

Los Angeles County
Metropolitan Transportation Authority

Regional Connector Transit Corridor



REGIONAL CONNECTOR TRANSIT CORRIDOR PROJECT

QUARTERLY PROJECT STATUS REPORT

THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE U. S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION (FTA).

December 2016

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PROJECT SUMMARY

As of December 2016

REGIONAL CONNECTOR TRANSIT CORRIDOR PROJECT DESIGN CONSULTANT: Connector Partnership JV					CONSTRUCTION MANAGEMENT CONSULTANT: ARCADIS CONTRACTOR: Regional Connector Constructors, Joint Venture				
Excavation and lagging at 2nd/Hope Station					WORK/ACTIVITY DURING PAST MONTH				
					- Completed pile installation at 1st Street Leg - Completed pile and deck beam installation at 2nd/Broadway intersection - Completed excavation, grouting, and adit construction at the Tie-back Removal Pit - Pile installation, excavation and utility hanging on 2nd St. continues, under mid-block closure - Installation of tie-backs, struts and walers at 2nd/Hope - Water and power relocation along Flower St. continues - Deck beams and deck panels installation at 4th/Flower Sts. continues - Utility hanging under decking on Flower St. continues - Preparation activities for TBM launch continues - Shotcrete and removal of tie-backs at Tie-back Removal Shaft continues - Geotechnical monitoring equipment installation across the project alignment continue				
EXPENDITURE STATUS (\$ In Millions)					SCHEDULE ASSESSMENT				
ACTIVITIES		CURRENT BUDGET	EXPENDED AMOUNT	PERCENT EXPENDED	MAJOR SCHEDULE ACTIVITIES	PRIOR PERIOD	CURRENT PLAN	VARIANCE WEEKS FROM PRIOR PERIOD	
DESIGN		\$134.2	\$120.5	89.8%	Environmental				
					FEIS / FEIR	N/A	04/26/12	Complete	
RIGHT-OF-WAY		\$110.5	\$68.9	62.4%	SEIS Flower St.				
						N/A	12/18/15	Complete	
CONSTRUCTION		\$1,091.6	\$398.6	36.5%	Design				
					PE Notice to Proceed	N/A	01/04/11	Complete	
OTHER		\$262.7	\$105.9	40.3%	Final Design complete				
					07/31/17	08/31/17	4		
					Note: No adverse impact to the overall schedule is anticipated from current design delays				
TOTAL		\$1,598.9	\$693.9	43.4%	Right-of-Way				
					All parcels available	08/15/18	08/15/18	0	
Current Budget reflects Board approved Life-of-Project Budgets for Project 860228 (including finance charges) and 861228.					Note: ROW dates are adjusted to reflect the latest D/B Contractor's coordinated Need Dates. Duco Yard need date is in August 2018.				
Note: Expended amounts are through 11/30/2016.					Construction - Design / Build Contract				
					Notice to Proceed	07/07/14	07/07/14	Complete	
AREAS OF CONCERN					Construction complete				
					05/15/21	05/15/21	0		
					Revenue Service Date	07/28/21	07/28/21	0	
- Studies continue to re-cast the project schedule which was impacted by differing site conditions along the alignment. These studies indicate delays to the Revenue Service Date will occur. The re-cast schedule will reflect a comprehensive assessment of all operations focused on delivering the project expeditiously while retaining flexibility needed over the next few years. - Detailed design is underway to relocate the 6th/Flower DWP power assets. This work requires collaboration with COLA relative to TCPs, BOE approvals, DWP efforts, etc. to minimize schedule and cost impacts. Stakeholder challenges are also anticipated; engagement by Metro outreach resources are planned accordingly.					Note: Delay to the Revenue Service Date is under review.				
					CRITICAL ACTIVITIES / 3 MONTH LOOK AHEAD				
					100% design packages for all three stations, bored tunnel, SEM cavern and systems; review of the related AFCs - Complete assembly and begin tunnel mining operations - Complete pile installation at 2nd/Broadway - Complete 2nd Street decking - Complete excavation to station box and SEM Cavern at 2nd/Broadway - Complete excavation and begin invert pour at 2nd/Hope Station - Resume cap beam installation on Flower St. - Reconcile path-forward for schedule and costs				
ROW ACQUISITION	PLAN	CERTIFIED	ACQUIRED	REMAINING					
PERMANENT PARCELS	5	5	4	1*					
TEMPORARY PARCELS	31	16	15	3*					
TOTAL PARCELS	36	21	19	4**					
* Remaining parcels are scheduled in-advance of need dates.									
** Broad SSE, DucoYard, 2nd & Hope Pedestrian Bridge, and Wye Fan Plant.									

PROJECT OVERVIEW & STATUS

The Regional Connector Transit Corridor Project (Project) will link the current terminus of the Blue and Expo Lines at 7th/Metro Center to the Gold Line near the Little Tokyo/Arts District Station in a new underground alignment along Flower Street and 2nd Street in Downtown Los Angeles. The Project has been re-sequenced to become operational in a single phase, link to the existing Eastside Gold Line along 1st Street; and the existing Gold Line to Pasadena along Alameda Street toward Union Station. The Revenue Service Date (RSD) planned for May 2021 is under review.

The alignment will extend underground from the 7th Street/Metro Center Station under Flower Street to 2nd Street. It will then proceed east underneath the 2nd Street tunnel to just west of Central Avenue where the alignment will veer northeast under privately-held property, Japanese Village Plaza. At 1st Street and Central, the tracks continue underground heading northeast under 1st and Alameda Streets. A junction (“Wye”) will be constructed beneath the 1st and Alameda intersection. To the north and east of the junction, trains will rise to the surface through two new portals to connect to the Metro Gold Line heading north to Pasadena and east to Atlantic Boulevard. One portal will be located northeast of the current Little Tokyo/Arts District Station and tracks. This portal will rise to the north within the City of LA DWP Maintenance Yard and connect to the existing LRT bridge over the US-101 freeway, allowing a connection to the Metro Gold Line to Pasadena. The portal will be connected to the 1st and Alameda junction by a new cut and cover box structure crossing beneath Temple Street and the parcel on the northeast corner of 1st and Alameda Streets, running immediately east of the existing Little Tokyo/Arts District Station and tracks. The second portal will be located within 1st Street between Alameda and Vignes Streets. Tracks will rise to the east within this second portal and connect at-grade to the existing Metro Gold Line tracks toward Atlantic Boulevard.

Major Contract Procurement

The Board authorized to solicit a major Design/Build (D/B) contract, C0980, in August 2011. Metro staff recommended to award contract C0980 to the Regional Connector Constructors (RCC), a joint venture of Skanska USA Civil West California District, Inc. and Traylor Brothers, Inc. and Metro Board authorized award of the contract on April 24, 2014; Notice to Proceed (NTP) to RCC, issued July 7, 2014. Solicitation of an Advanced Utility Relocations Contract, C0981R, completed February 2014 after Metro’s Procurement team awarded the contract to Pulice Construction, Inc. in January 2014 and issued NTP on February 18, 2014. Contract C0981R was terminated for convenience on April 14, 2015 and remaining AUR work has been transferred to the C0980 D/B Contractor.

PROJECT OVERVIEW & STATUS (Cont.)

Construction

Varied operations are underway throughout the alignment to include: guideway and station box support of excavation, station box excavation, TBM assembly, settlement monitoring instrumentation placement, utility relocation. Operations are currently active seven days with some being performed on a multiple-shift basis.

Systems

The existing functional operations at the Rail Operations Center (ROC) necessitate an expansion to accommodate the central control functions associated with five new rail lines and extensions including the Regional Connector Transit Corridor Project. Design for the ROC Reconfiguration Project was completed to reconfigure the second floor to prepare for Expo II and Foothill Rail Line extensions, and the design will be further updated with each successive integration of the Crenshaw/LAX, Regional Connector and Purple Line projects.

Light Rail Vehicle

Four Light Rail Vehicles (LRVs) for the Project will be procured and delivered by Kinkisharyo International, LLC under Contract P3010. The base contract includes 235 LRVs and options which will add up to 157 LRVs to the total. The four LRVs for the Regional Connector Project are currently in Option 2 of the P3010 Contract. Manufacturer continued performing qualification and post shipment tests on prototype cars 1 and 2 at LACMTA's Green Line shop.

Program Management

The current budget was established in the December 2015 session of the Metro Board. The Board revised the Life-of-Project (LOP) budget to \$1.551 billion for the RCTC Project No. 860228 and maintained the LOP budget of \$39,991,168 for RCTC Project No. 861228 for Concurrent Non-FFGA Project activities. Cost forecasting efforts indicate significant increases to the LOP Budget of \$1.551 billion will be needed. Review and testing of these forecasts are underway.

Funding for the project comes from a variety of sources to include Federal New Starts, TIFIA Loan, State repayment of capital project loan, State Proposition 1B, State proposition 1A (High Speed Rail), local agency and lease revenues, and from the Congestion Mitigation and Air Quality Improvement Program. The bulk of the funding - 56% - comes from federal sources.

PROJECT OVERVIEW & STATUS (Cont.)

Project commitments through *December* 2016 increased by \$483K to \$1.41 billion or 90.6% of the Current Budget. The increase *reflects* RCC executed modifications. Project expenditures through *November* 2016 are \$671.2 million or 43.1% of the budget. The expenditures to date cover all costs elements including: engineering management, construction management support services, third party utility relocation work, agency administration, design build contract (C0980), right-of-way, various master cooperative agreements, and other professional services.

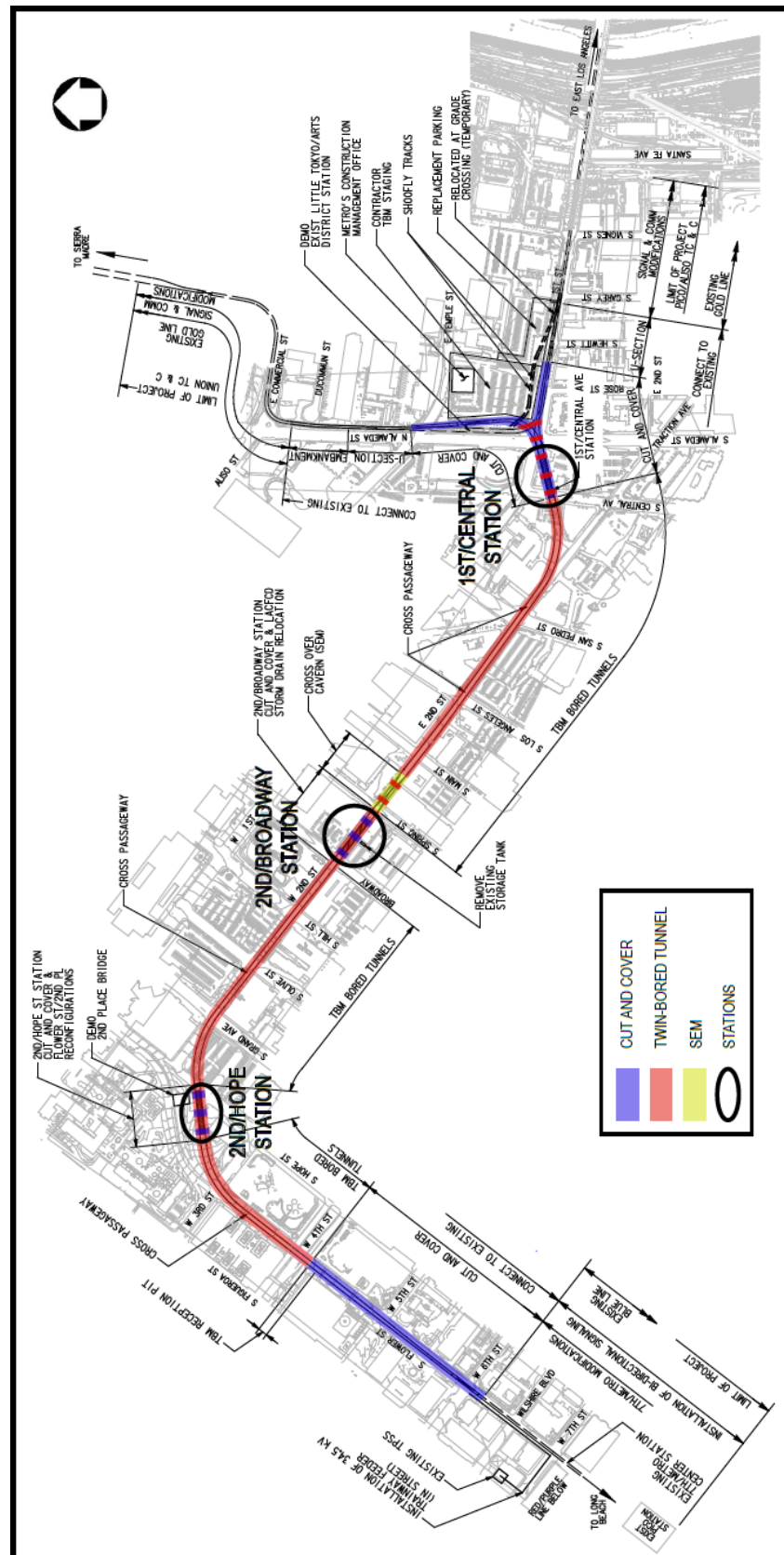
The project master schedule forecasts July 2021 for Revenue Service, which will be executed in two phases. Phase I Revenue Service Date to Eastside is in March 2021 and Phase II Revenue Service Date to Pasadena is in July 2021. Delays to the Revenue Service Date (RSD) are under review.

A comprehensive risk register is reviewed and updated on a monthly basis. Risk Management reporting will continue to be on a quarterly basis. Metro is targeting an updated risk register in *January 2017*.

MANAGEMENT ISSUES / OPPORTUNITIES

<u>Concern No.1:</u>	Utility relocations have been delayed, impacting RCC's schedule.
Status/Action	Metro and RCC are collaborating on a schedule plan which includes significant re-sequencing of work and additional measures to complete the project expeditiously. Elements of this plan are dependent upon obtaining various street closures for station and guideway construction. Approvals of such closures are being vigorously pursued.
<u>Concern No. 2:</u>	Resource limitations impact the City's ability to review multiple Traffic Control Plans, therefore impacting construction progress on Flower Street.
Status/Action	Metro is working with RCC, LADOT and BOE to actively expedite submissions, quality reviews, and approvals of required plans.
<u>Concern No. 3:</u>	Plans to relocate LADWP power assets under 6 th /Flower will adversely impact project schedule and costs.
Status/Action	Designs are underway in concert with LADWP parameters. Said designs are focused on limiting impacts to area stakeholders and traffic flow. Close collaboration with City of LA entities and Caltrans are ongoing.
<u>Opportunity No. 1:</u>	Metro is working with RCC to identify alternate sequencing to complete the Wye and Fan Plant construction along with commissioning earlier, while minimizing impacts from bus bridges.
Status/Action	Collaboration between Metro and RCC continues to establish plans and sequences to affect the efficiencies sought. Schedule drafts are under review.

