	10.57%	11.78%

[1]*Current Participation = Total Actual amount Paid-to-Date to DBE firms ÷Total Actual Amount Paid-to-date to Prime.*

B. Project Labor Agreement / Construction Careers Policy (PLA/CCP)

PLA/CCP reporting shows the 40% Targeted Worker attainment at 57.79%, the 20% Apprentice Worker attainment at 24.28% and the 10% Disadvantaged Worker attainment at 15.78%.

C. Prevailing Wage Applicability

Prevailing Wage requirements are applicable to this project. DEOD will continue to monitor contractors' compliance with the State of California Department of Industrial Relations (DIR), California Labor Code, and, if federally funded, the U S Department of Labor (DOL) Davis Bacon and Related Acts (DBRA).

D. Living Wage Service Contract Worker Retention Policy Applicability

The Living Wage and Service Contract Worker Retention Policy (LW/SCWRP) is not applicable to this Contract.

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

Metro

Board Report

File #: 2017-0184, **File Type:** Oral Report / Presentation **Agenda Number:** 44.

REGULAR BOARD MEETING
APRIL 27, 2017

SUBJECT: High Speed Rail Component of the High Desert Corridor Presentation

RECOMMENDATION

RECEIVE oral presentation on **High Speed Rail Component of the High Desert Corridor** by High Desert Corridor Joint Powers Authority.

ATTACHMENTS

Attachment A -HDC JPA Oral Presentation

Rail Ridership and Revenue Forecast Results: Southern California to Las Vegas

Presentation to LA Metro Board of Directors
by the
High Desert Corridor Joint Powers Authority

April 27, 2017

Study Sponsor:
High Desert Corridor Joint Powers Authority

- Formed in 2006 by San Bernardino and LA Counties
- Purpose: to develop multipurpose corridor from Palmdale to Victorville, Apple Valley and Adelanto
- Components – rail, highway, green energy
- Key Stakeholders: San Bernardino County, SBCTA, LA County, LA Metro, CHSRA, CalSTA, Caltrans, Metrolink, SCAG, XpressWest, Cities

High Desert Corridor Joint Powers Authority

Metro

sbcta san bernardino county transportation authority

SCAG INNOVATING FOR A BETTER TOMORROW

Caltrans

CALIFORNIA High-Speed Rail Authority

XPRESSWEST Formerly known as DesertXpress

METROLINK

CalSTA

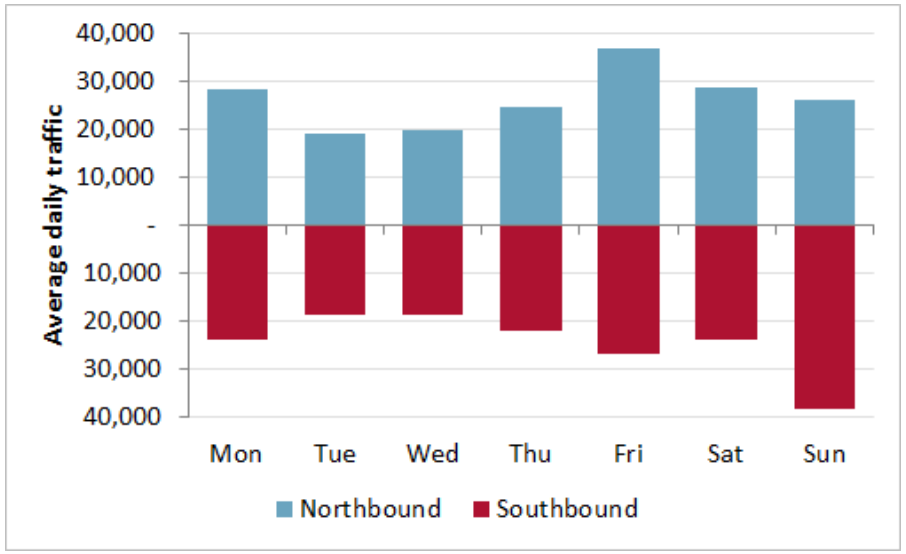

LAS VEGAS
BAKERSFIELD
14
California High-Speed Rail (CAHSR)
XpressWest
395
BARSTOW
58
5
LANCASTER
15
40
PALMDALE
High Desert Corridor JPA P3
VICTORVILLE
138
BURBANK
LOS ANGELES
SAN BERNARDINO
N
10
LONG BEACH
ANAHEIM
RIVERSIDE
215
Metrolink Antelope Valley Line
Proposed HSR Station