PROJECT ALIGNMENT



BASE PROJECT SCOPE

Engineering

This phase consists of Preliminary Engineering (PE), Advanced PE (APE) and Final Design. During Preliminary Engineering, the Design Consultant, CPJV, was responsible for engineering, design, and development of fixed facilities, stations, guideways, tunnels, and related facilities for the Project to a level sufficient to provide the basis for final design. CPJV was also responsible for documentation necessary to support the Environmental Assessment process and the engineering and final design for advanced utility relocations.

Alignment modifications and Value Engineering were developed during Advanced PE to accommodate environmental mitigations and further develop the design to better accommodate rail operations and reduce the cost of the Project. PE and APE were completed in March 2013.

Final design for advanced utility relocations performed by Metro and Engineering Design Consultant was completed during Advanced PE and it included DWP water and power lines as well as City of LA sewer lines. AUR final design for other utilities was performed by individual utility companies. The balance of Final Design is being performed by the D/B Contractor Team as part of the C0980 Contract.

Metro Furnished Equipment

Metro is procuring Light Rail Vehicles and Universal Fair System (UFS) equipment. Four Light Rail Vehicles for the Project will be procured and delivered by Kinkisharyo International, LLC under Option 2 of Contract P3010. The vehicles will be tested and accepted at the Gold Line Yard and put in service when the line is open for Revenue Service. UFS equipment will be designed, fabricated and installed under a Metro contract.

Construction

The scope of work in this phase is performed by third party utility companies and Design Build (C0980) Contractor as follows:

Third Party Advanced Utility Relocations

A number of utility owners have already relocated many of their assets and will continue to do so through early 2017. The utilities include fiber optic, telephone, cable television, electrical (power cable pulling and splicing), and natural gas lines. Utility work started in late 2012 and has progressed at the following locations:

- Flower Street cut-and-cover tunnel box
- 2nd/Hope Station box area
- 2nd/Broadway Station box area
- 1st/Central Station box area and Wye Structure

BASE PROJECT SCOPE (Cont.)

Contract C0980 Regional Connector Design Builder

This is the largest construction contract of the project that includes: final design and construction of underground guideway; station structures; miscellaneous underground structures; trackwork; traction power; overhead conductor rail; train control; communications; and all electrical and mechanical equipment and testing. The contractor will restore the Mangrove site and impacted streets to their previous condition at the end of the project.

The design-build contractor also has to meet sensitive noise and vibration standards at Disney Music Hall and the Colburn Music School, control subsidence along the alignment, and meet various other requirements for the various stakeholders along the alignment. This contract was awarded to Regional Connector Constructors, JV (RCC) on May 6, 2014 and NTP was issued July 7, 2014. Metro has exercised several contract options and has added the remaining Advanced Utility Relocation work (C0981R Contract) to the C0980 Contract.

Contract C0981R Regional Connector Advanced Utility Relocations

Metro awarded the design-bid-build Advanced Utility Relocations Contract (Metro Contract No. C0981R) to Pulice Construction, Inc. to complete specific relocations at each of the future stations and along Flower Street in advance of the main D/B Contract C0980. The relocated utilities were long-lead construction tasks that were known to conflict with cut and cover excavations.

The scope of this work included the following relocations: LADWP water lines, LADWP power lines, and City of Los Angeles sewer lines. Metro assisted the contractor in obtaining exemptions as necessary for the City of LA nighttime work as well as for Peak Hour work hours.

Contract C0981R was terminated for convenience on April 14, 2015 and all remaining work was transferred to C0980 Contract. Contract C0981R was closed out and final payment processed.

Contract MCO70 – Construction Management Support Services

Metro awarded the contract for Construction Management Support Services (CMSS) to ARCADIS, Inc. ARCADIS Project Manager and other staff are co-located with Metro at the Integrated Project Management Office (IPMO) located at the Mangrove site. Additionally, the Metro Board approved a contract modification for Arcadis to fund services through FY 2017. Reviews have been performed to determine funding needs beyond the present commitment.

BASE PROJECT SCOPE (Cont.)

Contract E0119 – Preliminary Engineering and Design Support Services During Construction

Metro awarded this contract to The Connector Partnership, a joint venture between AECOM, Inc. and Parsons Brinkerhoff (CPJV). CPJV provided preliminary engineering services to support the EIR/EIS, prepared project definition documents for Contract C0980, and prepared the basis for final design development for Contract C0981. CPJV is currently performing design support during construction (DSDC) for the C0980 contract. Action to extend funding through FY17 was approved by the Metro Board on May 26, 2016. Reviews are underway to determine funding needs beyond the present commitment.

KEY MILESTONES SIX- MONTH LOOK AHEAD

	Milestone Date	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17
2nd/Broadway - 2nd Street Phase 1 Decking Completed	12/03/16 A	⬠					
Train Control Book of Plans - AFC Approved	12/13/16 A	◆					
Complete Tieback Removal Pit (3rd/Flower)	01/11/17		⬠				
Initiate TBM Mining	01/19/17		⬠				
Civil Segment B (Broadway to 1st/Central) - 85% Design	01/31/17		⬠				
Complete 2nd/Hope Excavation	02/13/17			⬠			
2nd/Broadway Station Package - AFC	02/28/17			⬠			
Initiate 2nd/Broadway Station Excavation	03/03/17				⬠		
Complete Flower St Decking (North of 5th)	03/05/17				⬠		
LADOT Approve Flower South SOE Traffic Control Plan	03/08/17				⬠		
2nd/Broadway Station Package - AFC Approved	03/31/17				◆		
Initiate Flower North Excavation and Support	04/21/17					⬠	
Complete TBM Retrieval Pit Excavation/Mud Mat	04/24/17					⬠	
Civil Segment B (Broadway to 1st/Central) - 100% Design	04/28/17						⬠
Complete Flower St Water Line (South of 5th)	05/05/17						⬠
Complete TBM Retrieval Pit Invert / Tunnel Eye	05/18/17						⬠



MTA Staff



MTA Board Action



FTA (Federal Transit Administration)



Utility Company



Other Agencies



Contractors



Design Consultant

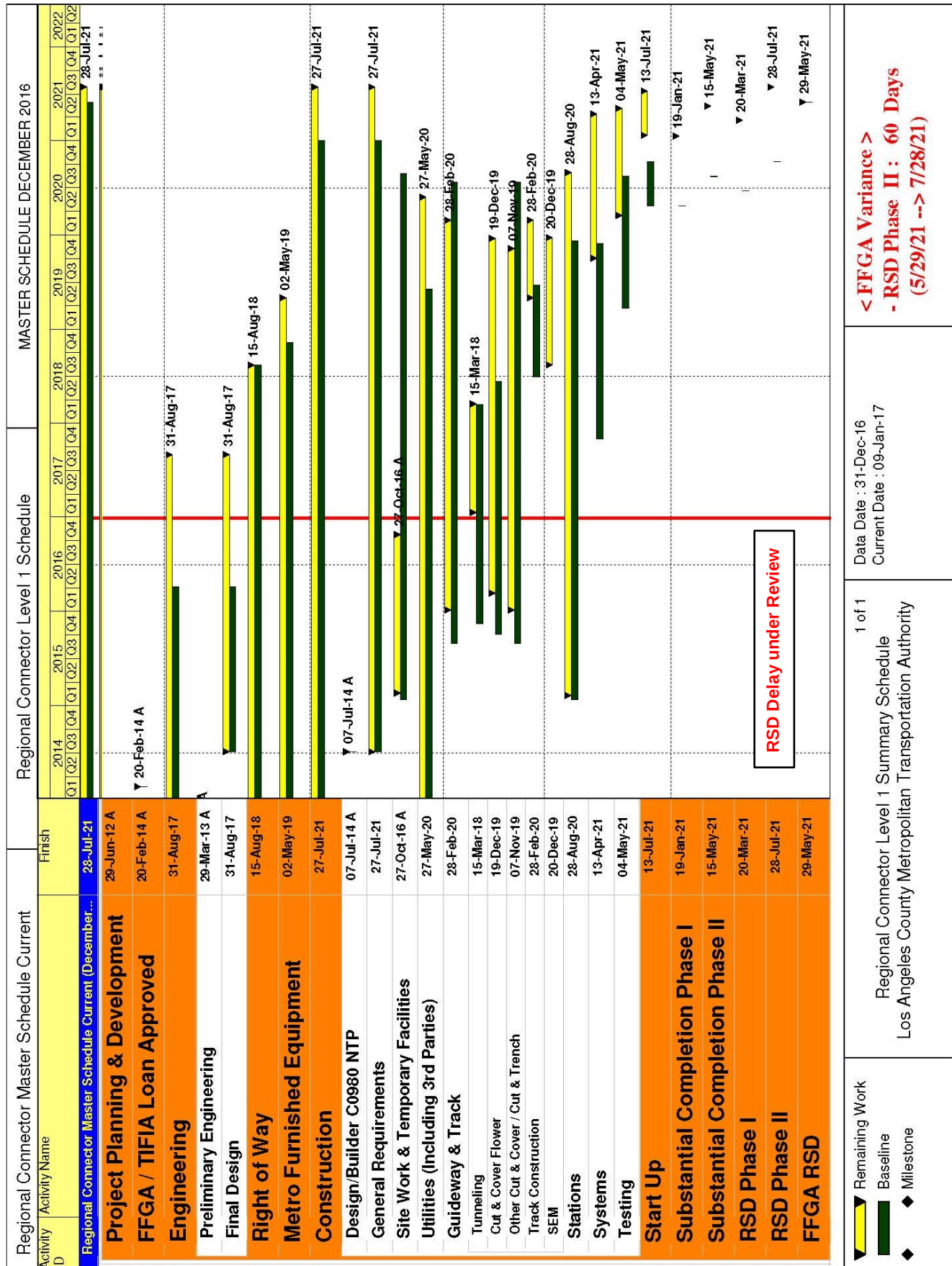


C0980 D/B Contractor

"A" following date is actual and completed

★ New

PROJECT SUMMARY SCHEDULE

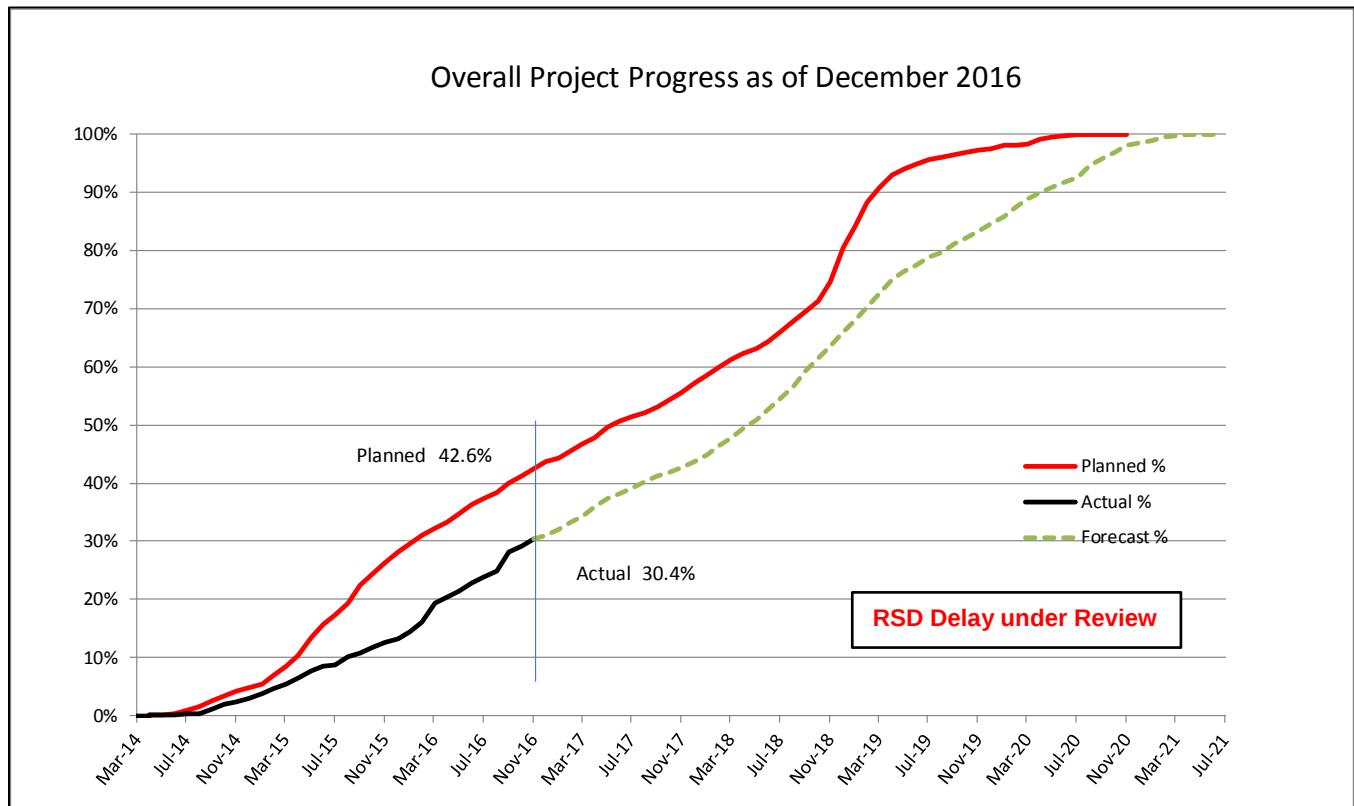


SCHEDULE MEASUREMENTS

	Status	Change from Last Period	Comment
Forecast Revenue Service	7/28/2021	0 CD	Delay to RSD under review.
TIFIA Revenue Service	5/29/2021	None	Delay to RSD under review.
FFGA Revenue Service	5/29/2021	None	Delay to RSD under review.
Final Design Progress:			
Contract C0980	96.0%	0.4%	Not impacting the critical path of the project
Construction Contracts Progress:			
Contract C0981R & C0980	26.0%	1.2%	Current progress in line with the forecast

Note: Method of Construction Progress Measurement has been modified to reflect current methodology: excluding all General Requirements, Construction Mobilization, Design Mobilization, Final Design and Provisional Sum (Schedule C). Progress values include executed modifications and change orders.

PROJECT PROGRESS STATUS



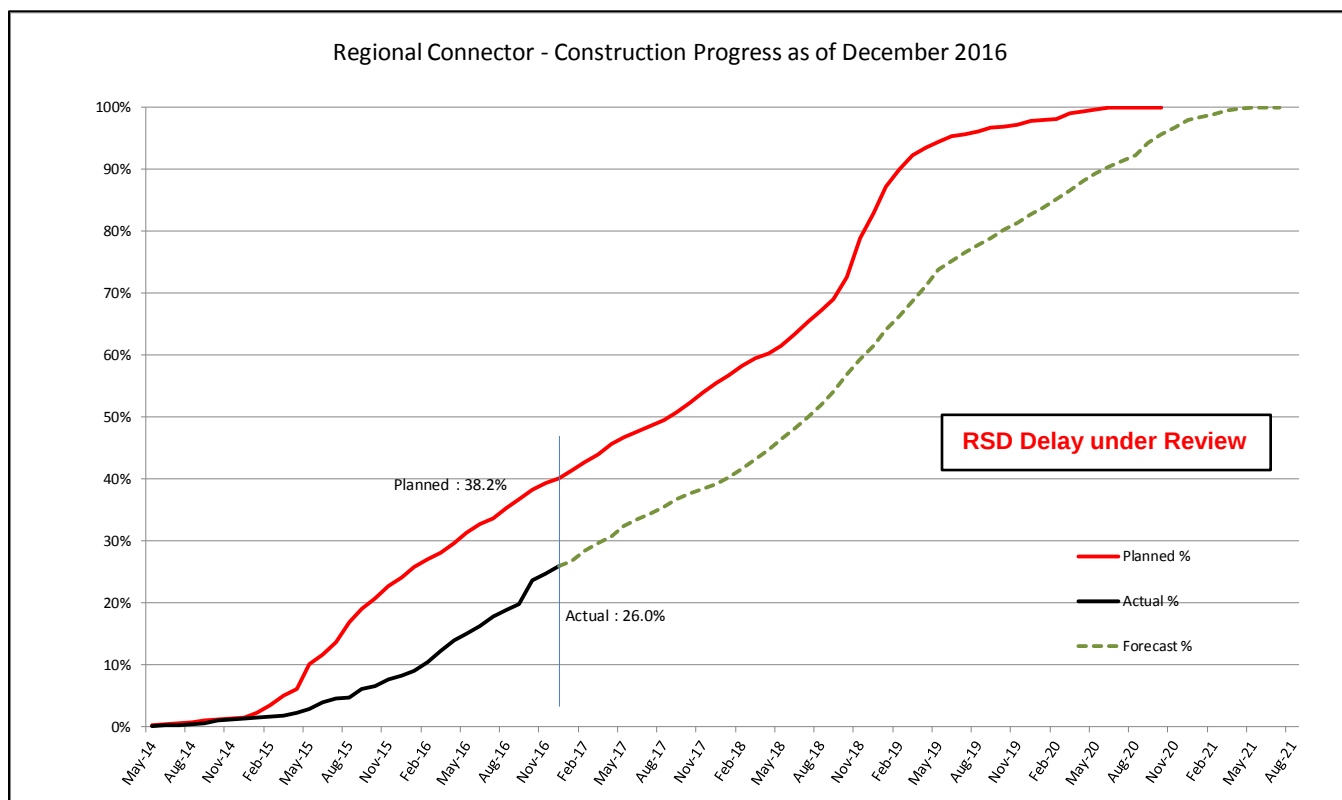
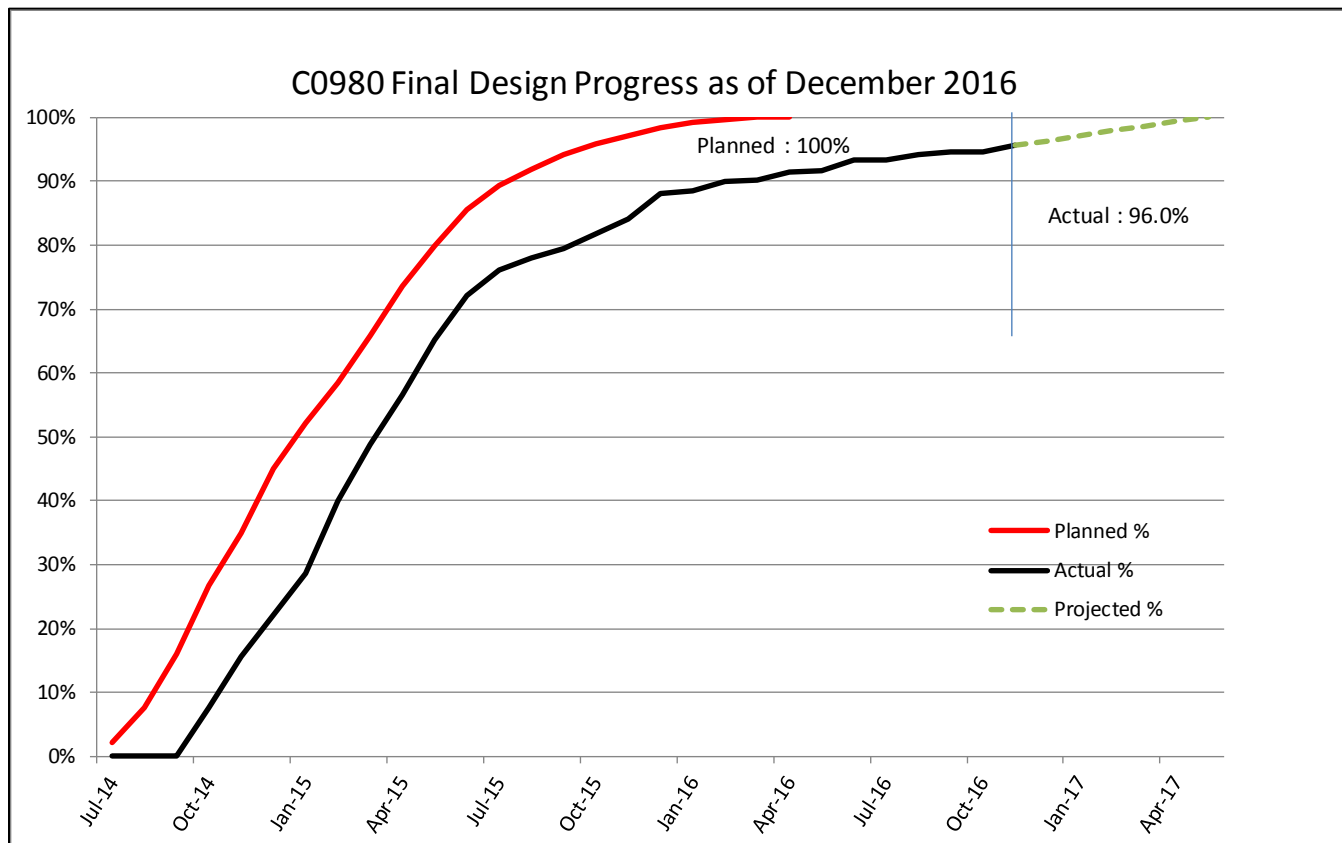
The above progress curve is based on planned expenditures of C0980 (Design- Build and C0981 (AUR) Baseline Schedule against their actual expenditures.

The cumulative overall project progress for C0980 and C0981R Contract is 30.4%.

Final Design for C0980 commenced upon MTA issuing NTP on July 7, 2014. Cumulative final design progress is 96.0% and the cumulative construction progress is 26.0%.

Note: Method of Overall Project Progress Measurement was modified in January 2016 to reflect current methodology: excluding all General Requirements, Construction Mobilization, Design Mobilization and Provisional Sum (Schedule C). Values include executed modifications and change orders.

PROJECT PROGRESS STATUS (Cont.)



MAJOR EQUIPMENT DELIVERY STATUS

Tunnel Boring Machine

RCC, the design-builder for C0980, has designed, procured and delivered the tunnel boring machine (TBM) and equipment.

The TBM is currently at the west end of the 1st/Central Station where assembly is underway.

Light Rail Vehicles

Four Light Rail Vehicles (LRVs) for the Project will be procured and delivered by Kinkisharyo International, LLC under Contract P3010. The four LRVs for the Regional Connector Project are currently in Option 2 of the P3010 Contract. LRV design and design reviews as well as manufacturing of the prototype vehicles continued this period. Manufacturer continued performing qualification and post shipment tests on prototype cars 1 and 2 at LACMTA's Green Line shop.

UFS (Universal Fare System) & TVM (Ticket Vending Machines)

Procurement of UFS and TVM will commence after the design-builder completes the final design. Metro is coordinating with RCC for installation and testing schedules.

DESIGN-BUILDER'S (C0980) LONG LEAD ITEM LIST

Activity Name	Early Finish	Need Date
ELEVATOR COORDINATION DRAWINGS - 1ST/CENTRAL	19-Dec-16	2-Sep-18
ESCALATOR COORDINATION DRAWINGS - 1ST/CENTRAL	19-Dec-16	19-Jun-18
ASSEMBLY OF THE TBM AND BACKUP EQUIP / INST FIRST 10 RINGS	17-Jan-17	18-Oct-16
FAB/DELIV HIGH VOLTAGE DISCONNECT - 1ST & CENTRAL	19-Jan-17	5-Sep-19
PROCURE PLATE PURCHASE ORDER	26-Jan-17	18-Nov-16
PROCURE MSE PANEL PURCHASE ORDER	26-Jan-17	7-Dec-20
PROCURE RAIL - FLOATING SLAB MATERIALS	26-Jan-17	5-Jul-19
FAB/DELIV GLAZING SPIDERS - ALL STATIONS	9-Feb-17	3-Feb-20
FAB/DELIV LIGHT FIXTURES - HOPE STA	14-Feb-17	20-Feb-20
PROCURE NEW 115RE RAIL - HIGH STRENGTH RAIL	24-Feb-17	16-Jul-19
PROCURE RAIL - JOBWIDE	24-Feb-17	16-Jul-19
PROCURE SPECIAL TRACK - JOBWIDE	24-Feb-17	9-Sep-19
PROCURE NEW 115RE RAIL - STANDARD RAIL	24-Feb-17	16-Jul-19
FAB/DELIV PRECAST TUNNEL LINER SEGMENTS	27-Feb-17	13-Nov-17
ELEVATOR COORDINATION DRAWINGS - 2ND/BROADWAY	9-Mar-17	21-Nov-18
ESCALATOR COORDINATION DRAWINGS - 2ND/BROADWAY	9-Mar-17	7-Sep-18
FAB/DELIV LIGHT FIXTURES - CENTRAL STA	30-Mar-17	25-Feb-20
FAB/DELIV EDGE LIGHTING - HOPE STA	12-Apr-17	25-Feb-20
FAB/DELIV LIGHT FIXTURES - BROADWAY STA	21-Apr-17	3-Feb-20
PROCURE ARCHITECTURAL PRECAST PAVER SUBCONTRACTOR	21-Apr-17	30-Dec-19
PROCURE GRANITE STONework SUBCONTRACTOR	21-Apr-17	16-Jun-20
PROCURE MASONRY SUBCONTRACTOR	21-Apr-17	7-Jun-19
PROCURE PRECAST STRUCTURAL ELEMENTS SUBCONTRACTOR	21-Apr-17	7-Jan-20
PROCURE ARCHITECTURAL CONCRETE PAVING SUBCONTRACTOR	21-Apr-17	14-Jan-20
PROCURE DOORS & HARDWARE SUBCONTRACTOR	21-Apr-17	11-Dec-19
PROCURE DRYWALL & FRAMING SUBCONTRACTOR	21-Apr-17	30-Jun-20
PROCURE FIRE PROTECTION SUBCONTRACTOR	21-Apr-17	10-Oct-18
PROCURE FLOORING SUBCONTRACTOR	21-Apr-17	23-Jul-20
PROCURE GLAZING SUBCONTRACTOR	21-Apr-17	16-Dec-19
PROCURE METAL CEILING SUBCONTRACTOR	21-Apr-17	30-Jan-20
PROCURE PAINT SUBCONTRACTOR	21-Apr-17	16-Dec-19
PROCURE SHEET METAL SUBCONTRACTOR	21-Apr-17	2-Apr-20
PROCURE SPRAY ON ACCOUSTICAL FINISH SUBCONTRACTOR	21-Apr-17	26-Dec-19
PROCURE STAINLESS STEEL SUBCONTRACTOR	21-Apr-17	5-Dec-19
PROCURE STATION SIGNS SUBCONTRACTOR	21-Apr-17	17-Jul-20
PROCURE STEEL (PERMANENT) SUBCONTRACTOR	21-Apr-17	9-Dec-19
PROCURE TERRAZZO SUBCONTRACTOR	21-Apr-17	10-Jul-20
PROCURE TILE SUBCONTRACTOR	21-Apr-17	23-Dec-19

DESIGN-BUILDER'S (C0980) LONG LEAD ITEM LIST (Cont.)

Activity Name	Early Finish	Need Date
PROCURE FLUID APPLIED WATERPROOFING SUBCONTRACTOR	21-Apr-17	22-Nov-19
PROCURE BALLASTED TRACK - NORTH ALAMEDA LEG	21-Apr-17	11-Feb-21
FAB/DELIV EDGE LIGHTING - CENTRAL STA	25-May-17	20-Jan-20
ELEVATOR COORDINATION DRAWINGS - 2ND/HOPE	28-May-17	23-Apr-19
ESCALATOR COORDINATION DRAWINGS - 2ND/HOPE	28-May-17	26-Nov-18
FAB/DELIV EDGE LIGHTING - BROADWAY STA	19-Jun-17	25-Feb-20
FAB/DELIV 2ND/HOPE UNIT SUBSTATION AND TRANSFORMER	29-Aug-17	11-Dec-19
FAB/DELIV 2ND/BROADWAY UNIT SUBSTATION AND TRANSFORMER	29-Aug-17	6-Dec-19
FAB/DELIV ELEVATORS - 1ST/CENTRAL	19-Dec-17	3-Oct-19
FAB/DELIV ESCALATORS - 1ST/CENTRAL	19-Dec-17	25-Jun-20
FAB/DELIV TRAIN CONTROL CABLE	29-Dec-17	27-Nov-18
FAB/DELIV EMERGENCY VENTILLATION FANS - CENTRAL (4)	8-Mar-18	12-Feb-20
FAB/DELIV EMERGENCY BOOSTER FANS (12)	8-Mar-18	20-Feb-20
FAB/DELIV EMERGENCY VENTILLATION FANS - BROADWAY (4)	8-Mar-18	12-Feb-20
FAB/DELIV EMERGENCY VENTILLATION FANS - HOPE (4)	8-Mar-18	12-Feb-20
FAB/DELIV ELEVATORS - 2ND/BROADWAY	9-Mar-18	21-Nov-19
FAB/DELIV ESCALATORS - 2ND/BROADWAY	9-Mar-18	7-Nov-19
FAB/DELIV OCS POLES / EQUIPMENT	14-Mar-18	18-Nov-19
FAB/DELIV OCR FOR TUNNEL	14-Mar-18	20-Dec-19
FAB/DELIV 2ND/HOPE TPSS	23-May-18	15-Mar-19
FAB/DELIV ELEVATORS - 2ND/HOPE	28-May-18	22-Apr-20
FAB/DELIV ESCALATORS - 2ND/HOPE	28-May-18	26-Nov-19
FAB/DELIV TRAIN CONTROL EQUIPMENT	16-Jan-19	16-Dec-19
FAB/DELIV 2ND/BROADWAY TPSS	15-Feb-19	6-Dec-19

CRITICAL PATH NARRATIVE

Critical Path (C0980):

The current forecast for the Revenue Service Date is July 28, 2021 and is 60 days behind the FFGA date of May 29, 2021. The critical path *remained the same as the November schedule*. The critical path is currently running through the assembly of TBM and continues through the tunnel excavations. After TBM mining, the SEM crossover structure east of the 2nd/Broadway Station will commence. Once the crossover structure is complete, the special track work installation will follow. The critical path continues through systems installation and testing from 1st/Alameda to 7th/Flower, which will be followed by systems integration testing (Eastside Gold Line Phase 1) and pre-revenue testing. Phase 1 Revenue Service to the Eastside Gold Line is forecast to be complete first.