The Scale of the Existing Market for Travel to Las Vegas

- Las Vegas attracted over 42.9 million visitors in 2016
  - Tourists
  - Convention and business visitors
  - Personal travel to visit friends and relatives
- California residents approximate 29% of all visitors
  - Of these, 80-85% reside in Southern California
- Many international visitors to Las Vegas also arrive via California
  - 75% of international visitors don't fly directly to Las Vegas

The Existing Travel Options

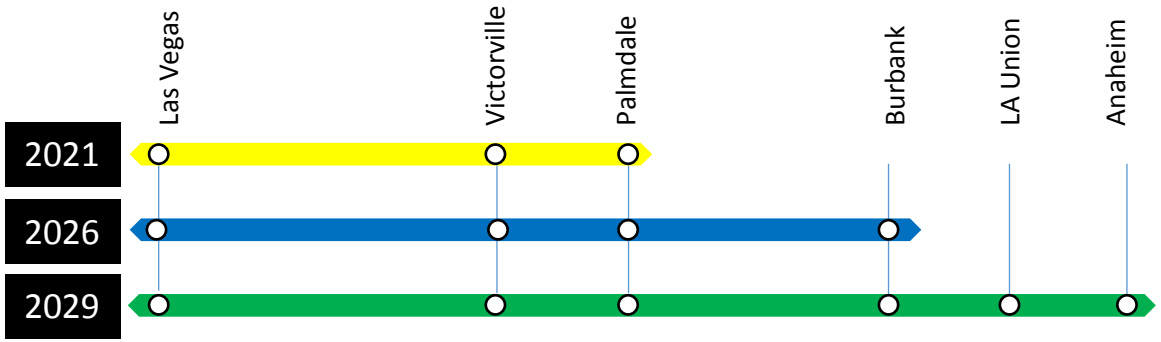
- 90% of visitors from Southern California travel to Las Vegas by road
  - Uncongested drive time from Southern California is 4-6 hours
  - Travel times at peak times (Friday northbound, Sunday southbound) are often significantly longer
- Main alternative is travel by plane
  - From six major airports in Southern California



Summary of Study Results

- Proven large scale travel demand between California and Las Vegas
- Potential 27% market share for HSR
- Forecast annual ridership of 3 million round-trips in 2021, rising to 11 million by 2035 with full corridor open, and 14 million by 2050
- Forecast revenues based on competitive fares:
  - $600 million in 2025 (Palmdale to Las Vegas)
  - $800 million in 2029 (Burbank to Las Vegas)
  - $1 billion per year in in 2035 (LA/Anaheim to Las Vegas)
  - $1.6 billion per year in 2050

Phased Implementation



- 2021: Phase 1: Las Vegas-Palmdale
- 2026: Phase 2: Las Vegas-Burbank
- 2029: Phase 3: Las Vegas-Anaheim
- 2029: Phase 4: Connection with CaHSR services to Central Valley and Northern California

Primary Benefits of HSR on the Corridor

- Congestion relief (with high speed rail) for one of the nation's most congested corridors (Interstate-15)
- LA and LV metro areas connected by 2.5 hour HSR trip
- Two hour trip savings – with improvements in safety, reliability, and convenience
- Will stimulate economic development
- Potential for significant private investment (P3)
- Connectivity to state-wide and regional transportation networks

The Good News

- Critically important project
- Environmental work complete
- Public Sector interest at Federal, State, Regional and Local levels
- Ridership and Revenue Study completed
- Private Sector interest