After Phase 1 Revenue Service is achieved, the critical path continues through the Alameda Street civil, structural, and systems work. Upon the completion of the systems work, the critical path continues through the systems integration testing (Pasadena Gold Line Phase 2) and pre-revenue testing. Phase 2 Revenue Service follows.

PROJECT COST STATUS

REGIONAL CONNECTOR TRANSIT CORRIDOR PROJECT
 COST REPORT
 DOLLARS IN THOUSANDS

SCC CODE		FFGA BUDGET	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		BUDGET/ FORECAST VARIANCE
				PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	
10	GUIDEWAYS & TRACK ELEMENTS	280,622	204,691	0	249,324	0	238,790	2,727	57,598	0	249,404	80
20	STATIONS, STOPS, TERMINALS, INTERMODAL	354,268	219,477	0	229,834	0	223,834	3,284	22,698	0	230,294	460
30	SUPPORT FACILITIES: YARDS, SHOPS, ADMIN, BLDGS	0	0	0	0	0	0	0	0	0	0	0
40	SITWORK & SPECIAL CONDITIONS	141,785	422,453	127	528,104	127	513,817	3,736	315,939	-739	540,552	12,449
50	SYSTEMS	69,667	73,848	0	73,979	0	63,689	281	2,340	-236	75,279	1,300
	CONSTRUCTION SUBTOTAL (10-50)	846,343	920,468	127	1,081,241	127	1,040,130	10,029	398,575	-975	1,095,530	14,289
60	ROW, LAND, EXISTING IMPROVEMENTS	115,889	74,208	0	82,704	22	74,195	22	46,431	0	82,704	0
70	VEHICLES	16,275	16,275	0	16,275	0	16,275	0	1,678	0	16,275	0
80	PROFESSIONAL SERVICES	261,455	257,973	600	284,140	333	255,198	4,464	199,584	813	285,619	1,479
	SUBTOTAL (10-80)	1,239,963	1,268,925	727	1,464,360	483	1,385,799	14,515	646,269	-162	1,480,128	15,768
90	UNALLOCATED CONTINGENCY	135,399	126,892	-727	60,981	0	0	0	0	162	45,213	-15,768
100	FINANCE CHARGES	27,571	7,115	0	7,115	0	0	0	0	0	7,115	0
	TOTAL PROJECTS 460228 & 860228 (10-100)	1,402,932	1,402,932	0	1,532,456	483	1,385,799	14,515	646,269	0	1,532,456	0
	ENVIRONMENTAL/PLANNING - 400228		6,075	0	6,075	0	6,075	0	6,075	0	6,075	0
	ENVIRONMENTAL/PLANNING - 460228		18,125	0	20,425	0	20,425	0	18,838	0	20,425	0
	TOTAL PROJECTS 400228 & 460228 (EVN/PLAN'G)	0	24,200	0	26,500	0	26,500	0	24,913	0	26,500	0
	400228, 460228, 860228 TOTAL	1,402,932	1,427,132	0	1,558,956	483	1,412,298	14,515	671,182	0	1,558,956	0

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH 11/30/2016

PROJECT COST ANALYSIS – 860228

Original Budget:

The Original Budget of \$1.427 billion reflects the April 2014 Board approved Life-of-Project (LOP), plus finance costs of \$7.1 million.

Current Budget:

In December 2015, the Board approved an increase to the Life-of-Project (LOP) budget of \$131.8 million. With finance costs of \$7.1 million added, the Current Budget of \$1.558 billion reflects said Board action. Budgets have been assigned for recovery schedule modifications under SCC 10, 40, and 80 from allocated contingency and unallocated contingency. There was a budget transfer from unallocated contingency to SCC 80 for Contract C0980 Modifications.

Commitments:

Commitments increased by \$483K this period to \$1.41 billion which represents 90.6% of the Current Budget. The increase is due to execution of Contract C0980 Modifications, *Community Relations and Legal*.

Expenditures:

Expenditures are cumulative through November 2016. Expenditures increased by \$14.5 million this period for costs associated with C0980 Design Build contract, Engineering Management Support, Metro Project Administration, Construction Management Support Service, Legal Services, Third Party Master Cooperative Agreements with the City of LA, Community Relations, ROW and Environmental Consultant Services. The \$671.2 million in expenditures to date represents 43.1% of the Current Budget.

Current Forecast:

The forecast includes pending modifications.

PROJECT COST STATUS (Cont.)

CONCURRENT NON-FFGA ACTIVITIES (861228)

PROJECT COST STATUS BY FTA SCC
DOLLARS IN THOUSANDS

SCC CODE	Description	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		BUDGET / FORECAST VARIANCE
			PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	
10	GUIDEWAYS & TRACK ELEMENTS	-	0	0	0	0	0	0	0	0	0
20	STATIONS, STOPS, TERMINALS, INTERMODAL	-	0	0	0	0	0	0	0	0	0
30	SUPPORT FACILITIES: YARDS, SHOPS, ADMIN, BLDGS	10,480	0	10,480	0	10,480	0	0	0	10,480	0
40	SITWORK & SPECIAL CONDITIONS	0	0	0	0	0	0	0	0	0	0
50	SYSTEMS	0	0	0	0	0	0	0	0	0	0
	CONSTRUCTION SUBTOTAL (10-50)	10,480	0	10,480	0	10,480	0	0	0	10,480	0
60	ROW, LAND, EXISTING IMPROVEMENTS	27,748	0	27,748	0	27,748	0	22,498	0	27,748	0
70	VEHICLES	0	0	0	0	0	0	0	0	0	0
80	PROFESSIONAL SERVICES	650	0	650	0	650	3	205	0	650	0
	SUBTOTAL (10-80)	38,878	0	38,878	0	38,878	3	22,703	0	38,878	0
90	UNALLOCATED CONTINGENCY	1,113	0	1,113	0	0	0	0	0	1,113	0
100	FINANCE CHARGES	0	0	0	0	0	0	0	0	0	0
	TOTAL PROJECTS 861228 (10-100)	39,991	0	39,991	0	38,878	3	22,703	0	39,991	0
	861228 TOTAL	39,991	0	39,991	0	38,878	3	22,703	0	39,991	0

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH 11/30/2016

PROJECT COST ANALYSIS – 861228

Original Budget:

The Original Budget, Current Budget, and Current Forecast reflect the Board approved Life-of-Project (LOP) budget on April 24, 2014.

Current Budget:

There is no change to the Budget for this period.

Commitments:

Commitments reflect the Board approved Life-of-Project (LOP) budget on April 24, 2014 less the Unallocated Contingency of \$1.1 million. Right-of-Way (ROW) numbers shown under Commitment are the obligated numbers.

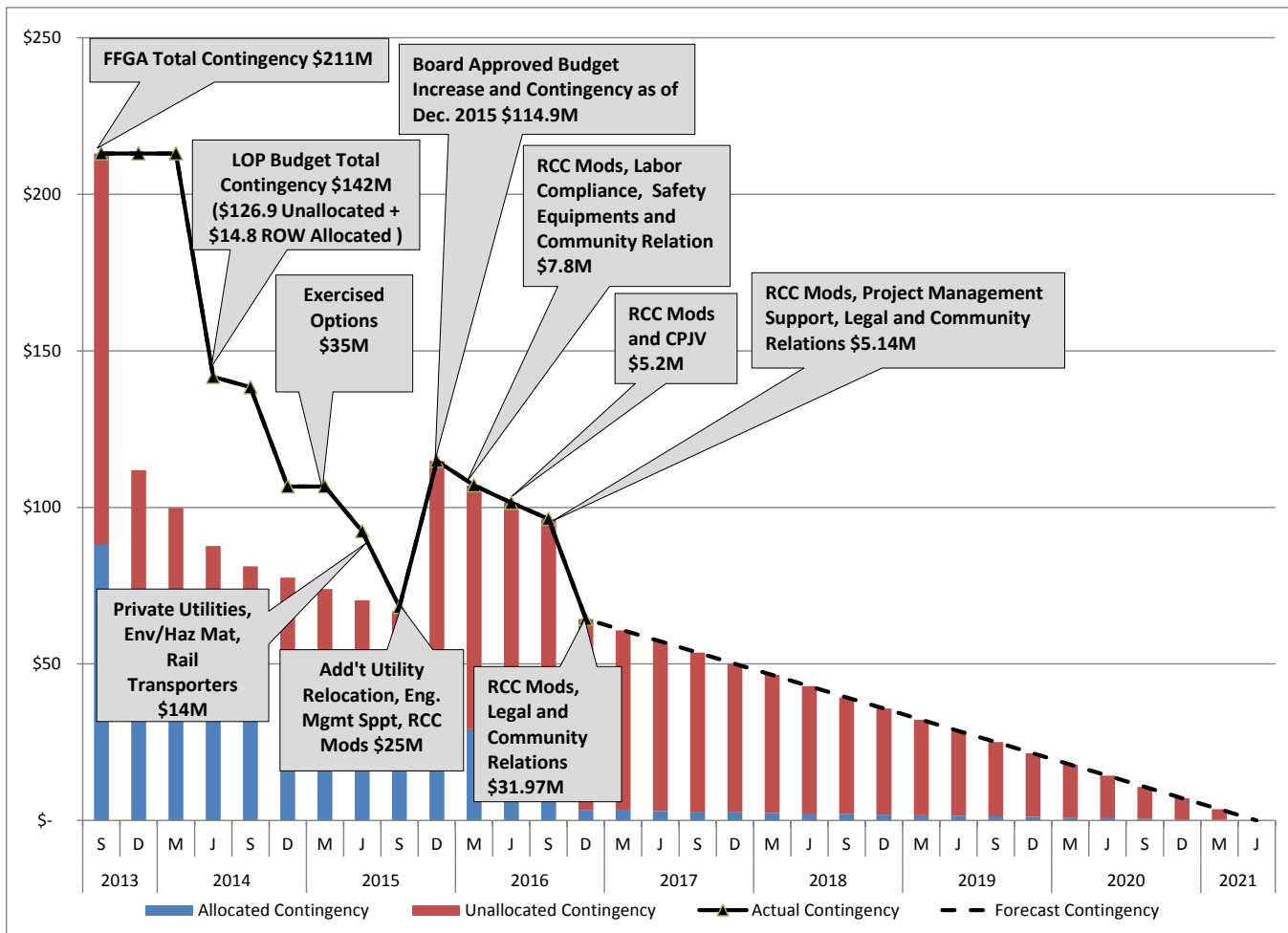
Expenditures:

Expenditures are cumulative through November 2016. Expenditures increased by \$3 thousand this period for costs associated with *Community Relations*. The \$22.7 million in expenditures to date represents 56.8% of the Current Budget.

Current Forecast:

There was no change to the Forecast for this period.

COST CONTINGENCY DRAWDOWN

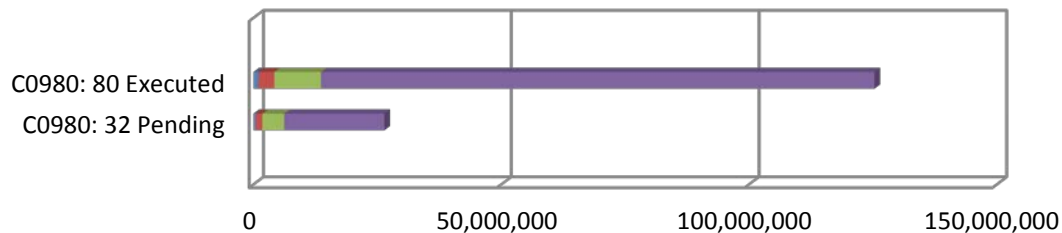


COST CONTINGENCY DRAWDOWN ANALYSIS

In December 2015 the Board approved an increase to the Life-of-Project budget of \$131.8 million. The Regional Connector Transit Corridor Project budget of \$1.56 billion reinstated the total project cost contingency to \$114.9 million, \$80.3 million in “unallocated contingency”, which is included as a separate Standard Cost Category (SCC) element and \$31.3 million in an “allocated contingency” to Design Build Contract, \$3.00 million allocated for Private Utilities, and \$0.25 million to Environmental Planning. This month there is a drawdown of \$727K from “unallocated contingency”. The remaining project cost contingency for *December 2016* is \$64.4 million.

SUMMARY OF CONTRACT MODIFICATIONS

Contract Modifications (MODs) by Cost Level



	C0980		Total
	80 Executed	32 Pending	
■ Under \$100K	938,796	380,000	1,318,796
■ \$100K to \$250K	3,260,632	1,394,864	4,655,496
■ \$250K to \$1M	9,426,323	4,414,267	13,840,590
■ Over \$1M	111,665,914	20,227,878	131,893,792
Total Contract MODs	125,291,665	26,417,009	151,708,674
Contract Award Amount	927,226,995	927,226,995	
% of Contract MODs	13.5%	2.8%	

Note:

1. Percent of Contract MODs equals the Total Contract MODs divided by the Contract Award Amount.
2. Pending Mods are under negotiation.

Eighty (80) changes with total value of \$125.3 million have been executed since NTP of Contract C0980. An additional thirty-two (32) changes, with a total estimated value of \$26.4 million are pending.

DISADVANTAGED BUSINESS ENTERPRISE (DBE) STATUS

Contract C0980 Regional Connector Transit Corridor Design-Build

As of December 2016:

- DBE Goal – Design: 20%
- Current DBE Commitment - Design: \$11.3M (22.63%)
- Current DBE Participation: 23.04%
- Twelve (12) Design DBE sub-consultants have been identified to date

- DBE Goal – Construction: 18%
- Current DBE Commitment - Construction: \$157.7M (18%)
- Current DBE Participation: 17.99%
- Fifty-three (53) Construction DBE sub-contractors have been identified to date

PROJECT LABOR AGREEMENTS (PLA) STATUS

Contract C0980 Regional Connector Transit Corridor Design-Build

- | | |
|--|--------|
| • Targeted Worker Goal - | 40.00% |
| Targeted Worker Current Participation - | 58.24% |
| • Apprentice Worker Goal - | 20.00% |
| Apprentice Worker Current Participation - | 18.98% |
| • Disadvantaged Worker Goal - | 10.00% |
| Disadvantaged Worker Current Participation - | 9.03% |

FINANCIAL/GRANT STATUS

Status of Funds Anticipated

December 2016

FEDERAL - CMAQ	METRO SUBMITTED ON NOVEMBER 25, 2013 A GRANT APPLICATION OF \$64.0M TO THE FTA. GRANT APPROVAL WAS EXECUTED ON SEPTEMBER 24, 2014. FUNDS ARE AVAILABLE FOR DRAW DOWN
FEDERAL - SECTION 5309 NEW STARTS	METRO SUBMITTED ON NOVEMBER 25, 2013 A GRANT APPLICATION OF \$65.0 M TO THE FTA. GRANT APPROVAL WAS EXECUTED ON SEPTEMBER 23, 2014. METRO SUBMITTED ON JUNE 11, 2015 A GRANT AMENDMENT OF \$100M. GRANT AWARDED AUGUST 2015. FUNDS ARE AVAILABLE FOR DRAW DOWN METRO SUBMITTED A GRANT AMENDMENT OF \$100M IN JULY 2016. GRANT APPROVAL WAS EXECUTED ON AUGUST 18, 2016. FUNDS ARE AVAILABLE FOR DRAW DOWN.
MEASURE R - TIFIA LOAN: (Transportation Infrastructure Finance & Innovation Act)	A TIFIA LOAN AGREEMENT BETWEEN THE DEPARTMENT OF TRANSPORTATION AND METRO FOR \$160M WAS EXECUTED ON FEBRUARY 20, 2014. THE DISBURSEMENT OF \$61,864,368 WAS SPLIT INTO TWO PARTS. RECEIVED THE FIRST DISBURSEMENT OF \$25.2 MILLION 4TH QUARTER FY2016. RECEIVED THE SECOND DISBURSEMENT OF \$36.7 MILLION 1ST QUARTER FY2017.
STATE PROP 1A HSRB	ALLOCATION REQUEST OF \$114.9M TO THE CTC WAS SUBMITTED ON JUNE 27, 2013. ALLOCATION WAS APPROVED ON JULY 18, 2014. FUNDS HAVE BEEN DRAW DOWN.
STATE PROP 1B PTMISEA	ALLOCATION REQUEST OF \$135.1M WAS APPROVED ON APRIL 24, 2013. FUNDS ARE AVAILABLE FOR DRAW DOWN.
CITY OF LA	FUNDING AGREEMENT OF \$42M WITH THE CITY OF LA WAS APPROVED IN JUNE 2014. THE FIRST PAYMENT DRAWDOWN OF \$5.0M WAS IN JUNE 2016.

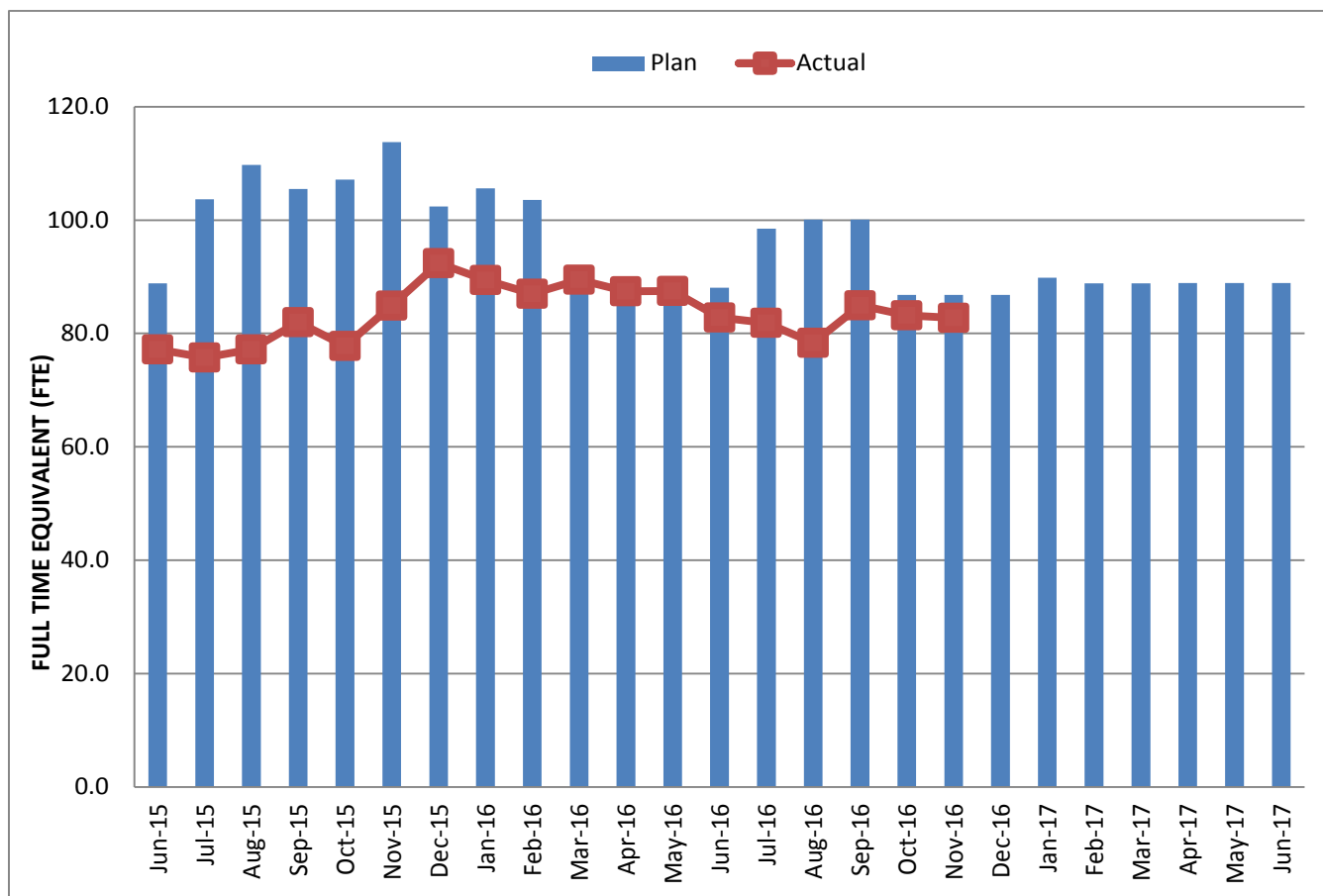
Status of Funds by Source

December 2016

SOURCE	(A) ORIGINAL BUDGET	(B) TOTAL FUNDS ANTICIPATED	(C) TOTAL FUNDS AVAILABLE	(D) COMMITMENTS \$	(D/B) %	(E) EXPENDITURES \$	(E/B) %	(F) BILLED TO FUNDING SOURCE \$	(F/B) %
FEDERAL - CMAQ	\$64.000	\$64.000	\$64.000	\$64.000	100%	\$40.937	64%	\$40.937	64%
FEDERAL - SECTION 5309 NEW STARTS	\$669.900	\$669.900	\$265.000	\$669.900	100%	\$210.513	31%	\$195.592	29%
FEDERAL - RIP	\$0.000	\$14.400	\$0.000	\$14.400	100%	\$0.000	0%	\$0.000	0%
MEASURE R - TIFIA LOAN	\$160.000	\$160.000	\$61.864	\$160.000	100%	\$61.864	39%	\$61.864	39%
STATE PROPOSITION 1A HSRB *	\$114.874	\$114.874	\$114.874	\$114.874	100%	\$114.874	100%	\$114.874	100%
STATE PROPOSITION 1B PTMISEA **	\$149.500	\$135.100	\$135.100	\$135.100	100%	\$135.100	100%	\$132.377	98%
STATE STIP RIP	\$2.590	\$2.590	\$2.590	\$2.590	100%	\$2.590	100%	\$2.590	100%
STATE CAPITAL PROJECT LOANS - OTHERS ***	\$132.466	\$284.730	\$284.730	\$245.952	86%	\$100.304	35%	\$75.382	26%
MEASURE R	\$27.571	\$7.115	\$0.000	\$0.000	0%	\$0.000	0%	\$0.000	0%
CITY OF LOS ANGELES	\$41.984	\$42.000	\$5.000	\$5.000	12%	\$5.000	12%	\$5.000	12%
LEASE REVENUE	\$64.247	\$64.247	\$0.000	\$0.000	0%	\$0.000	0%	\$0.000	0%
TOTAL	\$1,427.132	\$1,558.956	\$933.158	\$1,411.816	90.6%	\$671.182	43.1%	\$628.616	40.3%
EXPENDITURES ARE CUMULATIVE THROUGH NOVEMBER 30, 2016 ORIGINAL BUDGET BASED ON FUNDING PLAN INCLUDED IN THE APPROVED FULL FUNDING GRANT AGREEMENT									
* STATE PROPOSITION 1A HIGH SPEED RAIL BONDS									
** STATE PROPOSITION 1B PUBLIC TRANSPORTATION MODERNIZATION, IMPROVEMENT AND SERVICE ENHANCEMENT ACCOUNT									
*** OTHERS INCLUDE TDA ADMINISTRATION, NB PROPOSITION A ADMINISTRATION, AND PROPOSITION 1B INTEREST (FOR A TOTAL OF \$.318M)									

STAFFING STATUS

TOTAL PROJECT STAFFING – METRO AND CONSULTANTS



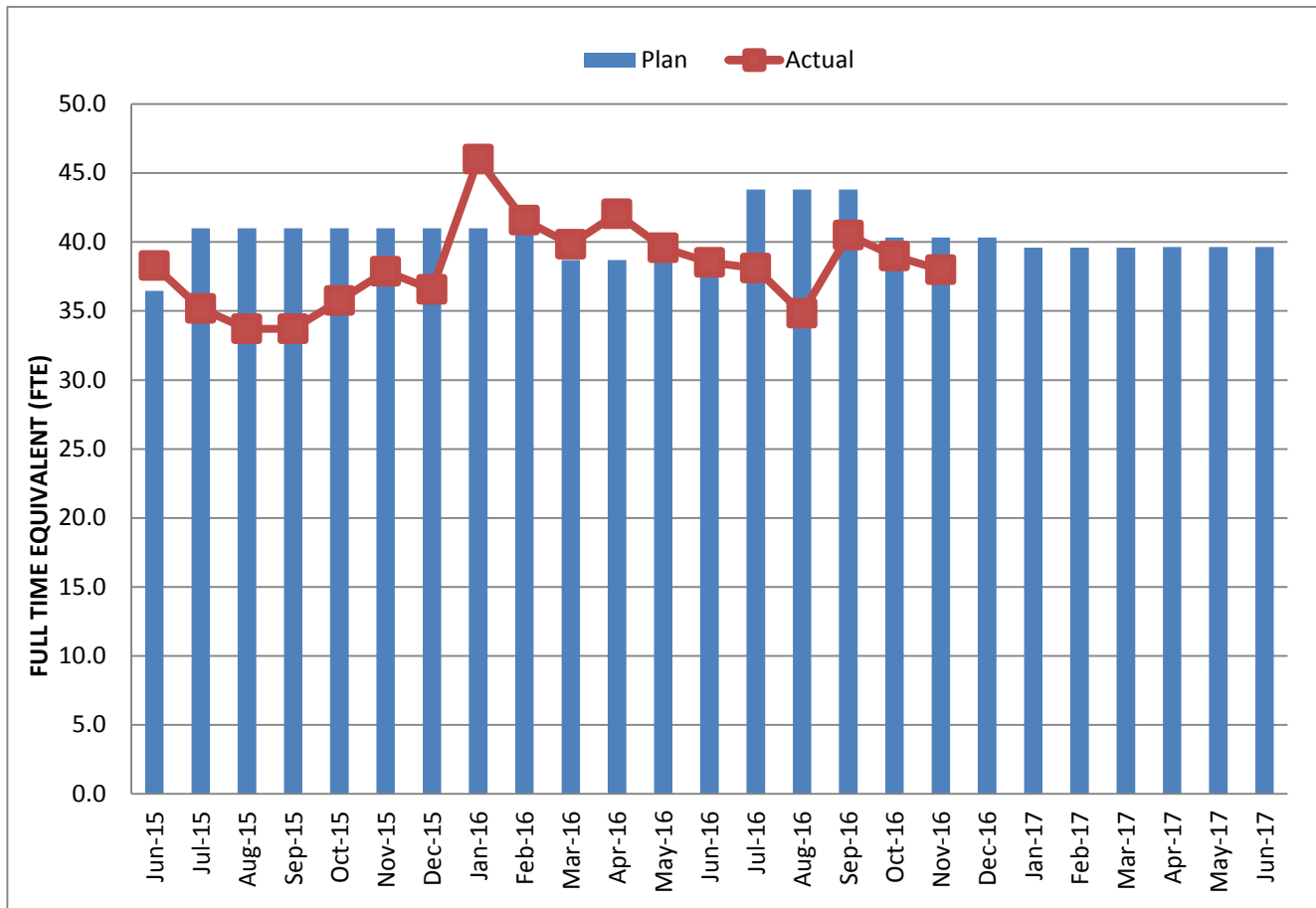
TOTAL PROJECT STAFFING

The overall FY17 Total Project Staffing plan averages 91.1 FTE's per month.

For *November* 2016, there were a total of 38.0 FTEs for MTA's Project Administration staff and 44.8 FTEs for consulting staff. The total actual project staffing for *November* 2016 was 82.8 FTEs versus FTEs planned (86.8).

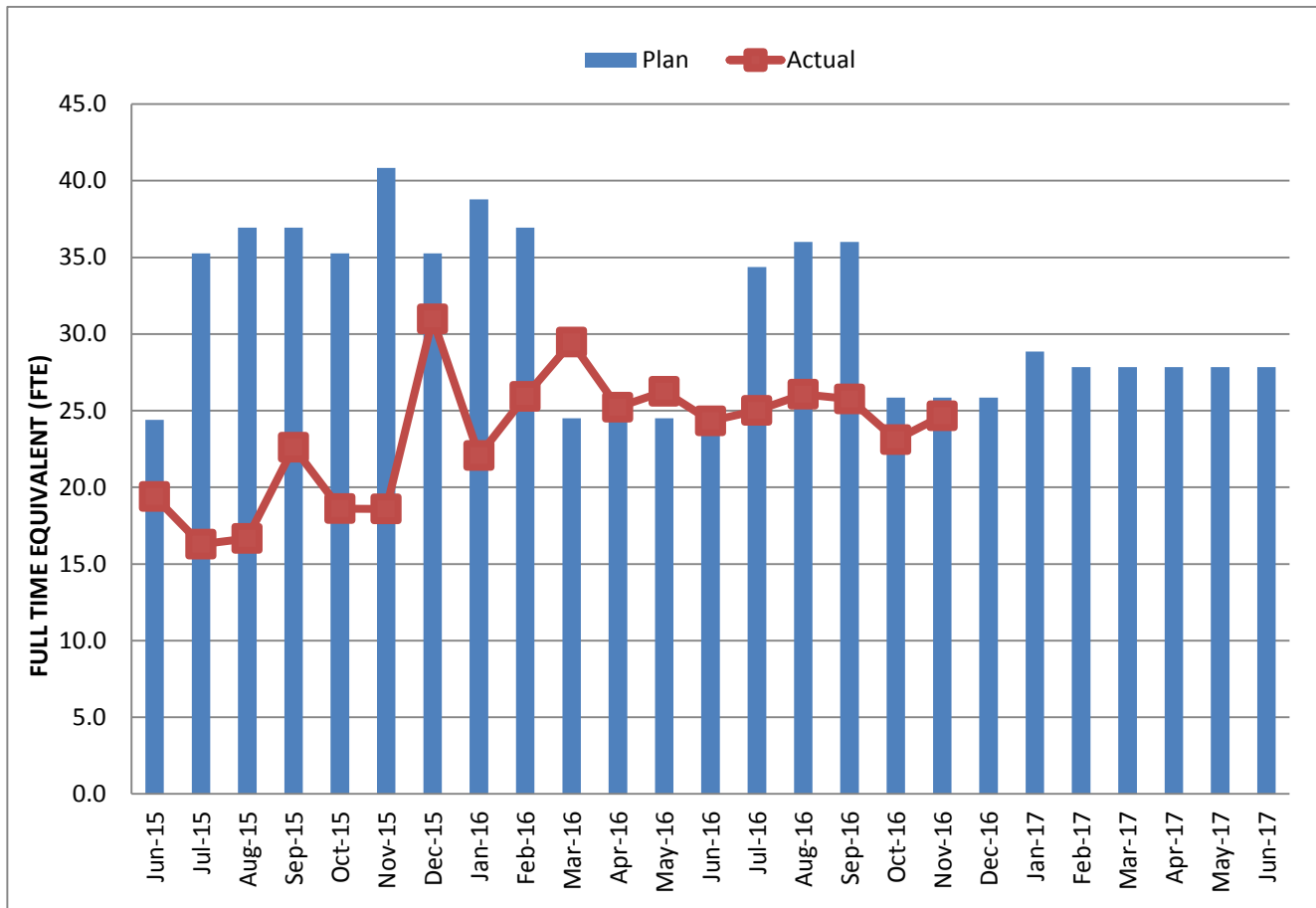
The apparent shortfall in staffing has not impacted MTA's capability to effectively manage the Project. Review of current staffing plans is underway to re-calibrate expected needs.

STAFFING STATUS (Cont.) METRO STAFF



STAFFING STATUS (Cont.)

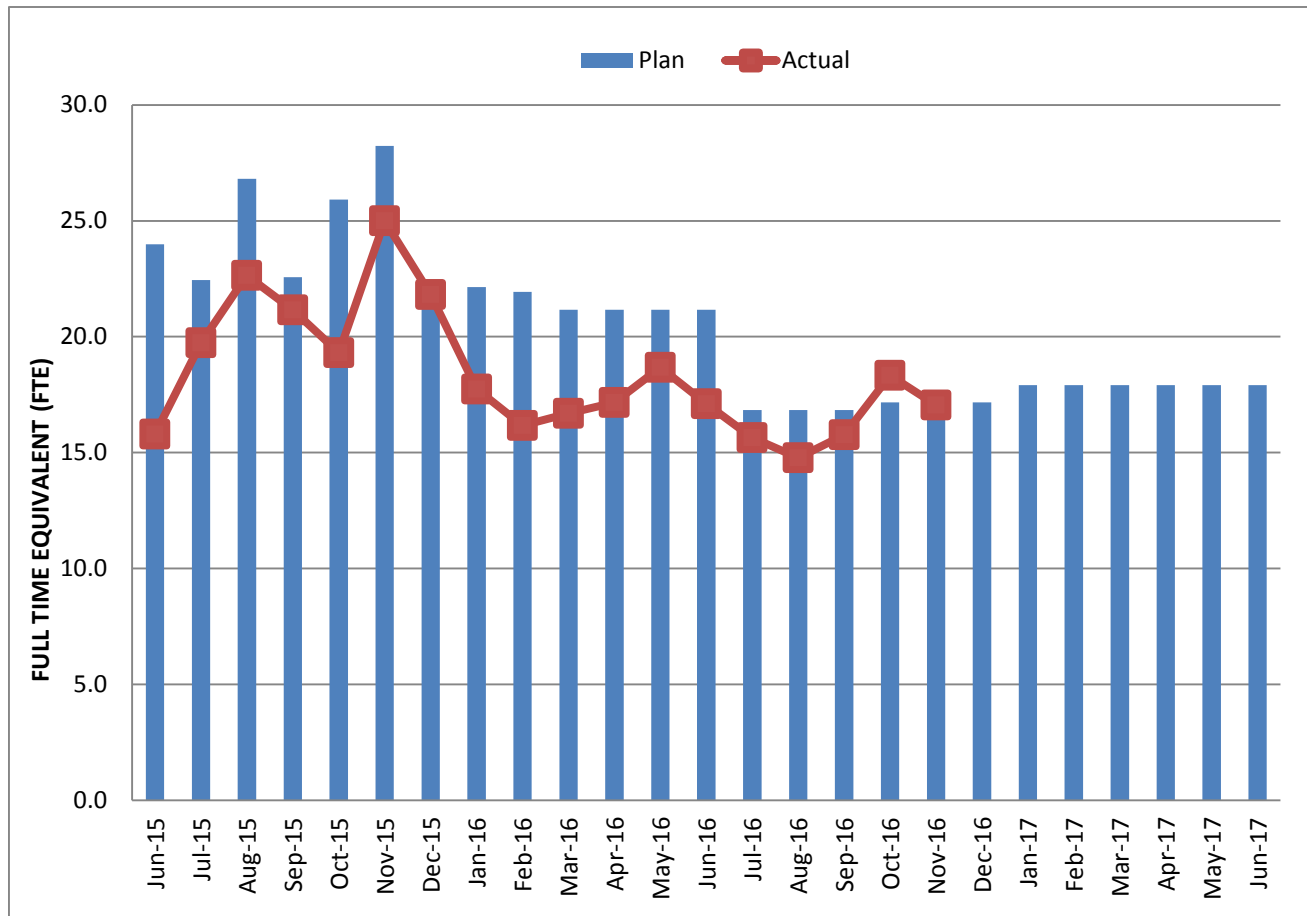
CONSTRUCTION MANAGER SUPPORT SERVICES CONSULTANT



Note:

- a) The variance in FTEs is due to holiday time off (Nov. 14), extensive weekend work (Dec.14) and additional field support staff.
- b) The Actual FTEs for the month are based on the FTE hours submitted in the invoice for that month.

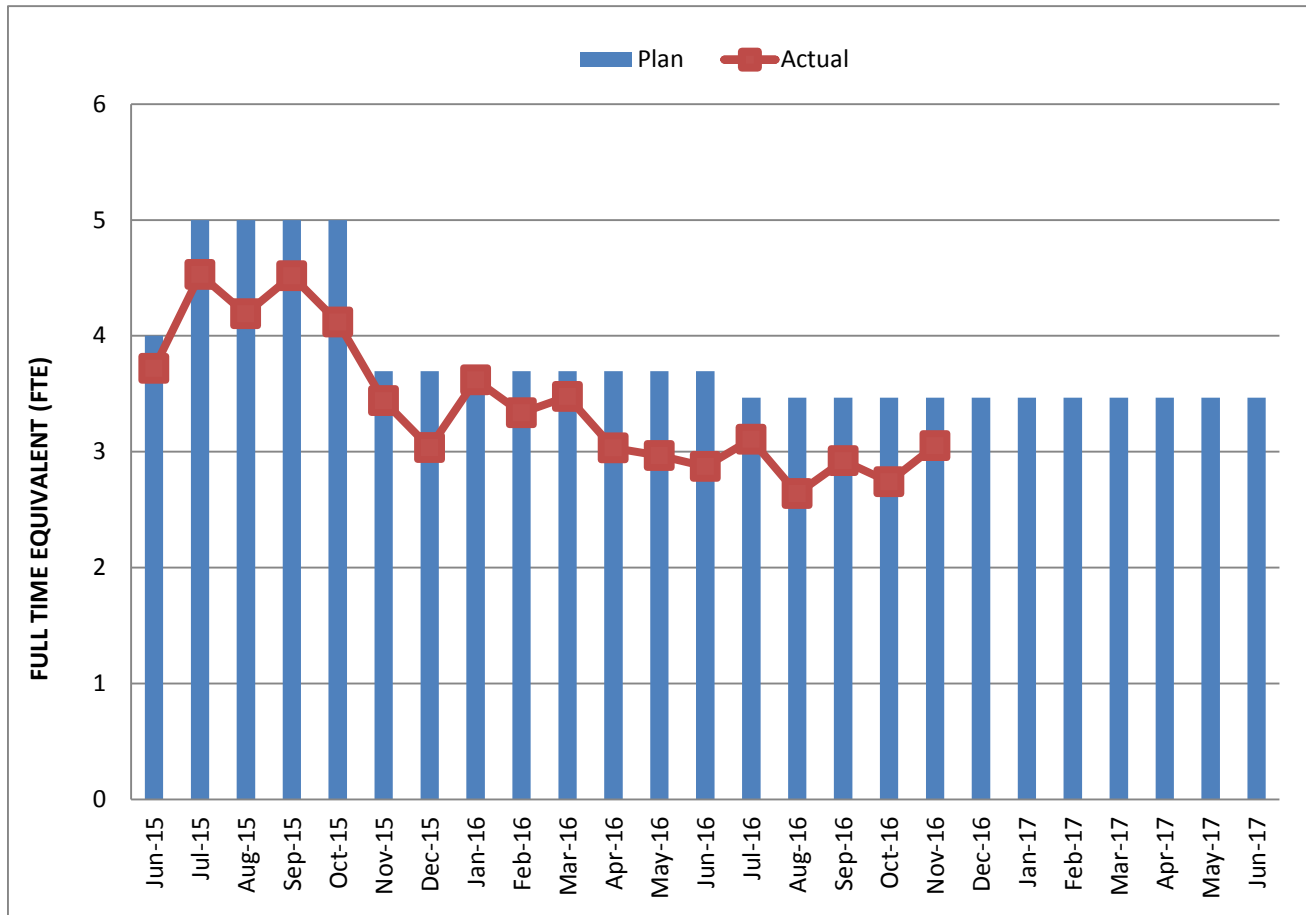
STAFFING STATUS (Cont.) ENGINEERING SERVICES CONSULTANTS



Note:

- a) The variance in FTEs is due to holiday time off and in support of C0980 submittals and C0981R beyond planned completion.
- b) The Actual FTEs for the month are based on the FTE hours submitted in the invoice for that month.

STAFFING STATUS (Cont.) PROJECT MANAGEMENT SERVICES CONSULTANTS



REAL ESTATE STATUS

Regional Connector - Real Estate Status Summary November 30, 2016

Type of Take	Number of Parcels	Certified	Decertified	Appraisals In Process / Completed	Offers Made	Escrow Closed	Effective OIP	Parcels Available	Remaining
Full Takes	2	2		2	2		2	2	
Part Takes	3	3		3	3			2	1
SSE	12	8	4	9	9	6	2	7	1
TCE/ROE	14	5	3	6	6	4	1	5	
PE	3	3		3	3	2		3	
Sub Total	34	21	7	23	23	12	5	19	2
Pedestrian Bridge	420-1, 420-2, 420-3								1
Mangrove Fan Plant	TBD								1
Grand Total	36	21	7	23	23	12	5	19	4

REAL ESTATE ACQUISITION

OPEN REAL ESTATE MATTERS

Japanese Village Plaza – “JVP”

- Project is under construction on the site under an Order of Possession effective July 31, 2015. The trial to determine the value of the required right of way is awaiting the Court to reschedule of condemnation trial originally scheduled for September 2016.

Broad Collection

- Broad's Board approved the acquisition agreement at the end of October 2016. The MTA Board will be asked to approve the acquisition agreement at the February 2017 meeting after the Board signs the acquisition documents.

City of Los Angeles (Mangrove Parcels) – No Change

- Project is still finalizing certification for additional right of way required for the Fan Plant. Also will be requested to negotiate an extension of the 5-year temporary construction easement. Once the final certification is submitted to Real Estate the process will begin with the City of Los Angeles to acquire the additional rights.

City of Los Angeles Department of Water and Power ‘Duco Yard’ – DWP (RC-473)

- Preliminary offer discussed with LADWP for the TCE and permanent easement areas.
- LADWP submitted its estimate of the modification required to their yard to continue their operations.

QUALITY ASSURANCE STATUS

C0980 Regional Connector D/B

- Metro QA reviewed and provided comments on RCC's quality related submittals, construction work plans and milestone submittals. During the month of *December* two (2) Construction Quality Work Plans (CQWPs) were received and reviewed.
- Metro QA also reviewed:
 - o Test results for Portland Cement Concrete Lab, Asphalt Concrete, Tie-Back pull tests, soils compaction and structural welding MT/UT.
 - o *Material Certifications for Rebar for the TBM Sub-Invert Slab Placement.*
 - o *Non-Shrink Grout for tieback and waler packing.*
 - o *ITP (217) for Stray Current Corrosion Control.*
 - o *Tie-Back Testing at 2nd/Hope for level 3 and 4 Tie-Backs.*
- *Comments were made about the Re-Strutting Plan by RCC that will allow the results of the tests to stand after the Re-Strut Plan are reviewed, approved and in-place.*
- Contractor testing performed to date are as follows:
 1. Portland cement concrete 28-day test results: 644, number accepted: 644
 2. Asphalt concrete density tests results: 185, number accepted: 185
 3. Soil compaction (in-situ density) tests performed to date: 168, number accepted: 168
 4. Welding MT/UT testing to date is: 5668 number accepted: 5668
- Attended "Readiness Review" meetings with RCC.
- Performed oversight verification of RCC's design and construction activities, as well as ongoing monitoring of RCC's QA/QC activities.
- *RCC NCR 0020 was issued December 06, 2016 for Tie-Back Removal Pit Shotcrete Strength not meeting the required (5000) PSI. The Engineer of Record approved the strengths that were achieved. They are as follows: 4816,4817,4825 and 4881. The NCR was then closed on December 21, 2016.*
- *RCC NCR 0021 was issued on December 20, 2016 because excavation and lagging commenced without a Release for Excavation not being signed and all of the open items not being closed at the TBM Retrieval Area on Flower St. This NCR resulted in a Stop Work Order being issued (QP11-0.01 QSWO-001). A procedure was established and implemented that allowed the Stop Work Order and NCR 0021 to be closed on December 22, 2016.*
- *Metro QA Closed Metro NCRs C0980-2016-001 and C0980-2016-002 in December 2016.*

ENVIRONMENTAL STATUS

- Pre-construction surveys have been completed for 66 adjacent buildings, which include the following sensitive, historic, and/or Flower Street properties: Hikari Apartments, Japanese Village Plaza Parking, Japanese Village Plaza, Japanese Village Plaza Mall, Nakamura Tetsujiro Building, The Broad Art Foundation Museum, The Colburn School, General Petroleum, Superior Oil Co. Building, The California Club, the Los Angeles Central Library, Maguire Gardens and Underground Parking Structure, WDCH, LA Times Building, LA Times Mirror Building, Higgins Building, Cathedral of Saint Vibiana, Citibank Group (Hines Property), the Downtown YMCA, the Parking Structure (Commonwealth), the Westin Bonaventure, the 2nd Street Tunnel, the City National Bank/Commonwealth Buildings, the Emerson Building, the parking garage across from Walt Disney Concert Hall, the Los Angeles US Courthouse, Ava Little Tokyo Building A, Little Tokyo Block 8 Parcel D, SK Uyeda Building, and Shaz Germain. *All buildings have been surveyed.* These surveys are prepared for all properties within 21 feet of vibration producing construction activities to assess the building category and the potential for ground borne vibration to cause damage to the buildings.
- As of June 30, 2016, RCC has installed noise monitors at six Metro-approved locations along the Project alignment. The noise monitors will be instrumental in verifying compliance of construction-generated noise with the local ordinance and thresholds listed in the Project Contract Specifications.
- RCC has installed vibration monitors at WDCH, REDCAT, the Broad Museum, the Japanese Village Plaza, the LA Times, the Hikari Apartments, the Colburn School and the Nakamura Tetsujiro Building. Locations are based on the Vibration Monitoring Plan to monitor vibration continuously during peak vibration generating construction.
- SWPPP inspections of all project areas are conducted weekly by RCC to observe site conditions and report on performance of stormwater protection Best Management Practices.
- Metro submitted the 15th Quarterly Mitigation Monitoring and Reporting Plan (MMRP) covering August 2016 to October 2016, to the FTA on November 14, 2016. *The 16th Quarterly Report will be submitted in February 2017.*
- RCC identified thirteen (13) trees requiring removal. RCC submitted a request for a tree removal permit from Urban Forestry in August. The permit (1-123807031) was issued on September 19, 2016. The team is currently working on the 85% landscape design plans for Segment A and Segment B.

CONSTRUCTION AND COMMUNITY RELATIONS STATUS

Construction Relations

- Responded and addressed project related inquiries from the public received on the project hotline, email and during office hours at the Little Tokyo Community Office.
- Continued outreach to impacted area stakeholders regarding construction activities: utility *investigation and* relocation; geotechnical instrumentation *and* intersection closure at 2nd/Spring *for cut and cover activities*. Distributed *ten (10)* construction notices to the public through email and door-to-door, and made it available on the project website and social media outlets.
- Coordinated construction activities with *sixty-seven (67)* stakeholders throughout the project alignment.
- Held Regional Connector Community Leadership Council Committee meetings for: 1st/Central, 2nd/Hope and Flower St/Financial District committees.
- Continued bi-weekly and weekly meetings with: L.A. City Councilmember District 14, the Mayor's Office, Los Angeles Times, Common Wealth Partners, and Bonaventure Hotel.

Social Media Outreach and Marketing Efforts

- *Facebook had a 2% increase to 7,827 "likes" with a total reach of 164,751. Twitter had 53K impressions with 2,218 total followers and 18 mentions. The most popular campaigns included project videos of Angeli, the project's tunnel boring machine, being assembled and the closures at 2nd/Spring as part of cut and cover activities with 26.9K people reached and 10.7K views on Facebook and 1,534 impressions and 25 engagements on Twitter.*

Community Relations

- Conducted monthly updates with the Regional Connector Community Leadership Council for station areas representatives on construction related work, mitigations review, upcoming marketing and advertising efforts.
- Continued monthly Eat, Shop, Play (ESP) implementation and promotion of small businesses impacted by construction along the line. ESP provides social media and in-community promotions of area businesses.
- Continued work with the monthly Little Tokyo Marketing & Business Task Force.

CREATIVE SERVICES STATUS

Art Program

- Responded to RFIs and Submittals
- Participated in Design Build document reviews
- Continued to support mitigation efforts

Signage & Environmental Graphic Design

- Responded to RFIs and Submittals
- Participated in Design Build document reviews

SAFETY & SECURITY STATUS

C0980 Regional Connector

- Monitored RCC's pre-employment drug/alcohol testing and new employee safety orientation to insure compliance with contract specifications.
- Participated in weekly progress meetings with RCC's management personnel and Metro's Construction Manager to discuss safety/security/quality related issues and construction work schedules.
- Conducted Project Safety Orientation for new Metro/Consultants and IPMO project staff. Training sessions included Underground Safety and Self Rescuer Training.
- Participated in work plan reviews, daily crew safety meetings, and the RCC 'Safety Stand Down' sessions.
- Monitored construction field activities on a daily basis to insure compliance with contract specifications. Participated with RCC staff in field safety inspection walks of multiple project worksites, laydown, and storage yards.
- Monitored Third Party contractor's work activities to insure safety compliance.
- Made recommendations to utility crews regarding contract activities and improving overall traffic control and pedestrian safety.
- RCC reported *no* recordable injuries in the month of *December* 2016.
- C0980 Contractor RCC reported *59,459* work-hours for the month of *November* 2016 (*work-hours are reported with one-month lag time*). The total C0980 Contract to Date work hours through *November* 2016 are *1,190,883* with a total of *six (6)* recordable injuries and no lost workday case injuries. The C0980 Contract Recordable Injury Rate is *1.0*. The Bureau of Labor Statistics National Average Recordable Injury Rate is *2.8* for heavy civil construction projects.
- Project to Date Total Work Hours including both the C0980 and the C0981 Advanced Utility Relocation contract through *November 2016 is now 1,301,942* hours with *seven (7)* recordable injuries. Project Total Recordable Injury Rate is now *1.0*.

THIRD PARTY AGREEMENT STATUS

Agency	Type of Agreement	Status/ Comments
City of Los Angeles	Amendment to Master Cooperative Agreement	Parties will work under 2003 MCA.
Los Angeles Department of Water and Power	Amendment to Memorandum of Understanding	Metro and LADWP will continue to work under the terms of the previous Cooperative Agreement.
Los Angeles County Public Works	Letter of Agreement	Executed in April 2011
Caltrans	Amendment	Executed in August 2011
Private Utilities	LOA, MOU or UCA	All agreements in place with exception of Level 3, Qwest, XO Comm, Zayo and Time Warner. Metro is in discussion with those utilities to establish agreements.

ADVANCED UTILITY RELOCATION STATUS

LADWP-Power Services anticipated completion dates for cable pulling, splicing and removal of old facilities including the following:

- The Design Builder Contractor is currently performing potholing in and around the intersection of Flower Street & 6th Street and coordinating with LADWP and the City of Los Angeles in preparation for relocation of the local LADWP electrical system. Metro is working with both parties to facilitate coordination of the relocation design and construction in preparation for the Design Builders future decking installation.*

LADWP-Water Services anticipated completion dates for water installation and removal of old facilities including the following:

- On Flower Street between 4th Street and Wilshire Boulevard, the water relocation of the 24" waterline started on April 2015 and is expected to be completed by the latter part of March 2017.

C0980 UTILITY WORK STATUS

RCC is currently coordinating with all affected utility owners to relocate their utilities by lowering in place or support and protect in order to accommodate the Regional Connector Project.

PEAK HOUR CONSTRUCTION VARIANCES

Metro is actively pursuing extended hour variances/exemptions to accommodate Project needs by working with the City of Los Angeles, Bureau of Engineering, the Los Angeles Police Commission, the City of Los Angeles Department of Transportation and the City Council District 14th Office to obtain Peak Hour Exemptions.

1st/Central Station:

- Work activities at the intersection of 1st/Alameda have currently reached a Steady State Phase, where construction of the future tunnel portal structure is underway. The intersection of the 1st and Alameda Streets has been decked, and underground operations are proceeding. Work is anticipated to last until approximately 2020. Future closures are anticipated at the intersection of Temple and Alameda Streets to perform utility relocations and piling/decking. Metro will be reaching out to the appropriate agencies to obtain street closure approvals.
- On 2nd Street between Central Ave & San Pedro St, Metro worked with City agencies to obtain the PM peak exemption for WB directional closures to perform geotechnical monitoring equipment installation in support of future tunneling operations.

2nd/Broadway Station

- The project continues to perform utility relocations, and soldier piling/decking operations in support of the 2nd/Broadway Station construction. The street closure along 2nd Street (Broadway to Spring St, Phase 1) installed on October 15, 2016 recently transitioned to Phase 2 on the weekend of 12/3/16. Phase 2 involves a similar closure of 2nd Street as Phase 1, but includes a partial K-rail lane closure on Southbound Spring Street (between 1st & 3rd Sts.) at 2nd Street. Starting December 9, 2016 and for approximately 13 weekends, the 2nd St & Spring Sts intersection will be closed to support aforementioned work. Activities are expected to last until March 2017 followed by Steady State. As necessary, Metro will continue to coordinate with applicable City agencies to facilitate station construction.
- *In support of traffic closure modifications at the 2nd/Spring intersection, Metro worked with the City to obtain a one-day PM peak exemption from LABOE for December 21, 2016.*

2nd/Hope Station

- AM and PM exemptions for the 2nd/Hope full closure have been obtained from January 23, 2016 to April 27, 2019. This is to support utility relocations, piling/decking operations, and the 2nd/Hope Station construction.

PEAK HOUR CONSTRUCTION VARIANCES (Cont.)

Flower Street Cut & Cover Area

- Metro obtained an AM and PM peak hour exemption to place k-rail on the eastside of Flower Street (between 4th and 5th Sts.) to support above and below ground construction operations for decking along Flower Street. Approval was granted by the Board of Public works from October 1, 2016 to November 9, 2019.
- Metro obtained an AM and PM peak hour exemption to place k-rail on the southeast corner of the 3rd/Flower Streets intersection. Work supports construction of a tieback removal shaft 25' (diameter) x 60' (deep) to facilitate future tunneling activities near the Flower Street area. Original approval was granted from August 8, 2016 to November 18, 2016. By working together with City agencies, an extension was obtained until February 18, 2017 to continue construction of the shaft.

POLICE COMMISSION CONSTRUCTION VARIANCES

Metro continues to work closely with the Los Angeles Police Commission and actively pursue new night/Sunday work hour variances as well as expanded geographic limits and time extensions for existing variances to accommodate Project needs.

In *December* 2016, LAPD approved time extensions for *four* (4) existing variances for the following locations:

- At the *1st/Alameda* area, one (1) variance was given for time extension for *water/sewer installation*.
- At the *2nd/Broadway* area, one (1) variance was given for *shoring and decking* work.
- At the *Flower Street* area, two (2) variances was given for the *waterline and electrical installation* work.

In *December* 2016, LAPD approved one (1) new variance for the *Flower Street* location.

- On *Flower Street* between *5th Street* and *Wilshire Blvd.*, one (1) variance was approved for the *installation of soldier piles*.

CPUC CROSSING SUMMARY

Current Status

Contract C0980 requires RCC to design and obtain CPUC approval for the temporary relocation of the existing at-grade crossing of 1st Street adjacent to Alameda Street, approximately 500 feet east of its current location at 1st/Hewitt Streets. Also, the south Little Tokyo station pedestrian crossing will have to be re-opened to provide pedestrian access. The temporary modification of the existing at-grade crossing will remain in-place until construction of the underground Wye junction necessitates closure of the existing Little Tokyo Station, at which point bus bridging will be implemented to transfer passengers between the Pico/Aliso and Union Station. When complete, the Regional Connector Project will no longer have an at-grade crossing at the intersections of 1st/Alameda and Temple/Alameda Streets.

On May 13, 2015, RCC received CPUC approval for the temporary relocation of the existing at-grade crossing of 1st Street adjacent to Alameda Street. Additionally, on May 26, 2015, RCC received CPUC approval of the South Little Tokyo station pedestrian crossing Form GO-88B application package.

In July 2016, Metro and RCC finalized the items that needed to be included in the checklist for the Safety Certification Status. *Metro is in the process of reviewing the Safety Certification Checklist submitted by RCC in October 2016.* Note the list involves both design and construction items below:

- Passenger Stations, Train Control and Signals, Traction Power, Overhead Catenary, Communications, Track and Structures, Vertical Transportation (elevators, escalators), Fire Life Safety Systems, Security Systems, and CPUC Specific Requirements.
- Metro and RCC staff have reached a consensus of each Systems Safety Certification item per discipline that needs to be included in the plan. These items have been inserted into a Microsoft Access Database for tracking, sorting, and distribution to key staff members for alerting of any potential issues that must be resolved. This will ensure that the completion of the Safety Certification Plan will be completed in a timely manner and not impact the Revenue Operation Date (ROD).

CHRONOLOGY OF EVENTS

June 2007	Began Alternatives Analysis study
January 2009	Board approval of Alternatives Analysis study and next phase
February 2009	Began Draft Environmental Impact Statement / Report (EIS / EIR)
October 2010	Board approval of Draft EIS / EIR and selection of locally preferred alternative
January 2011	FTA approval to Enter into Preliminary Engineering
January 2011	Began Preliminary Engineering
August 2011	Board authorized to solicit major D/B contract C0980
October 2011	Issued RFQs for D/B contract C0980
December 2011	Began Real Estate Acquisition
March 2012	Completed PE and began Advanced PE
April 2012	Board certification of Final EIS / EIR and adoption of project
April 2012	Began Final Design - Advanced Utility Relocations (AUR)
June 2012	FTA Record of Decision
August 2012	Issued RFQs for D/B contract C0980
January 2013	Issued RFPs for D/Build contract C0980
March 2013	Completed Final Design - Advanced Utilities Relocation (AUR)
May 2013	NTP for Construction Management Services contract MC070
June 2013	Beginning of AUR contract C0981R Bid Period
July 2013	Submitted TIFIA loan application
July 2013	Submitted 1st draft FFGA application to FTA for review
September 2013	Received proposals for D/B Contract C0980

CHRONOLOGY OF EVENTS (Cont.)

September 2013	Submitted 2nd draft FFGA application to FTA, incorporating FTA comments
October 2013	Submitted Application to FTA Requesting an FFGA
November 2013	Started Emergency Generator Replacement Tank at 2nd street and Broadway Station (LA Times Building)
December 2013	Issued "Notice of Intent to Award" letter to contract C0981R contractor Pulice Construction Inc.
January 2014	Awarded AUR contract C0981R to Pulice Construction Inc.
February 2014	Issued Notice to Proceed for AUR Contract C0981R
February 2014	FTA issued Full Funding Grant Agreement to Metro
March 2014	Issued Amendment # 11 for D/B Contract C0980
March 2014	Started Survey for AUR Contract C0981R
April 2014	Metro Board approved the award of D/B Contract C0980 and established a LOP Budget
May 2014	Awarded D/B Contract C0980 to Regional Connector Constructors, Joint Venture
June 2014	Obtained possession of the Mangrove property from the City of Los Angeles
July 2014	Issued Notice to Proceed for D/B contract C0980
August 2014	C0980 D/B Contractor (RCC) began Final Design
September 2014	Metro performed the ground-breaking ceremony for C0980 D/B Contract
October 2014	EN077 Contractor, Arcadis, removed the underground storage tank at LA Times Parking Lot
November 2014	C0981R AUR Contractor completed DWP power work at 1st ST. and Alameda
December 2014	Metro completed Field Vibration Testing for existing Expo and Gold Lines
January 2015	Demolish Buildings at 1st/Central Station
February 2015	Metro approved the Baseline Schedule for C0980 D/B Contract
March 2015	RCC started 2nd/Broadway Station Site Move-In

CHRONOLOGY OF EVENTS (Cont.)

April 2015	Metro terminated C0981R Contract for convenience
May 2015	RCC started pile installation at Mangrove Launch Pit
June 2015	RCC started decking for shoofly bridge (Pile Cap & Grade Beam)
July 2015	DWP Water started installing 36" Water Valve at Alameda St.
August 2015	RCC completed DWP Power work at Flower & 5th Street
September 2015	RCC started Phase 2 DWP Power Relocation work at Broadway (Behind K Rail).
October 2015	RCC started pile installation at 1st/Central Station
November 2015	RCC completed Central Ave Full Closure (Pile & Decking)
December 2015	Metro Board approved the increase (\$131.8M) of the Project LOP Budget to \$1,589.9 million.
January 2016	RCC began implementation of Bus Bridge # 1 (Shoofly Tie-In Work at Little Tokyo.
February 2016	RCC began implementation of full closure at 2nd/Broadway intersection.
March 2016	RCC completed Bus Bridge # 1 (Shoofly Tie-In at Little Tokyo) work.
March 2016	Excavation of 1st/Central Station was initiated.
April 2016	TBM (Tunnel Boring Machine) was delivered to the temporary storage site.
May 2016	Closed 1st Street between Alameda and Central Streets. Opened northbound 1st East of Alameda Street.
June 2016	RCC completed excavation at 1st/Central Station Box
June 2016	RCC began pile installation on west side of Flower Street between 4th and 5th Street
July 2016	RCC initiated pile installation at 2nd/Broadway Station (West Hammer Head)
July 2016	RCC Initiated CIP invert at 1st/Central Station Box
August 2016	RCC completed 36" waterline replacement at 1 st /Alameda

CHRONOLOGY OF EVENTS (Cont.)

September 2016	RCC completed temporary decking at 1 st /Alameda intersection (Wye)
October 2016	Metro performed TBM lowering ceremony
October 2016	RCC completed CIP invert at 1 st /Central Station Box
November 2016	RCC completed CIP invert at Mangrove Launch Pit and Wye
<i>December 2016</i>	<i>RCC completed Phase 1, 2nd Street Decking in front of LA Times Bldg.</i>

CONSTRUCTION CONTRACTS

Description: Design-Build Contract Contractor: Regional Connector Constructors	Contract No. C0980 Status as of: December 30, 2016
Work Completed: Design - Metro completed review of Train Control Product Data, Train Control Circuit Data, 2nd/Hope Train Control Software Logic, DU11 2nd/Broadway Train Control BOP AFC, Flower Street utility hanging, DU14 Flower St, North End Middle Level Bra, Street Tie in surveys for Flower Street and 1st Street, 1st/Central Train Control software logic, TBM tunneling work plan, station connection packages, DU62, 72, and 82 for each station, DU06A, DU07A, and DU08B - Wayfinding Drawings - AFC for each station, DU08 Supplemental Spec Package - AFC, TC - Power Distribution - UPS Product Data, TC - Power Distribution - Battery Product Data, and 2nd/Broadway 100% design. Construction 1st/Central - Completed lowering and installing trailing gear to TBM shields - Completed pile installation on the 1st Street Leg Broadway - Completed installing deck beams in the 2nd/Broadway intersection - Completed utility hanging in the 2nd/Broadway intersection - Completed traffic control switch to Phase 2 mid-block closure Flower - Temporary power sub-station at 5th/Flower energized - Completed backfilling of Tie-back Removal Shaft and adit construction	Major Activities (In Progress): Design - Metro will continue coordination and review of Alameda Fan Plant including right of way, venting and emergency exiting, 2nd/Hope easement documentation, 6th/Flower DWPPS relocation preliminary engineering, DU16 Broadway Decking, DU14 Flower Street Decking, street restoration design with RCC and city families, reviews of deck beams, weekly monitoring reports, review of waler and strut submittal packages for reference only, DU15 - Hope Station, Level 3 and 4 Tieback Test/Lock Off Loads and Testing Sheets and Backfill and Check Grouting of TBM-Tunnel Annulus. Construction 1st/Central - Continue work on TBM assembly and commissioning - Continue installation of foam and grout plant equipment at 1st/Central Station - Continue geotechnical installation and monitoring at 1st/Central Yard and Alameda Public ROW 2nd/Broadway - Continue SOE pile installation and utility support - Continue station excavation and begin installation of struts 2nd/Hope - Continue station excavation and lagging at 2nd/Hope Station - Continue SOE waler and strut installation at 2nd /Hope Station - Continue station tie-back installation at 2nd/Hope Flower - Continue excavation and installation of 24" waterline on Flower Street - Continue deck beam and decking installation at 4th/Flower during weekend closures - Continue excavation and utility hanging beneath decking on Flower Street - Continue power relocation activities - Continue restoration of Tie-back Removal Shaft site and roadway to original pre-construction condition Project-wide - RCC continues pre-con survey (photograph existing conditions) at various locations, as needed - RCC continues underground investigation – potholing Hydrovac and exploratory trenching at various locations project wide - RCC continues preparation of submittals and traffic control plans, including weekly meetings with LADOT and City Council District 14

CONSTRUCTION CONTRACTS (Cont.)

Description: Design-Build Contract Contractor: Regional Connector Constructors	Contract No. C0980 Status as of: December 30, 2016
Areas of Concern: - Studies continue to re-cast the project schedule which was impacted by differing site conditions along the alignment. These studies indicate delays to the Revenue Service Date will occur. The re-cast schedule will reflect a comprehensive assessment of all operations focused on delivering the project expeditiously while retaining flexibility needed over the next few years. - Detailed design is underway to relocate the 6th/Flower DWP power assets. This work requires collaboration with COLA relative to TCPs, BOE approvals, DWP efforts, etc. to minimize schedule and cost impacts. Stakeholder challenges are also anticipated; engagement by Metro outreach resources are planned accordingly.	Major Activities Next Period: Design - Metro will begin review of the AFC station design packages for 2nd/Hope and 1st/Central, and design revisions to 1st/Central 10-inch sewer package for submittal to LABOE. Construction 1st/Central - Complete TBM testing and begin tunnel mining operations 2nd/Broadway - Complete piling on north side of 2nd Street - Complete utility hanging operations 2nd/Hope - Begin pre-loading, welding, and installation of strain gauges for struts Flower - Begin hanging of 72" storm drain - Begin pile installation at 5th/Flower Project-wide - Complete geotechnical monitoring instrumentation along the alignment

CONSTRUCTION CONTRACTS (Cont.)

Description: Design-Build Contract Contractor: Regional Connector Constructors		Contract No. C0980 Status as of: December 30, 2016					
Schedule Summary: Date of Award: 5/6/2014 Notice to Proceed: 7/7/2014 Original Contract Duration: 2579 CD Current Contract Duration: 2579 CD Elapsed Time from NTP: 908 CD			Original Contract Dates	Time Extension	Current Contract	Forecast	Variance CDs
		Notice to Proceed	07/07/14	0	07/07/14	07/07/14	0
		Milestone 1:	10/22/20	150	03/21/21	05/02/21	-42
		Milestone 2:	06/14/20	212	01/12/21	01/06/21	6
		Milestone 3:	05/15/16	Deleted (Mod #10 / Mod #32)			
		Milestone 4:	05/27/18	Deleted (Mod #10 / Mod #32)			
		Milestone 5:	08/19/19	155	07/02/20	05/18/20	45
		Milestone 6:	09/18/19	288	07/02/20	08/13/20	-42
		Milestone 7:	10/10/15	0	03/21/16	3/21/16 A	0
		Milestone 8:	04/22/18	0	05/11/20	03/08/20	64
		Milestone 9A:	07/14/20	0	10/14/20	11/27/20	-44
		Milestone 9B:	10/22/20	0	03/13/21	03/07/21	6
		Milestone 10:	10/12/20	0	05/20/21	06/30/21	-41
		Milestone 11:	10/27/20	0	06/04/21	07/15/21	-41
		Milestone 12:	03/01/21	149	07/28/21	09/29/21	-63
Physical Percent Complete as of : 12/31/16 Design 96.0% Construction 24.4% Total Incurred Cost 41.3% * Note: Physical completion assessment excludes mobilization, general mobilization and Provisional Sum.		Cost Summary: \$ In millions 1. Award Value: 927.2 2. Executed Modifications: 124.9 3. Approved Change Orders: 0.1 4. Current Contract Value (1+2+3): 1052.2 5. Incurred Cost: 435.0					

CONSTRUCTION PHOTOS



TBM assembly underway at 1st/Central Station



Muck conveyor system being lowered at 1st/Central Station



Utility hanging under 2nd Street decking



Piling on 2nd Street



Excavation and lagging at the center of 2nd/Hope Station



Drilling for tie-backs at 2nd/Hope Station



Welding of walers under Flower Street decking



Lowering walers (support of excavation) at 4th/Flower

APPENDIX

COST AND BUDGET TERMINOLOGY

Project Cost Descriptions

ORIGINAL BUDGET	The Original Project Budget established upon Board approval of Life-of-Project (LOP) budget.
CURRENT BUDGET	The Original Budget plus all budget amendments approved by formal Metro Board action. Also referred to as Approved Budget.
COMMITMENTS	The total of actual contracts awarded, executed change orders or amendments, approved work orders of Master Cooperative Agreements, and other Metro actions which have been spent or result in the obligation of specific expenditures at a future time.
EXPENDITURES	The total dollar amount of funds expended by Metro for contractor or consultant invoices, third party invoices, staff salaries, real estate and other expenses that is reported in Metro's Financial Information System (FIS).
CURRENT FORECAST	The best estimate of the final cost of the project when all checks have been issued and the project is closed out. Current Forecast is composed of actual costs incurred to date, the best estimate of work remaining and a current risk assessment for each budgeted cost item.

Cost Report by Element Descriptions

CONSTRUCTION	Includes construction contracts. Cost associated with Guideways, Stations, Southwestern Yard, Sitework/Special Conditions and Systems.
RIGHT-OF-WAY	Includes purchase cost of parcels, easements, right-of-entry permits, escrow fees, contracted real estate appraisals and tenant relocation.
VEHICLES	Includes the purchase of LRT vehicles and spare parts for the project.
PROFESSIONAL SERVICES	Includes design engineering, project management assistance, construction management support services, legal counsel, agency staff costs, and other specialty consultants.
CONTINGENCY	A fund established at the beginning of a project to provide for anticipated but unknown additional costs that may arise during the course of the project.
PROJECT REVENUE	Includes all revenue receivable to the Metro as a direct result of project activities. This includes cost sharing construction items, insurance premium rebates, and the like.

APPENDIX

LIST OF ABBREVIATIONS AND ACRONYMS

AFC	Approved for Construction
APE	Advanced Preliminary Engineering
ATC	Automatic Train Control
ATSAC	Automated Traffic Surveillance and Control
AUR	Advanced Utility Relocation
BAFO	Best and Final Offer
BIM	Building Information Modeling
CADD	Computer Aided Drafting and Design
CALTRANS	California Department of Transportation
CCTV	Closed Circuit Television
CD	Calendar Day
CEQA	California Environmental Quality Act
CM	Construction Manager
CMAQ	Congestion Mitigation and Air Quality Improvement Program
CN	Change Notice
CO	Change Order
CPM	Critical Path Method
CPUC	California Public Utilities Commission
CQWP	Construction Quality Work Plan
CR	Camera Ready
CSPP	Construction Safety Phasing Plan
CTC	California Transportation Commission
CUD	Contract Unit Description
DB	Design Build
DBB	Design Bid Build
DDR	Design Deviation Request
DOT	Department of Transportation
DWP	Department of Water and Power
ECI	Engineering Change Instruction
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPB TBM	Earth Pressure Balance Tunnel Boring Machine
FAR	Federal Acquisition Regulation
FD	Final Design
FEIS	Final Environmental Impact Statement
FEIR	Final Environmental Impact Report
FFGA	Full Funding Grant Agreement
FIS	Financial Information System
FLSR	Fire Life Safety Report
FONSI	Finding of No Significant Impact
FRA	Federal Railroad Administration
FSEIR	Final Supplemental Environmental Impact Report
FSEIS	Final Supplemental Environmental Impact Statement
FTA	Federal Transit Administration
FTE	Full Time Equivalent

APPENDIX

LIST OF ABBREVIATIONS AND ACRONYMS (Cont.)

GBN	Ground Borne Noise
GBR	Geotechnical Baseline Report
GDSR	Geotechnical Design Summary Report
HABS/HAER	Historical American Building Survey / Historical American Engineering Record
IFB	Invitation for Bid
IPMO	Integrated Project Management Office
JV	Joint-Venture
LA	Los Angeles
LABOE	Los Angeles Bureau of Engineering
LABOS	Los Angeles Bureau of Sanitation
LABSL	Los Angeles Bureau of Street Lighting
LACFCD	Los Angeles County Flood Control District
LACMTA	Los Angeles County Metropolitan Transportation Authority
LADOT	Los Angeles Department of Transportation
LADPW	Los Angeles Department of Public Works
LADWP	Los Angeles Department of Water and Power
LAFD	Los Angeles Fire Department
LAPD	Los Angeles Police Department
LNTP	Limited Notice to Proceed
LONP	Letter of No Prejudice
LOP	Life-of-Project
LPA	Locally Preferred Alternative
LRT	Light Rail Transit
LRTP	Long Range Transportation Plan
LRV	Light Rail Vehicle
MCA	Master Cooperative Agreement
MIS	Major Investment Study
MMRP	Mitigation Monitoring and Reporting Program
MOU	Memorandum of Understanding
MPSR	Monthly Project Status Report
N/A	Not Applicable
NEPA	National Environmental Protection Act
NOD	Notice of Determination
NPDES	National Pollution Discharge Elimination System
NTE	Not to Exceed
NTP	Notice to Proceed
OCC	Operations Control Center
OCR	Overhead Conductor Rail
OCS	Overhead Catenary System
OSHA	Occupational Health and Safety Administration
PA/VMS	Public Address/Visual Messaging Sign
PCTL	Precast Concrete Tunnel Lining
PE	Preliminary Engineering
PEER	Permit Engineering Evaluation Report
PIP	Project Implementation Plan

APPENDIX

LIST OF ABBREVIATIONS AND ACRONYMS (Cont.)

PLA	Project Labor Agreement
PM	Project Manager
PMOC	Project Management Oversight Consultant
PMP	Project Management Plan
PR	Project Report
PSR	Project Study Report
QA	Quality Assurance
QAR	Quality Assurance Report
QC	Quality Control
QPSR	Quarterly Project Status Report
RAMP	Real Estate Acquisition Management Plan
RCC	Regional Connector Contractors
RCMP	Risk Assessment Management Plan
RFC	Request for Change
RFP	Request for Proposals
RHA	Risk Hazard Analysis
ROC	Rail Operations Center
ROD	Record of Decision
ROM	Rough Order of Magnitude
RON	Resolution of Necessity
ROW	Right-Of-Way
RSD	Revenue Service Date
SCAQMD	Southern California Air Quality Management District
SCADA	Supervisory Control and Data Acquisition
SCC	Standard Cost Category
SCG	Southern California Gas Company
SEIS	Supplemental Environmental Impact Statement
SHPO	State Historic Preservation Office
SIT	System Integration Testing
SOE	Support of Excavation
SOQ	Statement of Qualification
SOV	Schedule of Values
SOW	Statement of Work
SP	Special Provision
SSMP	Safety and Security Management Plan
TBD	To Be Determined
TBM	Tunnel Boring Machine
TCC	Train Control Center
TCE	Temporary Construction Easement
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIGER	Transportation Investment Generating Economic Recovery
TPSS	Traction Power Substation
TVA	Threat Vulnerability Analysis
TVM	Ticket Vending Machine
UFS	Universal Fare System

APPENDIX

LIST OF ABBREVIATIONS AND ACRONYMS (Cont.)

UST	Underground Storage Tank
USDOT	United States Department of Transportation
VE	Value Engineering
WBS	Work Breakdown Structure
WP	Work Package
WTCP	Worksite Traffic Control Plan
YOE	Year of Expenditure